

Self-help strategies for reducing gambling harms

Scoping study

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Alma Economics combines unparalleled analytical expertise with the ability to communicate complex ideas clearly.

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About the commissioning organisation

GambleAware

GambleAware commissions research and evaluation to build knowledge of what works in prevention and reduction of gambling harms that is independent of industry, government, and the regulator. The authors alone are responsible for the views expressed in this article, which do not necessarily represent the views, decisions, or policies of the institutions with which they are affiliated.

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Executive summary

Background and objectives

Alma Economics was commissioned by GambleAware to explore the use of self-help strategies among people who are experiencing gambling related harms. This research acts to increase understanding of what is known about how communities use self-help strategies (including marginalised communities), what the motivators are for using these strategies, and how effective they can be.

This research employed a Rapid Evidence Assessment approach to systematically search the academic and grey literature from the past 10 years within Great Britain and other comparable countries. This scoping review explored the literature to identify the most effective characteristics and formats of self-help strategies as well as those from adjacent sectors (e.g., mental health, gaming, substance use) and various combinations of strategies. Potential motivations and barriers to using self-help interventions were also investigated.

Findings demonstrate that only 5-12% of people experiencing harmful gambling¹ seek formal treatment due to perceived and structural barriers (Nilsson et al., 2018). Instead, self-help strategies are a common and preferred way for people experiencing gambling harms to reduce these harms. They have also been demonstrated to be successful in significantly reducing gambling severity as an alternative to formal treatment. However, studies have also found low utilisation rates for some self-help options and barriers to access such as stigma, shame, fear, feelings of isolation and misunderstanding. Along with internal reasons to not engage with self-help interventions, external barriers exist such as the perceived low quality and lack of expertise on the part of practitioners, alongside the lack of specificity to gambling. This demonstrates the need for this research project to synthesise evidence around self-help strategies which can inform recommendations regarding the future direction of self-help strategies for reducing gambling harms. Therefore, this report provides a thorough overview of existing evidence, including key recommendations for service providers, researchers and policymakers in order to inform the improvement of self-help offers currently available to those experiencing gambling harms.

Key findings

Motivations and barriers to use self-help strategies

In order to engage with self-help strategies, individuals first need to be motivated to engage in self-directed change. Motivations included those that were intrinsic, such as self-help treatment seekers feeling they lack control over their gambling and wanting to protect themselves from gambling related harm. Incongruence between a person's 'actual' and 'ideal self' as a result of gambling behaviour ('self-discrepancy theory'²), persuasion by friends and family, and past use of self-help tools were all also identified as intrinsic motivators for self-help strategy use.

Internal barriers to accessing self-help treatment included a sense of shame or stigma from admitting the problem, disclosing to friends and family, and being labelled an 'addict'. External or structural barriers included a lack of treatment offered specifically for gambling (most self-help materials are focused on alcohol and drug use), a perceived lack of professionals' experience in treating gambling,

¹ These people had a Problem Gambling Severity Index (PGSI) score of 8+.

² Feelings of dissonance between one's ideal and actual self are consistent with "self-discrepancy theory", this difference can serve as motivation to improve an individual's gambling behaviour.

wait times, distance, and cost of travel. For self-exclusion from gambling venues, barriers included the high level of effort needed to exclude in each venue separately and, from gambling venue staff's perspective, difficulties in identifying at-risk individuals.

Characteristics and formats of self-help strategies

Within the context of the present review, self-help (or self-management) strategies are defined as an individuals' development of "problem solving, decision making, resource utilisation, independent formation of a patient/care partnership, modelling, interpreting physical symptoms, and social persuasion" in order to manage symptoms, emotions, and behaviours associated with a chronic disorder such as harmful gambling. The use of self-help strategies is typically independently motivated and does not involve formal healthcare or recovery services (Matheson et al., 2019).

The following self-help strategies were identified within the literature and are presented within the first chapter of this report: self-exclusion, limit setting, coping skills, cognitive strategies, and personalised feedback tools. Workbooks and toolkits as well as digital strategies were also presented as modes of access. These strategies were all shown to be effective in some way in reducing gambling harms, some of which encompassed additional positive outcomes.

Digital modes of delivery such as chatbots were discussed within the literature as more accessible and appealing to younger people, leading to the subsequent use of other self-help strategies. Self-exclusion was the most frequently discussed strategy within the literature and was successful in reducing gambling behaviour, but subject to high rates of breaching.

Findings from adjacent sectors also pointed to the use of self-help strategies for alcohol use, substance use, and mental health challenges. Combinations of strategies identified included two or more types of gambling self-help treatments being utilised as well as where a gambling self-help intervention was combined with an intervention for a co-occurring substance use or mental health challenge.

Marginalised communities' use of self-help strategies

Exploration of marginalised communities' use of self-help strategies was identified as a gap within the academic and grey literature. From relevant papers, it was found that digital self-help strategies can be beneficial for populations for whom traditional treatments are inaccessible due to their sense of anonymity and reduced interpersonal contact. Women were identified as often feeling more comfortable in online, single-gender support groups. Additionally, a higher proportion of males from Asian backgrounds accessed chat and email self-help tools compared to other ethnic groups.

Strategies unique to gambling or identified as being less effective

Aside from monetary limit-setting, the self-help strategies identified within this scoping review were not unique to the gambling sector. Specific examples from the literature include cognitive strategies which were used for mental health challenges, digital strategies which were used for smoking and alcohol use, and alternative activity scheduling which were used by those looking to reduce overeating. In addition, all self-help strategies included were effective in some way in reducing harms related to gambling or adjacent disordered behaviours, meaning that none were identified as entirely ineffective. However, all strategies have their own limitations such as barriers to access or low utilisation rates.

Strengths and limitations

Within this review, the evidence base was generally high-quality and included some robust studies including experimental trials. However, some methodological issues still remained. Examples include experimental trials where participants from self-help intervention waitlists were the control group and hence, they were aware that they would eventually receive the intervention themselves, which may have influenced their behaviour. Other methodological issues included concerns over small sample sizes, a possible 'white coat effect' and self-selection bias, a lack of comprehensive comparison to traditional treatments, a lack of comparability between studies due to heterogenous instruments used to collect data, and a lack of evidence on long-term impacts.

Further gaps in the literature were identified regarding the optimal duration of interventions, marginalised groups' use of self-help strategies, strategies solely effective for gambling, and those not effective for gambling. Fewer relevant papers were identified from Great Britain and the UK; therefore, further research would be needed to increase the generalisability of findings and to identify trends specific to these countries. The majority of papers identified in this review focused on self-exclusion which may reduce the generalisability of findings from these papers that discussed other self-help strategies.

Beyond the considerations made about the evidence base, there are also strengths and limitations regarding use of an REA methodology. As it was a rapid review, only a certain number of papers were reviewed in full. This meant that only those that met the set of inclusion criteria were included in the report (see Appendix). Further, high quality studies from relevant geographic contexts were prioritised. Based on the limited number of papers, not every self-help strategy on offer could be captured by the search strategy and thus this report does not claim to provide a comprehensive review of all self-help strategies available to date. While some strategies from comparable sectors are included, literature focusing on gambling harms specifically was prioritised. This meant that only a small number of interventions from adjacent sectors were included. Finally, while attempts were made to use grey literature to fill gaps in the academic literature, some chapters are based on very few studies, meaning conclusive findings cannot be drawn in all cases.

Recommendations for service providers, researchers, and policymakers

Recommendations from the evidence base for self-help strategies aiming to reduce gambling related harms include the following:

- **Recognition and promotion of self-directed change.** Papers suggested that language such as 'self-guided change' instead of 'natural recovery' should be used to highlight the intent and effort involved in generating change. The literature also outlined that people experiencing gambling harms felt treatment options should support autonomy, informed decision making, and self-directed actions.
- **Education of society, de-stigmatisation, and normalisation.** Shame and stigma were identified as key barriers to engagement in all forms of treatment for people experiencing gambling harms. Therefore, papers suggested that self-help strategies should encourage the creation of online support networks and more broadly educate society about gambling and treatment options.
- **Utilisation of digital modes of delivery.** Digital modes of delivery were shown to help make self-help offers more accessible, but papers called for more research into different modes of digital access. Some qualitative studies also put forward suggestions from people experiencing gambling harms themselves. These participants called for user-friendly platforms, accommodation of individual needs and preferences, a sense of legitimacy and trustworthiness, and signposting further

self-help resources.

- **Promotion and facilitation of self-help strategies to increase uptake.** Underutilisation of current strategies suggests that promotion is needed, with papers suggested gambling operators as the first point of contact. Other agencies or professionals that should be aware of treatment options and trained in identifying people experiencing gambling harms are consumer credit firms, social services staff, mental health counsellors, and staff involved in debt enforcement.
- **Reducing occurrences of breaching within self-exclusion.** As self-exclusion was the most frequently occurring strategy within the evidence reviewed, we outline here a specific recommendation for self-exclusion. For self-exclusion, papers identified the presence of an unregulated market, a lack of consistent enforcement, and ineffective self-exclusion registers. Suggested improvements for this strategy included improved ID checks and other venue access controls, exclusion bans encompassing all gambling types, early detection and training for venue staff, and online tests to be completed before reinstatement.
- **Combining strategies, addressing multiple needs, and using multi-modal design.** Evidence suggested that some self-help options alone are not sufficient for reducing the most severe gambling harms and that combining them with further support and resources is necessary. Examples of combinations of strategies in the literature included psychological support alongside self-help as well as consideration of co-occurring health and social concerns. In addition, papers called for multi-modal service options (e.g., including a digital mode of delivery).
- **More rigorous research design and filling gaps within the evidence.** We present several recommendations for future research. These include using larger samples, increased comparison to traditional treatments, exploration of longer-term effectiveness, more research carried out in Great Britain, more research carried out on strategies with a less comprehensive evidence base, and filling gaps in the literature surrounding optimal durations of strategies, strategies solely effective for gambling, and those not effective for gambling.

Introduction

Rationale

Self-help strategies are the most common and preferred way for people to reduce their gambling activity or the harms experienced from gambling (Lubman et al., 2015). These may include self-exclusion, limit setting, coping skills, cognitive strategies, personalised feedback tools, as well as modes of access such as digital (including chatbots), workbooks and toolkits.

There is a breadth of research on the types of self-help strategies that people use and their motivations for why this is their preferred method of help. However, there is a need to understand the breadth of the evidence base in order to offer people guidance regarding the most effective support.

In this context, GambleAware sought to undertake a review of the evidence base to better understand the type self-help strategies people use and their timings as well as the effectiveness and acceptability of individual or combinations of strategies. The wider literature on self-help methods for other addictive behaviours (e.g., substance use, online gaming) and other issues (e.g., mental health challenges) will also help to identify transferable lessons from other sectors.

Studies have found that the majority of people experiencing gambling related harms do not seek out or receive formal treatment. Nilsson et al. (2018) stated that only 5-12% of people experiencing harmful gambling seek treatment due to perceived and structural barriers. Likewise, Bückner et al. (2021) found that 90% of those experiencing harmful gambling do not receive treatment, a higher gap than for other disordered behaviours. These statistics demonstrate the need for effective and accessible treatments for gambling. This could take the form of self-help strategies, which have been demonstrated to be successful in significantly reducing gambling severity as an alternative to formal treatment (Kushnir et al. 2018).

Objectives

The objective of this project was to establish what is known about how individuals use self-help strategies, what the motivators and barriers are for using these strategies, and their effectiveness. . Furthermore, the project aimed to demonstrate how people that have been marginalised use these strategies with or without appropriate formal support services.

To this end, our approach to the literature review was a flexible Rapid Evidence Assessment (REA), which was targeted to maximise the relevance of the findings. The search was systematic and allowed us to prioritise research from a variety of sources across the literature, using a transparent and well-defined protocol and search strategy.

Methodology

For the REA, the research team developed a protocol that set out the research questions, a search strategy for academic and grey literature, and a set of inclusion criteria (see Appendix). The research team compiled a long list of research papers based on a systematic search in academic search engines (JSTOR, PubMed, APA PsycNet, ScienceDirect, SpringerLink, Sage). Two members of the team screened titles and abstracts based on the set of inclusion criteria to obtain a final list of relevant evidence. Databases of grey literature were then searched to fill gaps in the academic literature that were identified during the search.

The pool of evidence was narrowed down from an initial long list of 142 research papers to a final list of 51 studies. All reviewed papers were scored following a bespoke quality assessment framework considering the credibility, methodology and relevance of the evidence. We used a bespoke framework rather than an existing quality assessment scale to ensure that we can comparably evaluate studies with different methodologies and research focuses. Where appropriate, we utilised established assessment methodologies including NICE qualitative and quantitative guidance for health studies, and the Maryland Scientific Methods scale. The full quality assessment framework is available in the Appendix.

Structure of the report

The remainder of the report comprises the findings of the REA and is organised into the following chapters:

- **Type, use, and effectiveness of self-help strategies.** This chapter expands on previous knowledge to outline (i) the conditions needed for the success of self-help strategies, (ii) the motivations and barriers to engaging with self-help strategies, (iii) marginalised communities' use of self-help strategies, and (iv) strategies that are either unique to gambling or have been shown to be ineffective for gambling. It also incorporates findings from adjacent sectors (such as substance use and mental health).
- **Strengths and limitations of the evidence base.** The chapter outlines the various strengths and limitations of the evidence base reviewed within this research.
- **Recommendations for service providers, researchers, and policymakers.** The final chapter pulls together the previous two chapters to offer suggestions for various stakeholders regarding improving the efficacy of self-help strategies to further reduce gambling harms.

Type, use, and effectiveness of self-help strategies

Motivations for engaging with self-help strategies

Individuals may be motivated to engage with self-help strategies for a variety of reasons. Common reasons found in the literature included encouragement from family and friends, or not wanting to hurt loved ones, and an intrinsic motivation to change something about themselves.

Concerned others

Dragicevic et al. (2015) combined a literature review with a statistical analysis of self-excluders' behaviour taken from a sample of 240,000 Australian internet gaming accounts. They examined the motivation of individuals to use self-exclusion. Whilst a significant portion of individuals are independently or intrinsically motivated to engage in self-exclusion, the authors found that 23% of self-excluders engage in self-exclusion based on persuasion from concerned others. Booth et al. (2021) also found that by engaging in "behaviour change techniques" concerned others experienced improved personal outcomes. However, a potential lack of intrinsic motivation in the individual experiencing gambling harms could explain high rates of breaches during periods of self-exclusion.

Self-discrepancy

An individual's self-image or their own perception of how they have changed as a result of their gambling behaviours may also act as a motivation to seek treatment. Johansen et al. (2019) conducted a series of interviews and focus groups with men who gamble online, recruited through an outpatient addiction treatment centre. Two major themes related to motivation emerged, (i) a dissonance between an individual's actual and their ideal self, and (ii) empathising with the feelings of their friends and family. Feelings of dissonance between one's ideal and actual self are consistent with "self-discrepancy theory", which posits that this difference can serve as motivation to improve an individual's gambling behaviour. Dissonance could arise from comparing one's financial problems, relationship problems, or signs of disordered gambling to "the way things ought to be". In the context of this report, dissonance occurred in two primary scenarios. One was dissonance due to sports, where individuals wanted to resume their participation in sports or be a sports fan, but these were behaviours that had previously been associated with the individual's gambling behaviour and hence had become personally stigmatised for them. The second example was dissonance derived from harmful gambling from loved ones or family. Upon the realisation of the harm caused to loved ones, participants became more motivated to change their behaviour. From these findings, the authors recommend that clinicians or e-health platforms should use projections of one's ideal self and draw upon the feelings of family and friends to motivate behaviour change.

Kim et al. (2017) also tested the role that self-discontinuity, (a discrepancy between an individual's perception of themselves, and who they are as a result of their gambling), played in motivating self-directed change. As part of this study, 195 individuals experiencing harmful gambling complete two questionnaires six months apart. They found that individuals who reported a heightened sense of self-discontinuity were approximately 2.5 times more likely to have engaged in self-directed change at the time of the follow-up questionnaire. Additionally, self-discontinuity remained a significant predictor of self-directed change in regression analysis even while controlling for shame, guilt, and self-stigma. The authors' results suggest that self-discontinuity has significant power to motivate individuals to change harmful gambling behaviour.

Formal treatments being inaccessible

Barriers to formal treatment can often also motivate people experiencing gambling harms to engage in self-directed treatment options as an alternative. Dąbrowska, Moskalewicz, and Wieczorek (2017) found in a study set in Poland that many of their participants felt that therapists had insufficient professional experience dealing specifically with gambling disorders, leading to a distrust of professional help. Participants were also not aware if gambling disorders could be treated by general practitioners or if they could access psychiatric consultation without referral, making them hesitant to seek out treatment. Finally, additional structural barriers associated with formal treatment mentioned by participants included long wait times for treatment, not being able to schedule therapy hours around other commitments, and reduced access to free treatment for those with limited medical insurance (for countries without universal healthcare).

Kaufman, Jones Nielsen, and Bowden-Jones (2017) found similar structural barriers in interviews with women experiencing gambling harms in the UK. Participants listed wait times, geographical distance, and cost of travel as salient structural barriers. Additionally, many women were reluctant to access group therapy as they rarely saw other women in gambling support groups. This led them to believe that it was unusual for women to seek out treatment for gambling harms. Kaufman's findings indicate that gender specific support may be a useful way to overcome some structural barriers. Both Kaufman and Dabrowska's findings indicate that additional barriers associated with access to formal treatment, may make individuals more inclined to seek out self-help therapies.

Past self-help tool use

Procter et al., (2019) tested which factors predict the use of tools designed to minimise gambling harms in a sample of customers of Australian wagering sites. Six online Australian wagering operators sent a random sample of account holders a survey on gambling behaviour, use of consumer protection tools (deposit limits, breaks in play, activity statements etc.), and a questionnaire relating to Theory of Planned Behaviour.³ They found that past tool use, subjective norms and attitudes, and tool use intention were independently positively correlated with tool use. Essentially, individuals were more likely to use tools in the future if they had used them in the past. Therefore, they recommended that interventions to increase consumer protection tool use should focus on the positive experience associated with use in order to increase their uptake and normalise their use.

Luquiens et al. (2018) used a sample of individuals who both self-excluded at least once from a poker gambling website and gave a reason on the website for their initial self-exclusion. They found that the sample could be grouped into two types: those who self-reported an "addiction-based" motive, and those who reported a commercial motive. "Addiction-based" motives were largely motivated by the individual's feelings (as opposed to specific features of the platform) and related to the individual's relationship with gambling and the negative consequences associated with gambling, such as having no control over their gambling and feeling like they must protect themselves. Those who reported commercially based motives made no mention of gambling behaviour and instead their motivations were related to not liking the programme, not having an offer that suits them, or preferring a competing website. They found that there were nearly three times as many addiction-related exclusions than commercial exclusions, and 59.7% of people who self-excluded a second time, excluded for the same reason as the first time. However, because reasoning for self-exclusion was self-reported, data could be unreliable. For example, those who report self-excluding for commercial reasons could be those experiencing gambling harms who are reluctant to admit it.

³ The Theory of Planned Behaviour is based on the premise that individuals behave based on previous plans and the information available to them.

Change in motivations over time

Participants' motivations or likelihood of engaging with self-help tools may change over time or be based on age. Vasiliadis and Thomas (2016) conducted narrative interviews with 32 adults to understand their motivations for gambling recovery, and to understand the social and environmental contexts of informal recovery specifically. Their analysis uncovered two primary pathways for engagement with recovery, the first pathway was the participant recognising their own problems, and the second was the participant only recognising their problem after someone close to them confronted them, or they experienced a significant negative event. There were some differences in which pathway was more salient between age groups: younger people tended to have a stronger sense of agency in their recovery, and derived empowerment from being able to not gamble despite urges. This suggests that young people may be more willing to engage with informal or self-help services, as opposed to older individuals. Younger individuals were also motivated by the pursuit of achieving conventional milestones for their age, such as career advancement, maintaining a long-term relationship, purchasing a home, or travelling.

Barriers to engaging with self-help services

While there are typically fewer barriers associated with engagement with self-help services as opposed to traditional counselling services, individuals may still face internal and external barriers to service engagement.

Internal barriers

Individuals face a range of internal barriers to engaging with self-help services, many of which overlap with emotional barriers related to traditional services. The following papers explore emotional barriers to accessing treatment in more detail.

In a series of interviews with people with gambling disorders, social workers, General Practitioners, and psychiatrists, Dąbrowska, Moskalewicz, and Wieczorek (2017) found that many individuals fear and have an aversion to speaking about their gambling struggles. They found that it invoked a sense of shame as it involves admitting to oneself and one's family that they are experiencing harms. Additionally, many respondents fear the stigmatisation associated with engaging in interventions stemming from being labelled as an "addict" and having to disclose embarrassing and shameful information such as lying to family or the admission of gambling debt. Given there are fewer support groups for gambling disorders specifically, individuals experiencing gambling harms are often in the minority when attending group therapy. This leads to feelings of isolation and misunderstanding. In a series of interviews with women experiencing gambling harms in the UK, Kaufman, Jones Nielsen, and Bowden-Jones (2017) confirmed these findings. They found that barriers to accessing treatment included the stigma of being labelled an addict, feeling like an outsider among their friends and family and that no one could understand, and a general sense of fear or denial of issues.

External and structural barriers

One of the most important structural barriers identified in the literature associated with self-help strategies in particular was a lack of options specifically for those experiencing gambling harms. Along with identifying pertinent emotional barriers, Dąbrowska, Moskalewicz, and Wieczorek (2017) also identified significant structural barriers to accessing treatment in the Polish context. Most prominently, there is a lack of treatment offer and consideration of specific issues for people with gambling disorders, as compared to other addictive disorders. Most educational materials are tailored to alcohol or drug use meaning that those seeking gambling treatment report that existing regimes are inadequate for their needs.

A potential consequence of the lack of gambling-specific self-help options is that there is a significant gap in the literature around barriers associated with self-help strategies specifically. As a result, some of the papers in this section may address barriers to accessing formal treatment, which in many cases also overlap with barriers to accessing some self-help strategies.

Other barriers

Along with barriers from other sectors, there may be barriers specifically related to accessing and using self-exclusion services. Through interviews in Germany, Kraus et al. (2023) aimed to gain insight into different actors' reflections and perceptions of the process of self-exclusion, including any difficulties they had had in accessing the service. Some of the most salient barriers associated with accessing self-exclusion included the high effort necessary for being excluded separately in different land-based venues, and a lack of ID checks making it easy to avoid self-exclusion rules. Gambling venue operators identified additional barriers, including difficulties in identifying individuals who may be experiencing gambling harms. Additionally, gambling operators reported that identification through money spent was difficult without having a fuller picture of an individual's financial situation.

Also, Cunningham et al. (2019) used an RCT to test whether it was more beneficial to provide mental health services for anxiety and depression alongside help for gambling disorders, as compared to a gambling-only intervention. However, the authors found no clear evidence that participants gained further benefits from having access to mental health interventions in addition to online gambling support. The authors hypothesise that it is unlikely that there were no effects of the additional treatment, but instead that because this group was unaware that they would receive mental health care, they were less interested in the treatment. While this is not specifically a barrier to access, this study indicates that lack of awareness of available offers can prove to be a barrier. It is then plausible that publicisation of all relevant benefits in a given intervention may improve uptake.

Characteristics and formats of self-help strategies

Studies have found that the majority of people experiencing gambling related harms do not seek out or receive formal treatment. Nilsson et al. (2018) stated that only 5-12% of people experiencing harmful gambling⁴ seek treatment due to perceived and structural barriers. Likewise, Bückner et al. (2021) found that 90% of those experiencing harmful gambling do not receive treatment, a higher gap than for other disordered behaviours. These statistics demonstrate the importance of identifying how people use self-help strategies to reduce gambling harms and the ways in which that can be better supported.

Self-help strategies have been shown to be successful in significantly reducing gambling severity in the absence of formal treatment (Kushnir et al. 2018). Rodda et al. (2018) identified that the most frequently reported self-help techniques within the relevant literature were behavioural substitution, relapse prevention, cognitive restructuring, and stimulus control. The following section will outline the various characteristics and formats of self-help strategies and discuss their efficacy in reducing gambling harms.

Self-exclusion

Self-exclusion is a strategy whereby people who gamble can exclude themselves from the gambling platform or land-based venue for a specific amount of time (Hopfgartner et al. 2023). In this report, self-exclusion was the only strategy discussed in enough papers to justify an entire section on. Characteristics of other commonly used self-help strategies remains a gap in the literature and warrants additional future research.

⁴ These people had a Problem Gambling Severity Index (PGSI) score of 8+.

Characteristics of self-exclusion

Self-exclusion is a commonly used tool within gambling, with people able to self-exclude from both online and offline gambling venues (Luquiens et al. 2015). Some of the key characteristics of people who self-exclude identified within the literature is that they are typically male and in their early to mid-40s (Dragicevic et al., 2015; Kotter et al., 2019). Dragicevic et al., (2015) found that men who self-exclude are also more likely to be married or cohabit, whilst women who self-exclude are more likely to be divorced, separated, or widowed with shorter histories of gambling. Other characteristics included experiencing psychological distress or symptoms of depression, anxiety, or substance use disorder (Håkansson and Widinghoff, 2020; Kotter et al., 2019).

With regards to characteristics of the self-exclusion itself, Dragicevic et al. (2015) found through analysis of online gambling accounts that 5% had self-excluded on more than one occasion and that most self-exclusion requests had no specified end point. Also, 61% of self-exclusions occurred within the first 15 days of opening an online gambling account and 25% occurred on the same day that an account was opened. Within this study, the self-excluding cohort demonstrated more loss-making months prior to self-exclusion and often placed bets that sustained higher losses than the control group.

The length of time for self-exclusion varies. For example, when researching the Swedish self-exclusion programme 'Spelpaus', Håkansson and Widinghoff (2020) found that 23% of self-excluders reported having excluded for 1 month, 26% for 3 months, 22% for 6 months, and 26% for at least 1 year. Through interviews in Germany with people experiencing gambling harms, government and commercial providers, Kraus et al. (2023) revealed that temporary exclusions are often viewed as too short, whereas unlimited exclusions are seen to be too restrictive and deterring. Interviewees went on to endorse that self-excluders should be able to choose the length of time which should be based on the severity of their gambling. When implementing self-exclusion programmes, the providers stated that they are sensitive to 'problem indicators', such as stress, sweating, and sudden changes in spending (Kraus et al., 2023). These staff described discreetly talking with those who they identified to be at risk in a friendly tone. However, they also mentioned that those gambling might lie, deny the problem, or trivialise their situation.

Effectiveness of self-exclusion

Research into the efficacy of self-exclusion has demonstrated generally positive results, both on its own and in combination with other treatments (Matheson et al 2019; Gainsbury 2014). A literature review by Gainsbury (2014) found that self-excluders reported decreases in gambling frequency, decreases in gambling expenditure, improved financial circumstances, reductions in negative consequences of gambling, increases in feelings of control, and reductions in psychological difficulties. Another literature review by Kotter et al. (2019) found that prevalence rates of "pathological gambling"⁵ decreased by around half following exclusion and a small proportion of self-excluders reported complete abstinence. However, an experimental trial in France indicated that there was no difference between the control group and those participating in self-exclusion 15 days after the self-exclusion period (Caillon et al., 2019). The authors also found that specifically 'illusion of control'⁶ and 'perceived inability to stop gambling' decreased after 2 months for those who had excluded for 7 days.

⁵ Kotter et al. (2019) used the DSM-III or IV diagnostic criteria to determine "pathological gambling" prevalence.

⁶ Illusion of control occurs when people gambling excessively gain the conviction that they can control the outcome of the game.

McCormick, Cohen, and Davies (2018) conducted interviews in Canada to explore the impact of self-exclusion on Problem Gambling Severity Index (PGSI)⁷ scores. The authors stated that scores decreased steeply across the 12-month observation period from an average PGSI score of 12 to an average of 3, with the least change associated with the shortest self-exclusion period and the greatest change associated with the longest self-exclusion period. Those who violated their voluntary self-exclusion had higher PGSI scores on average at the first instance of being interviewed and demonstrated smaller reductions in scores over the first 6 months of exclusion than those who abstained completely or those who continued to gamble outside the mandate of the self-exclusion programme (e.g., through the purchase of lotto or 'scratch and win' tickets).

A meta-analysis by McMahon et al. (2019) and a literature review by Kotter et al. (2019) also found that self-exclusion appeared to reduce anxiety and depression symptoms. Whilst anxiety and depression symptoms improved after self-exclusion, Kotter et al. (2019) found that these results were mostly found within interventions that also offered contact with a counsellor prior to exclusion. Overall, studies reported positive effects on mental health after exclusion, and no study reported an overall negative effect on mental health or chronically poor mental health after exclusion.

However, the literature within our review also found negatives associated with self-exclusion processes. Gainsbury (2014) suggested that despite reported positive benefits, programmes currently offered require changes to improve utilisation and outcomes over time. These include increased industry support, limiting embarrassment in the instigation process, removing complexities in the application process, and introducing multi-venue exclusion in one step.

Another feature of self-exclusion is relatively high rates of breaching agreements (Dragicevic et al., 2015; Håkansson and Widinghoff, 2020; Matheson et al., 2019; McMahon et al., 2019). Gainsbury (2014) stated that self-excluders can evade exclusion by engaging in gambling at venues where they have not been excluded from as well as other forms of gambling to which the ban does not apply. The author argued that failures to detect self-excluders who breach agreements undermines the efficacy of the programme and can reduce the number of people utilising this strategy. Through interviews by McCormick, Cohen, and Davies (2018), it was also reported that 46% self-excluders were not caught when breaching their agreements and participants were able to enter casinos 78% of the time during their exclusions.

There is some evidence that breaching agreements is reduced under certain circumstances. For example, Dragicevic et al. (2015) and Gainsbury (2014) both found in the literature that computerised identity checks and facial recognition were effective in limiting breaching. Additionally, self-exclusion may be more effective in jurisdictions where gambling harms are framed as a public health issue, as the onus is put on gambling operators to actively try to reduce rates of breaching rather than those experiencing gambling harms (Matheson et al. 2019). Finally, Gainsbury (2014) found that having consequences for breaching and additional staff training was effective.

Issues regarding enforcement were identified within various studies. Kraus et al. (2022) found large parts of the gambling market are unregulated and not included in self-exclusion registers, a lack of consistency of enforcement, and self-excluders being able to switch between land-based and online gambling to evade the agreement. Providers noted that the identification of problems is difficult without knowledge of a person's financial situation, whilst one person experiencing gambling harms said that they had been discouraged from self-excluding by staff at a gambling venue. Kotter et al. (2019) therefore, suggested that improved access controls, identity checks, and consistent exclusion programmes across all gambling types and modes would be beneficial.

⁷ The PGSI is a measure of gambling used within the Health Survey for England, Scottish Health Survey, and the Welsh Problem gambling Survey. It consists of nine items and each item is assessed on a four-point scale with scores of 8 or above indicating a gambling problem.

In an effort to increase the effectiveness of online self-exclusion, Gamban's 'TalkBanStop' campaign offered a free blocking license to individuals who applied through the National Gambling Helpline. This was evaluated by KPMG (2022) on behalf of GamCare to determine the effectiveness and value for money of this software. The blocking software directly stops electronic devices such as laptops, mobile phones, and tablets from entering most gambling websites worldwide. The evaluation found that the blocking software was largely effective and delivered value for money. In a survey used to assess the effectiveness of the tool, the authors found that the average PGSI score of respondents 12 months before they began using the blocking tool was 17.5, however, 12 months after use their score decreased to 10.1. Further, they found that survey respondents reported a £5,843 reduction in gambling related financial losses in the 12 months following the installation of the gambling software compared to gambling related expenditure in the 12 months prior to the installation. Finally, in a cost-benefit analysis, they found that for every £1 GamCare invests in blocking software, anywhere from £8.10 to £9.40 is generated for society. While these figures are promising, they must be interpreted with caution as there is limited data on the societal cost of gambling harms in the UK.

Limit setting

Limit setting involves an individual limiting the amount of money spent in a given period of time on gambling, with this being self-enforced in the context of self-help (Matheson et al. 2019). The findings in the literature were mixed on limit setting, though overall papers were mostly positive. In a scoping review by Matheson et al. (2019), mostly focused on Canada, USA, and Australia, two studies reported either limited success or that the use of this strategy predicts non-harmful gambling. Other studies suggested that limit setting may not be as effective in reducing gambling harms, with those experiencing the most severe gambling harms setting the highest limits but subsequently breaking those limits more often than those experiencing less severe harms. A review of systematic reviews by McMahon et al. (2019) similarly found mixed results. Six studies reported positive effects and limit settings were found to reduce the duration of play and overall gambling activity. For example, one study found a reduction in EGM turnover by 32% after a pre-commitment system was introduced to assist those using EGMs to set time or monetary limits prior to engaging in play. On the contrary, seven studies reported no positive effects and found that those using this strategy continued to gamble even after receiving messages about their daily limits being reached. One study reported that as many as 80% of users exceeded their limits.

Rodda et al. (2020) conducted an RCT in Australia of EGM users to assess the efficacy of a limit setting strategy that also included creating an action plan and coping plan. The authors described that the treatment group received guidance on creating an action plan of strategies that they identified as being most helpful in sticking to their limits. Barriers and means of coping with these barriers were also identified and formed the basis of their coping plans. The intervention had an impact on spending intentions, however, there was no statistically significant difference between the treatment and control groups in terms of sticking to intentions. Despite exceeding their intentions, 'moderate risk/problem gamblers' in the treatment group reported substantially reduced spending on gambling in the short-term (i.e., less than 30 days) compared to the control group (even though this spending was more than intended).

Finally, Auer, Hopfgartner, and Griffiths (2020) used an anonymised dataset of players of a certain online gambling website and found that among those who gambled the most intensely, setting voluntary limits was associated with a significant reduction in money spent gambling one year on.

Coping skills

Literature reviews and meta-analyses described a variety of coping skills such as recalling past gambling problems, self-control, mindfulness, imaginal desensitisation,⁸ experiential avoidance,⁹ relaxation breathing, and progressive muscle relaxation (Bishop 2018; Maynard et al. 2018; Matheson et al. 2019).

Maynard et al. (2018) found that mindfulness-based practices demonstrated positive and significant effects on gambling behaviour, urges, and financial outcomes. Additionally, Matheson et al. (2019) reported that mindfulness and imaginal desensitisation reduced gambling severity and urges among a population of people experiencing gambling harms. The authors went on to find that relaxation, breathing, and progressive muscle relaxation were effective in reducing stress, depression, and anxiety and improving life satisfaction and daily routines for those experiencing gambling harms. Furthermore, they found that maladaptive coping strategies, such as maladaptive avoidance¹⁰ social withdrawal, and self-criticism were associated with higher PGSI scores.

Cognitive strategies

Matheson et al. (2019) identified cognitive restructuring as a strategy for reducing gambling harms. This involves changing negative or irrational thoughts about gambling and replacing them with positive and realistic thoughts. The authors stated that one study found that groups experiencing more severe gambling harms and higher frequencies of gambling were more likely to use cognitive restructuring compared to those not experiencing gambling harms and with lower frequencies of gambling.

Self-directed CBT was another cognitive strategy identified by Matheson et al. (2019). One study explored online CBT without assistance from a therapist that aimed to challenge and replace erroneous thoughts. This also included other self-help strategies such as debt management, recognising triggers, relaxation training, goal setting, and relapse prevention. It was found that self-directed CBT was associated with reduced gambling severity, better mental health outcomes and greater life satisfaction after initial treatment and at 12-month follow-up. Another study found that self-directed CBT was associated with reduced gambling related problems, urges, social consequences, depression and impaired control of gambling.

An RCT in Australia by Oei, Raylu, and Lai (2018) tested the effect of a self-help CBT programme on a group of people experiencing gambling harms versus a control group of people on a 6-week waitlist. Results demonstrated significant improvements post-treatment in gambling behaviours such as frequency of gambling, the average amount of money gambled per day, symptoms of gambling harm, gambling urges, satisfaction and quality of life, depression, anxiety, and stress. Therefore, the authors concluded that self-help CBT programmes could be beneficial for treating those experiencing gambling related harms.

Personalised feedback tools

Another self-help strategy for reducing gambling harms is personalised feedback which was explored within two studies identified within our review. Matheson et al. (2019) stated that personalised feedback involves a form of self-assessment of gambling behaviour and/or ongoing information gathering to

⁸ A technique where people who gamble are instructed to relax prior to imagining scenarios in which they feel the urge to gamble, and to imagine exiting the scenario having refrained from gambling.

⁹ A technique where a person is unwilling to experience unwanted private events (e.g., bodily sensations, thoughts, memories, urges) and takes steps to reduce the frequency or form of these events, such as disassociation, escape, and avoidance.

¹⁰ Where an individual denies thoughts and acts related to their stressors as opposed to more positive avoidance such as restricting access to gambling venues

provide a personalised profile of gambling behaviour. This information can then be presented back to the user with a comparison to other users' or the general population's behaviour. Helpful techniques to lower the user's risk and limit their gambling are subsequently presented.

Matheson et al. (2019) go on to state that in one study, personalised feedback tools were shown to reduce the number of days spent gambling compared to a control group that did not receive personalised feedback. However, another study reported low continued usage of the tool despite positive opinions regarding its content. McMahon et al. (2019) also identified two studies relevant to personalised feedback tools that deemed this intervention to be more effective in changing behaviour than cognitive interventions.

Modes of access

Digital strategies

Whilst face-to-face treatments are framed as more effective in reducing gambling related harms, they are simultaneously underutilised, suggesting that their accessibility could be improved Dowling (2018). The author concluded that alternative treatment delivery modes that capitalise on advances in technology and can complement traditional services are required. An REA by Gambling Research Exchange Ontario (2020) identified that current self-directed, digital interventions within Great Britain commonly include interactive activities such as questionnaires, short videos, interactive animations, and audio files.

This form of intervention can have several advantages over traditional face-to-face treatments. Dowling et al. (2018) found in an experimental trial that internet-based strategies are typically shorter, more cost-effective, facilitate immediate treatment, and can reach more people (particularly in populations with unequal access to traditional services). The authors explained that the sense of anonymity, lack of interpersonal contact, and less stigmatising nature of these interventions can be effective in attracting people who are reluctant to engage with traditional services.

Additional to the benefits of accessibility, these strategies have also been evidenced to be effective in reducing gambling harms. Danielsson, Eriksson, and Allebeck (2014) conducted a systematic review of randomised controlled trials (RCTs) and found that internet-based interventions resulted in positive changes in NODS¹¹ scores alongside anxiety and depression symptoms, quality of life, and long-term treatment effects. Similarly, an experimental trial in Germany by Bückner et al. (2021) evaluated a self-guided, digital intervention ('Restart') consisting of 11 modules of cognitive-behavioural strategies and mindfulness in the format of exercises, worksheets, and audio files. The authors observed reductions in "pathological gambling", depression, and gambling related cognitive distortions. It was also found that 96% of programme users reported the intervention as suitable for self-use and understandable, though 74.4% also indicated that they had needed to push themselves to use the programme.

In Australia, Rodda, Dowling, and Lubman (2018) conducted mixed methods analyses of 277 people using 'Gambling Help Online', a website offering self-help information, brief self-help modules, and community peer support forums. Participants were generally satisfied with the methods in meeting their gambling related concerns. Over half of the participants who sought information on the website or completed a self-help module reported being 'satisfied', as did 40% of individuals who had talked to a counsellor, contributed to an online forum or sent an email. The authors found that engagement with the intervention resulted in significant reductions in gambling symptom severity, amount of money spent

¹¹ National Opinion Research Centre DSM Screen for Gambling Problems is a telephone screening tool based on the DSM-IV that identifies harmful gambling. The NODS score is out of 10, where a score of 5 or higher corresponds to the DSM-IV criteria for "problem" gambling.

on gambling, frequency of days gambled, and increased readiness to change. They also found that positive actions were taken after accessing Gambling Help Online with 93% of participants going onto take a self-directed action such as reading more information on the website, talking to friends and family, or attempting an additional self-help strategy (e.g., monetary limit setting).

Chatbots

One digital strategy identified frequently within the literature was the use of online instant chat or 'chatbots'. An RCT in Australia (Merkouris et al., 2022) evaluated the efficacy of an online chatbot. The chatbot, called 'Lilibot', was trained using Natural Language Processing to answer users' questions, understand their intents, and direct them to relevant links or other parts of the website. The authors found that the use of the chatbot resulted in greater information quality, system usefulness, ease in completing tasks, system usability, and interface quality for participants than those within the website-only condition. Participants of the study also reported that the chatbot was easy to use, functional and efficient. Improvements suggested by participants included providing instructions or examples for how to use the chatbot and improving usability on mobile devices.

Rodda and Lubman (2014) also evaluated the previously mentioned Gambling Help Online website's chat and email service. The authors found that nearly 70% of chat and email users were seeking treatment for the first time, and 92% of participants had PGSI scores of 8+¹². It was also found that those under 40 years were significantly more likely to engage in chat versus email while those over 40 years engaged with email more often, demonstrating how different groups may have preferences for different modes of delivery.

Workbooks and toolkits

Several papers in the review found evidence around the use of workbook-based self-help strategies for addressing gambling related symptoms and harms (Gambling Research Exchange Ontario, 2020). Matheson et al. (2019) identified a number of papers exploring workbooks and toolkits within their scoping review, both online and offline. The authors stated that whilst the content and structure would vary, common aspects included motivation to change, self-reflection, improved self-awareness, elements of cognitive behavioural therapy (CBT), goal-setting, or financial management. Most workbooks also provided information on other self-help strategies such as self-exclusion, limit setting, stress management and mindfulness, and alternative activity scheduling. Similarly, informational booklets and self-help toolkits were discussed with these being similar in structure and content to workbooks.

Matheson et al. (2019) found that workbook and toolkit interventions were generally well-received by users, resulted in improved outcomes, and were described as an approach that could expand gambling treatment services to those experiencing gambling harms. It was also said that workbooks and toolkits could be a useful treatment alternative for those who do not want to engage in formal treatment. Some papers noted that outcomes were most improved when workbooks were paired with therapist guidance or other formal support.

¹² The PGSI ranges from 0-27, with a score of 27 representing the greatest gambling harm severity, and 0 representing the lowest, any score of 8 or higher corresponds to risk of "problem gambling".

Combinations of gambling strategies

Several papers found that it was common for gamblers to utilise multiple self-help strategies or use self-help methods in combination with formal treatment methods. While not all the strategies explored in this section of the report are exclusively self-help strategies, it may be useful to understand which formal treatment strategies are most typically paired with self-help strategies, and therefore which pairings are typically successful. Rodda, Dowling, and Lubman (2018) aimed to examine the full range of help-seeking options utilised by those experiencing gambling harms, using a sample of 277 Australian participants recruited from an online counselling service. They found that 70% of participants had accessed distance-based or face-to-face counselling prior to e-counselling services. Additionally, before contacting the current service, nearly all participants had attempted a self-directed option, with participants accessing, on average, five different types of help-seeking options. Rodda, Lubman, and Dowling (2017) used mixed methods analyses to determine the demographic characteristics and usage of individuals accessing five different low-intensity or online self-help strategies. They found that participants accessed an average of 2.5 different services with 26 different combinations of services used.

In a series of focus groups and interviews about the design of an online self-exclusion platform, Pickering et al. (2022) found that research participants reported that they believed the platform should include additional gambling help resources and should prompt end-users if they would like to be seen by a gambling counsellor. This research indicates that the use of combinations of strategies or multiple strategies may be viewed as beneficial by service users.

Boudreault et al. (2018) also found positive results from using a combination of gambling-help strategies. They used an RCT to assess the efficacy of a programme combining three motivational telephone interviews spread over 11 weeks, combined with a CBT self-help workbook. The control group were placed on a waiting list to access the programme. After 11 weeks, the authors found significant differences in the outcome variables between the treatment and control group, with significant improvements in gambling outcomes, increased self-efficacy, and fewer gambling related consequences. While this study provided preliminary evidence of the effectiveness of a treatment combining motivational interviewing and CBT workbooks, it is difficult to determine if it is the combination of strategies that resulted in the positive effects.

Although there is some positive evidence supporting the efficacy of combining gambling treatment with formal or online mental health services, clinicians and providers may struggle to provide useful services to individuals experiencing gambling harm. In a meta-analysis of studies examining the combination of mental health treatment and gambling interventions, Lubman et al. (2015) found that there is low confidence among mental health clinicians in identifying and treating gambling disorders, which could lead to low rates of detection.

Three papers examined the efficacy of combining limit setting or self-exclusion with other methods. Turner et al. (2021) used a quasi-experimental methodology to determine if having self-excluders who were looking to be reinstated watch a video tutorial would improve gambling related outcomes. The treatment group were shown a video about reducing gambling harm and treatment services before being reinstated, while the control group did not. However, while both the treatment and control groups had significant reductions in PGSI scores 6 and 12 months after the intervention (compared to scores at baseline), there was no significant difference in outcomes between the two groups, indicating that the video tutorial had no significant impact on gambling outcomes. Similarly, Yakovenko and Hodgins (2021) carried out a trial combining the use of self-exclusion and digital tutorials. The digital tutorial included an online workshop assessing gambling related negative consequences, where responses were saved into a personal learning journal that could be accessed at any time, or downloaded. It also had a menu of tools including information on dealing with debts, social support, and local formal support options. They found that the digital tutorials had no additional effects on gambling related outcomes.

Hopfgartner et al. (2023) studied if the combination of personalised feedback and limit setting was more effective than limit setting on its own. For participants in the treatment group, if they exceeded 80% of their global limit, they received a pop-up text message informing them about their remaining budget and asking them to consider their gambling behaviour. Individuals that received personalised feedback messages showed significant reductions in the amount of money they gambled and their theoretical loss, as compared to matched control participants. This finding was supported by Auer, Hopfgartner and Griffiths (2018).

Nilsson et al. (2018) aimed to investigate whether the involvement of a “concerned significant other” in treatment can improve treatment outcomes. Within the RCT, the treatment group were placed in an internet-based “behavioural couples therapy” whilst the control group accessed individual CBT. Although both groups showed large reductions in money lost to gambling, there was no significant difference identified between groups, demonstrating that this study found there to be no identifiable additional benefits from involving concerned significant others directly in treatment in this context. However, as this is only a trial RCT with a sample size of 36, additional research is needed to confirm this finding.

Learnings from adjacent sectors

Within our scoping review, we also sought to identify papers which discussed the use of self-help strategies in adjacent sectors, though the literature was limited within this area. The most prominent sectors represented here were substance use and mental health treatments.

In Australia, Knaebe et al. (2019) conducted a study into people who gamble and have comorbid psychological distress and/or alcohol use disorder. The most helpful strategy identified by this cohort was ‘accepting that their gambling needs to change’, while other helpful strategies included ‘planning ahead and limiting the amount of money you carry’, eating a healthy diet, thinking about how money could be better spent and comparing the costs and benefits of continuing to gamble.

In a review of RCTs, Danielsson, Eriksson, and Allebeck (2014) explored telephone and internet interventions for smoking and alcohol use. They found mixed results for internet interventions and smoking with positive outcomes found within programmes that combined the use of internet, phones, and emails. However, high attrition rates and simultaneous use of nicotine replacement therapy make it difficult to determine if positive effects are a result of the internet intervention itself. The authors also found inconclusive results for internet interventions for alcohol use, with positive effects seen in both the treatment and control groups.

Bishop's (2018) literature review examined self-help strategies for those experiencing difficulties with alcohol, cocaine, and overeating. The review found that most people who drink heavily do not consider themselves to be ‘alcoholics’ and so do not seek out treatment, therefore may benefit from shorter treatments and mobile device-based interventions. This finding could be relevant for those experiencing gambling harms who do not consider their gambling to be problematic. The author stated that there are few studies exploring cocaine use and quitting, but one found that 50% of participants reported it being difficult to quit, and 38% reported it being ‘extremely easy’, demonstrating the individual differences between treatment seekers and their attitudes toward treatment. Lastly, for those who overeat, primary reasons for seeking help included health concerns, appearance and to improve mood. Self-help strategies employed by this group included modified food intake, establishing specific goals, increased physical activity, and recording dietary intake/physical activity.

Combining gambling treatment with treatment from adjacent sectors

Our scoping review also identified evidence on the efficacy of combining strategies that address multiple needs. The most assessed combination of treatments identified in the literature was around gambling and mental health. Cunningham et al. (2019) used an RCT to explore whether including mental health treatment within a gambling intervention resulted in additional benefits. While they found large reductions in the quantity of gambling for both groups, there was no clear evidence that participants garnered additional benefits from the mental health treatment, both in terms of gambling outcomes, and anxiety and depression levels.

Furthermore, Tolchard and Stuhlmiller (2016) evaluated the “Improving Access to Psychological Therapies” (IAPT) programme with gamblers in Australia using in-depth case studies. The IAPT programme involves low intensity, guided self-help offered by a newly trained psychologist. Participants could draw on several self-help materials and decide which ones they wanted to use. Given they were able to make the final decision about the course of their programme, it gave them a greater sense of control over their own treatment. The case studies also posited that access to self-help materials alone was not enough and progress was maintained due to continued support from a psychologist, even at a relatively low intensity.

Marginalised communities’ use of self-help strategies

Discussion of marginalised communities’ use of self-help strategies was limited within the academic and grey literature, appearing to be a significant gap within the evidence. Despite this, we identified several papers that explored vulnerable or marginalised groups’ preferences regarding self-help interventions.

As mentioned previously, Dowling et al. (2018) stated that self-directed, and particularly digital strategies for reducing gambling harms can reach populations that find traditional forms of treatment inaccessible. Additionally, they can provide a sense of anonymity and less interpersonal contact for those who are reluctant to attend in-person services. The authors go on to say that self-help strategies can also be non-stigmatising and empowering interventions that allow users to engage with the treatment at their own pace, which could make them more attractive to marginalised communities.

Women could also benefit from using self-help strategies for the reasons described above. Gambling Research Exchange Ontario (2020) reported that self-help interventions can reduce gambling related harm and are attractive to those who are less likely to access face-to-face treatment, for example, for women who may feel more comfortable in online, single-gender support spaces.

Additionally, Rodda and Lubman (2014) found in a study of a national Australian real time chat and email service for reducing gambling harms that there were a higher proportion of men identifying as from an Asian background accessing both chat and email services and a higher proportion of female Europeans accessing email. The authors’ preliminary findings indicate that research explore whether online modes of self-help are more attractive to different cultural backgrounds, or those that may experience greater shame or stigma, due to their relative anonymity is worth further exploration.

Strategies unique to gambling harms and those identified as not effective for gambling

There was a gap in the academic and grey literature around exploring strategies solely unique to gambling as well as those explicitly ineffective in reducing gambling harms.

The self-help strategies discussed within this report were mostly in relation to gambling and their ability to reduce related harms. However, these strategies are not necessarily unique to the gambling sector (with the exception of monetary limit setting). For example, workbooks, cognitive strategies, and coping skills (to name a few) could all also be used to reduce harms within adjacent sectors such as mental health and substance use services. Knaebe et al. (2019) found that cognitive strategies were used by those experiencing mental health challenges. Danielsson, Eriksson, and Allebeck (2014) found that digital strategies (i.e., phone and internet-based) were used by those attempting to control smoking and alcohol use, and Bishop (2018) found that alternative activity scheduling (e.g., increasing physical activity) was used by those trying to control overeating. These findings demonstrate that these self-help strategies are not unique to gambling.

Most papers discussed negative aspects and inefficacies associated with certain self-help strategies. However, all of the strategies included in this review were also effective at reducing gambling harms or harms from adjacent behaviours in some way. In other words, the literature focused on 'what works' rather than 'what doesn't work'. Having said this, there was extensive discussion regarding negative aspects of self-help strategies, such as barriers to accessing certain treatments or services and underutilisation. For example, it was found that for self-help strategies barriers still remain such as stigma, shame, and fear (Simone Rodda and Lubman, 2014; Dąbrowska, Moskalewicz, and Wieczorek, 2017; Kaufman, Jones Nielsen, and Bowden-Jones, 2017) feelings of isolation and misunderstanding, wait times, costs, distance, and inaccessible hours (Dąbrowska, Moskalewicz, and Wieczorek, 2017; Kaufman, Jones Nielsen, and Bowden-Jones, 2017) as well as perceived low quality or lack of expertise of practitioners (Dąbrowska, Moskalewicz, and Wieczorek, 2017). There are also issues regarding underutilisation of self-help strategies for reducing gambling harms. Dowling et al., (2018) suggested that there is underutilisation of face-to-face treatments in general and that access is not sufficient. This was echoed by Håkansson and Henzel (2020) who argued that further promotion of self-help options is necessary. Therefore, whilst the literature reviewed did not demonstrate these strategies to be entirely ineffective for reducing gambling harms, there are improvements to be made, which are discussed throughout this report.

Strengths and limitations of the evidence base

Overview of the reviewed evidence base

Of the 45 academic papers identified in our search, 11 utilised experimental trials, 10 were meta-analyses or literature reviews, 5 were purely qualitative studies, 6 were empirical studies utilising either cross-sectional or longitudinal methods, and 13 studies used a mixed methods approach. In the grey literature, there was 1 empirical study, 2 meta-analyses or literature reviews, 2 qualitative studies, and 1 experimental trial. While there were a high number of experimental trials, many of them used a waitlist control group. The use of waitlist control groups has the potential to make it appear as if an intervention has weaker results than it does in reality. This is because while the control group is not receiving any active treatment, placement on the waitlist and the anticipation of future treatment may make them more aware of their gambling and result in changes to their behaviour.

In terms of the setting of the academic papers, 8 studies were set in Australia, 5 in Canada, 3 in Germany and Sweden, 2 in Norway, and 1 in Poland, France and the USA each. 9 studies used data or participants from multiple countries, and 2 were set in either the UK or Great Britain. While there is a wide range of national contexts represented, the academic literature generally suffers from a gap around literature based in the UK or Great Britain specifically. This was partially remedied by the inclusion of 6 papers from the grey literature, one of which was set in the UK, and one in Great Britain. Many of the findings from Europe, Australia, and the USA are likely applicable to the British population. Additional research from Great Britain could help to identify the most effective self-help strategies to reduce gambling harms across different groups in the population, including those in marginalised communities.

Additionally, there was a limited variety in terms of the types of self-help strategies evaluated in the literature. Keeping in mind that studies often discussed multiple formats of self-help, of the reviewed literature, 30 studies assessed self-exclusion programmes, 13 assessed digital self-help interventions, 9 assessed limit setting programmes, 5 assessed coping skills, 5 assessed cognitive strategies, 5 assessed personalised feedback, and 4 assessed workbooks and toolkits. Due to the large number of studies being specifically related to self-exclusion, there may be findings included in those papers that are not generalisable to other types of interventions.

Limitations from the evidence base

Sampling proved to be an issue within the evidence base, with several of the reviewed papers stating that small sample sizes emerged as a limitation. (Caillon et al. 2015; Kotter, Kräplin, and Bühringer 2018; Maynard et al. 2018) Maynard et al. (2018) explained that small sample sizes can often lead to studies failing to demonstrate significant effects, even when those effects are present. For example, the authors stated that individual studies would produce effects not significantly different from zero. However, when the results of multiple studies are combined or pooled together the overall effect size becomes significant. Other issues regarding sampling include where studies may recruit from a sample of people who gamble who are already seeking help which could indicate a lack of generalisability to the target population of those reluctant to access treatments (Rodda, Dowling, and Lubman, 2018). Furthermore, Caillon et al. (2019) revealed that some samples taking part in research into self-help strategy efficacy do not consider themselves to be engaging in harmful gambling. This means studies are measuring effects on those who are not motivated to change or who are in denial.

Several biases in self-help strategy research had potentially detrimental effects on findings. Caillon et al. (2019) suggested that the monitoring of samples in control groups could cause them to alter their behaviour even without being part of the treatment condition (i.e., the 'white-coat effect'). Similarly, Kotter et al. (2019) described that many of the papers reviewed in their systematic review had encountered study participation bias or self-selection bias, which could have altered their findings.

Another consideration noted by authors is where missing or incomplete information and a lack of comparability between results hinder the usefulness of some studies in informing self-help strategies. McCormick, Cohen, and Davies (2018) found that the absence of data on what other types of support participants are accessing during participation can mean effects cannot be attributed solely to the treatment being studied. For limit setting and self-exclusion specifically, Harris and Griffiths (2017) stated that a consistent limitation within this area of research is a lack of knowledge of whether participants are simply swapping onto different machines or modes of gambling, meaning results may be affected. Relating to the comparability across studies, Kotter et al. (2019) argued that much of the evidence base utilises heterogeneous instruments (especially for mental health symptoms), meaning meta-analyses of effect sizes cannot accurately be performed.

Finally, there are several issues regarding the timeframes of studies exploring the efficacy of self-help strategies in reducing gambling harms. Caillon et al. (2019) suggested that short-term effects cannot be predictive of longer-term effects and/or profound changes in gambling behaviours. Kotter et al., (2019) also noted that the variations in timeframes analysed across studies mean that this has a negative impact on the comparability of effects.

Recommendations for service providers, researchers, and policymakers

Recognition and promotion of self-directed change

In a literature review by Bishop (2018), it was suggested to use the language of ‘self-guided change’ rather than ‘natural recovery’ to highlight the intent and effort involved in generating change. This would reflect the reality that most people who change behaviours that have the potential for risk do so on their own without seeking guidance from clinicians. Bishop (2018) also stated that there must be increased recognition from policymakers that self-guided change is possible in order to support research and investment into this area. This is of great importance given the author states that there is a lack of research dedicated to understanding this process of change. The focus has generally been directed towards those who do not change with less focus placed on the much larger group who do make changes. The author suggested these changes will be important to accelerate the process of helping people to change their behaviour on their own.

Stevens, Delfabbro, and King (2021) also found that gamers were more favourable to interventions that support autonomy, informed decision making, and self-directed actions as opposed to mandatory, restrictive measures. In a similar way, Rodda, Dowling, and Lubman (2018) argued that people experiencing gambling harms should have access to evidence informed literature to help them choose, implement, and maintain strategies that support long-term change. This approach could improve their attractiveness to those who are experiencing gambling related harms and want to engage in self-guided change.

Overall, studies such as an experimental trial in Canada by Boudreault et al. (2018) suggested that self-help strategies can be effective especially for groups where access to traditional forms of treatment might be restricted in some way. The authors continued to state that there were positive outcomes were for most participants demonstrating that self-help strategies can be suitable for both people who are at-risk and those who experience more severe gambling harms.

Education of society, de-stigmatisation, and normalisation

In order to successfully promote and facilitate self-help strategies, there must be a shift in societal attitudes towards people who experience gambling harms and access gambling self-help interventions. Shame and stigma can prove significant barriers for some communities in accessing gambling treatments. For example, Rodda and Lubman (2014) suggested that the anonymity of internet-based strategies might be an attractive feature of some self-help strategies, particularly for people from different cultural backgrounds who may experience increased shame and stigma.

Therefore, the reduction of shame and fear of stigmatisation should act to relieve barriers to accessing gambling self-help interventions. To do so, Dąbrowska, Moskalewicz, and Wieczorek (2017) suggested that support networks via the internet should be created. This will help those experiencing gambling harms to have a safe space to discuss their experiences. The authors also called for broader education of society about gambling as a behaviour from which someone can become addicted and what treatment options are out there. A greater understanding in society of the needs of people experiencing gambling related harms would lead to treatment that can better address these needs. Reducing the barriers of shame and stigma would also make interventions more accessible meaning a greater number of those experiencing gambling harms could be reached and supported in reducing these harms.

Utilisation of digital modes of delivery

Bishop (2018) argued that more research is necessary to assess the efficacy of smartphone and web-based self-help programmes for reducing gambling harms. This is due to the fact that there are low rates of help-seeking by people experiencing gambling harms. Hence it is important that treatment options are made more accessible, which is where self-directed digital strategies can help (Rodda, Dowling, and Lubman, 2018). Therefore, Rodda and Lubman (2014) underscored the importance of identifying the traits of successful online interventions through future research. Rodda (2017) suggested that future work should investigate the efficacy of more intensive online options, such as video conferencing or appointment-based chat sessions as well as lower-intensity options such as pop-up messaging.

Several studies within this scoping review also revealed through qualitative research what people experiencing gambling harms themselves looked for or felt needed improvement within digital self-help strategies. In Canada, Pickering et al. (2016) found through interviews and focus groups that participants wanted gambling self-help websites to (i) be user friendly with easily located and interpreted information, (ii) accommodate users' personal needs and preferences, (iii) convey that it is legitimate, trustworthy, and employs sufficient data security and confidentiality, (iv) validate users' decision to take action, including positive imagery and personal testimonies of those who had successfully self-guided their recovery, and (v) incorporate psychoeducational materials and links to additional help resources. One participant within Pickering et al. (2016) commented that these links could direct users to other gambling support websites, articles, blogs or podcasts. In Australia, Merkouris et al. (2022) also found that for chatbots, users reported the relevance of information, ease of navigation, and accuracy of information to be of particular importance. Participants felt that chatbots could be improved through providing clear instructions or examples for how to use them and better ease of use when using on a mobile device.

Promotion and facilitation of self-help strategies to increase uptake

Underutilisation of strategies that aim to reduce gambling harms suggests that further promotion of the options available may be required to help increase uptake. Håkansson and Henzel (2020) continue to state that gambling operators are likely to be the first point of contact for someone experiencing gambling related harms to seek help as well as being one of the first organisations to identify when an individual may be facing difficulties related to their gambling. Therefore, the authors suggest that gambling operators are key in promoting and facilitating the use of self-help strategies.

In addition, advisors at consumer credit firms, social services staff, mental health counsellors, and staff involved in debt enforcement are likely to also come into contact with those experiencing gambling related harms (Håkansson and Henzel, 2020). Gainsbury (2014) argued that these relevant professionals should also be informed about available treatment options in order to promote and facilitate access to services. Training for these professionals on how to identify people experiencing gambling problems would also be beneficial. The author also suggested that promotion of self-help strategies should take place in various locations, such as within gambling venues as well as in the general community, health and mental health centres, legal offices, and other relevant services.

Once an individual has accessed a self-help strategy to reduce the gambling related harms they are experiencing, Gainsbury (2014) suggested that additional resources must be provided to assist the individual in taking further steps to control their gambling. These include appropriate information and education resources, as well as referrals to formal counselling or treatments.

Reducing occurrences of breaching within self-exclusion

As this scoping review has demonstrated, breaching of self-exclusion agreements is relatively common and undermines the efficacy of this self-help strategy in reducing gambling related harms (Matheson et al. 2019; Håkansson and Widinghoff, 2020; McMahon et al. 2019; Dragicevic et al. 2015). Kraus et al. (2022) identified (i) the gambling market has large, unregulated areas, (ii) a lack of consistent enforcement and (iii) ineffective self-exclusion registers allowing for breaching of bans by switching between land-based and online gambling. For these reasons, Håkansson and Widinghoff (2020) suggested that the risk of continued gambling following self-exclusion merits both further research and policy changes.

Kotter et al. (2019) found through their systematic review of literature that improvements in practice could include the following (i) identification checks and other venue access controls should be more consistently implemented, (ii) exclusion bans should encompass all gambling segments to restrict switching between venues or modes, (iii) early detection of harmful gambling should be done by trained venue staff and (iv) regular evaluations of exclusion programmes. In Great Britain, Hopfgartner, Auer, Helic, et al. (2023) similarly suggested several improvements to current self-exclusion programmes that could increase their efficacy and limit occurrences of breaching. Recommendations from the authors included further research into the behavioural indicators that might identify individuals as being at-risk for returning to gambling after self-exclusion. This is with the aim of developing more personalised steps to support self-excluders if they do decide to return. In addition to this, the authors suggest that an online self-test on the severity of gambling harms should be required before reinstatement. This would be useful for gambling venues to better support their clients and to encourage self-excluders to reflect upon their own gambling behaviour.

Another interesting recommendation by Harris and Griffiths (2017) comes in the form of a centralised 'hub' for self-exclusion. The authors suggest that a self-excluder's overall expenditure, stake sizing, frequency and duration of play across multiple gambling sites should be governed by a centralised system. This would allow for limit setting through the central hub to be applied as a maximum spend across all the self-excluder's gambling accounts and reduce the gambling harms they experience.

Combining strategies, addressing multiple needs, and using multi-modal design

Some self-help strategies may not be sufficient to reduce particularly severe gambling related harms, and so may need to be used in combination with other strategies. For example, Hopfgartner et al. (2023) suggested that self-excluders should receive further support or resources in addition to their self-exclusion programme. Additional psychological support on top of self-help strategies was also called for within the literature reviewed (Kraus et al. 2023). In Canada, Boudreault et al. (2018) recommended that workbooks and telephone interviews were both effective for reducing gambling related harms but considered feedback from a therapist to be a key component of this success.

Papers have also recommended that self-help strategies consider other comorbid health and social concerns (Matheson et al., 2019; Lubman et al., 2017). This is because individuals experiencing complex needs such as homelessness, mental health challenges, substance use, and incarceration are at increased risk for engaging in harmful gambling. Despite this, no services currently address these compounding experiences. Matheson et al. (2019) continue to state that further research should investigate the complexity of interactions between harmful gambling and comorbid conditions in order to design interventions that can address multiple needs. In this way, Cunningham et al. (2019)

suggested that gambling and mental health services could be better integrated and recommended that online interventions could address this.

To combine strategies and address multiple needs, Rodda and Lubman (2014) expressed that there would be value in utilising multi-modal service options. The authors recommended the inclusion of an element of online support as this is often attractive for new treatment seekers. However, content and delivery modes should be tailored and targeted to address differences in gender and age as well as differing gambling preferences.

More rigorous research design and filling gaps within the evidence

Overall, more rigorous research designs should be implemented in the future in order to inform the recommendations above with evidence-based and robust findings. Maynard et al. (2018) conducted a literature review and identified the following key methodological shortcomings in the current evidence base. The authors described small sample sizes, a lack of comprehensive comparison of self-help strategies to other treatments (in particular CBT which is considered best practice), and a lack of evidence on long-term effectiveness. They also recommended that future research explore beyond the effects of the interventions and consider aspects such as implementation, acceptability, and cost-effectiveness too.

Our own scoping review also revealed that much of the current evidence-base is formed from studies from outside Great Britain. Whilst these studies have taken place in comparative countries, there may still be some aspects that cannot entirely be generalised to the context of Great Britain. Furthermore, the majority of literature reviewed explored self-exclusion and so less evidence is available to determine the efficacy of other self-help strategies. Finally, gaps within the academic and grey literature studied within this report include the optimal durations of self-help strategies, and strategies that are solely effective for reducing gambling harms (as opposed to also being effective in reducing adjacent harms) and those not effective for gambling. Whilst most papers discussed both the positives and negatives of the strategies included within this review, no paper focused on self-help strategies that are entirely ineffective for reducing gambling harms.

Generally, the evidence base for the use of self-help strategies for gambling harms in Great Britain was quite small. Several strategies included in this report were only explored in detail in a handful of studies, with the majority of the literature focusing exclusively on self-exclusion or monetary limit setting. Therefore, the findings on self-help strategies including workbooks and toolkits, coping skills, and cognitive strategies are not necessarily conclusive.

Therefore, recommendations for future research include (i) utilising larger sample sizes, (ii) comparing self-help strategies to traditional forms of treatment (e.g., counselling), (iii) exploring the longer-term effectiveness of strategies, (iv) carrying out research within the context of Great Britain, (v) carrying out research into strategies with a less comprehensive evidence base (e.g., coping skills, personalised feedback tools), (vi) identify the optimal duration for self-help strategies, and (vii) fill gaps within the current evidence base regarding which self-help strategies are unique to gambling and which do not work for gambling.

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Appendix

Research questions

To address the objectives discussed in the previous section, the REA sought to provide evidence on the following areas.

1. What does existing research tell us about the type, use, and effectiveness of self-help strategies for behaviour change in gambling and adjacent activities, including within specific communities that have been marginalised?
 - a) What, if any, conditions are needed for success, including (i) what combination of strategies may be more effective than others, (ii) what are the characteristics and formats of effective self-help strategies, and (iii) what is the optimal duration of use for self-help strategies?
 - b) What motivations drive the use of self-help strategies, and what barriers prevent people from engaging with or using these strategies?
 - c) How do marginalised communities utilise self-help strategies and are there unique features of strategies used in these communities?
 - d) Are there any strategies that are unique to gambling harms, or that the literature has identified as not being effective for gambling?
2. What are the strengths and limitations of existing research focusing on self-help strategies and their effectiveness for various communities?
3. What recommendations can be made for service and healthcare providers, researchers (including for further primary research), and policymakers?

Inclusion and exclusion criteria

We used inclusion and exclusion criteria to decide if the materials identified from our search were suitable for answering the core research questions of this project. The criteria that was used to move from a long list of materials towards a short list of studies that were included in our technical review are listed in the table below.

Table 1. Inclusion and exclusion criteria

Inclusion and Exclusion Criteria		
Theme	Inclusion Criteria	Exclusion Criteria
Population characteristics or context	People who experience gambling-related harms, other disordered behaviours, and/or mental health challenges.	Studies that do not focus on the population of interest.
Country of the study	Great Britain, comparable countries (Northern Ireland, Canada, Australia, New Zealand). The USA and comparable EU and EEA countries will also be considered.	Non-comparable countries in Africa, Asia, and South America.

Sector	Gambling services, drug and alcohol services, mental health services, healthcare services.	Studies focusing on sectors not in scope.
Methods	All methods (experimental, quasi-experimental, qualitative, descriptive etc.).	
Areas of impact/outcomes	<p>Studies that focus on self-help strategies for people experiencing gambling-related harms (and other adjacent harms).</p> <p>Studies that investigate the effectiveness of these strategies (or a combination of strategies).</p>	Studies not focusing on these areas will be considered out of scope.
Date of research	Published between 2013-2023.	Published earlier than 2013.
Language	English	Any other language
Type of studies	Peer-reviewed journal articles, non-peer-reviewed academic outputs, government-commissioned research, publications by research organisations, evidence by providers of interventions/support, government publications, and book chapters.	<p>Newspaper articles and editorials/opinion pieces, magazine articles.</p> <p>Theses and dissertations.</p> <p>Books or other work of equivalent length.</p>

Information sources

We mainly retrieved evidence from academic literature. For this purpose, we focused on databases of published and unpublished academic literature. This included (but was not limited to) PubMed, JSTOR, Science Direct, SpringerLink, SAGE, and SSNR.

Search strategy

We designed the search strategy to ensure it was targeted at thoroughly answering the key research questions. Table 2 illustrates the keywords that were used to identify relevant sources of evidence.

This protocol was set to obtain the most relevant pieces of literature to address the primary research questions. Based on the time schedule and the scope of the review, we built the search strategy by mainly targeting keywords present in the title (main field) and the abstract (chapter and research question level).

During the scoping exercise, we tested different combinations of words to arrive at the following set of keywords. Search terms were combined into search strings using Boolean operators (AND/OR/NOT) and other database-specific search operators. Using these strings, we arrived at a long list of studies, which was then screened to see if they met the inclusion criteria.

Different combinations of search terms and keyword fields were selected to identify relevant evidence. The search strings that were used were the ones that returned a substantial but manageable number of relevant results.

Table 2. List of keywords

List of keywords for the search strategy	
Main field	Gambling, gamblers, gambling problem(s), gambling harm(s), gambling addiction(s), gambling disorder(s), scratch card(s), slot machine(s), betting
Strategies	Self-help, self-management, self-efficacy, self-exclusion, self-treatment, self-directed, self-comparison, self-assessment, self-control, behaviour change, coping
Specific populations	Stigmatised, marginalised, minority, excluded, isolated, discrimination, otherisation, criminalised, socially excluded, underserved
Adjacent sectors	Mental health, depression, substance use, alcohol use, drug use, pornography, sexual activity, social media, gaming, online gaming

Search strategy for grey literature

The aim of the grey literature search was to fill the gaps found in the academic literature. We targeted relevant policy documents, institutional reports, and programmes from different institutions, research centres and organisations. This included:

- European Union
- OECD
- GambleAware
- Gambling Commission
- GamCare
- UK Health Security Agency & Office for Health Improvement and Disparities (formerly Public Health England)
- Public Health Wales/Scotland
- Victorian Responsible Gambling Foundation

We manually searched the websites of the organisations listed above to retrieve any relevant evidence from their databases.

Study records

Data management

To ensure the search process was comprehensive and transparent, we used a Research Activity Sheet (RAS) to record all searched terms, accessed sources, the date of the search and the number of search results.

We recorded and maintained a list of the retrieved references in a specialist software package called Zotero. Zotero is a free, open-source reference management tool that stores citation information (e.g. author, title, and publication fields) and has the ability to organise, tag, and perform advanced searches.

Selection process and data collection

We began by screening the titles of initial search results and removing any duplicate studies to compile a long list of relevant research papers and reports. Our team then screened the abstracts to decide which studies to include in the short list. The screening process to select shortlisted papers was carried out according to the inclusion and exclusion criteria listed in Table 1.

The screening process resulted in a final short list (the reading list) of papers to include in the review, which was read in full.

Data extraction

To capture the key findings of each study included in the short list, we used a Research Extraction Sheet (RES) that included the following details for each study:

- Title
- Author(s)
- Type of publication
- Publication date
- Source
- Country/Region of focus
- Abstract/Executive summary
- Methodology (e.g. survey, interviews, observational data etc.)
- Population of interest
- Sector (e.g. gambling services, drug and alcohol services)
- Format of self-help strategy (e.g. digital)
- Research question(s)
- Summary of findings
- Quality score

Assessing the quality and relevance of studies

Finally, our team assessed the quality of the research. It is important that quality is implicitly considered for research forming an evidence base and putting forward recommendations. We recognised that the assessment framework would need to be flexible to accommodate a varied evidence base which may include observational studies, qualitative research, and empirical research.

We therefore developed a bespoke quality assessment framework that is fit-for-purpose and tailored to the specific characteristics of the literature. The quality assessment of the evidence is based on (i) credibility, (ii) methodology, and (iii) relevance of the study. For each category, we assigned a score 1-3 (where 1 is the lowest score and 3 is the highest).

Table 3. Quality assessment

Category	Description	Score
Credibility	<p>Is the study coherent? Can findings be trusted? Does the author consider study limitations or alternative interpretations of the analysis? Has the study been peer-reviewed?</p> <p>1 = Study has not been peer-reviewed, with conclusions drawn from limited data or theoretical discussion. Lack of transparency around data and no discussion of data quality. Study focuses on an ongoing intervention with no discussion around assumptions made.</p> <p>2 = Study is unpublished or study is informally published as a working paper/research report by a reliable source. Limited discussion around sources, information, and data quality, or alternative interpretations of research findings. Study focuses on an ongoing intervention with adequate discussion around assumptions made.</p> <p>3 = Study is published in a peer-reviewed academic journal. Study discusses information quality, sampling decisions, and other aspects of the methodology. Study focuses on a completed initiative.</p>	1-3
Methodology	<p>How robust is the evidence to contribute to our review?</p> <p>1 = Methodology is weak and relies on uninformed opinions or unreliable data. In particular, the Methodology is not fit-for-purpose and relies on cross-sectional comparisons with no use of control variables. This also includes qualitative studies with unclear/inadequate sampling strategies. No discussion of why the chosen design and method are well-suited to answering the research question.</p> <p>2 = Methodology is fit-for-purpose and relies on adequate control variables, though important unobserved differences may be remaining. This also includes high-quality qualitative studies (surveys, focus groups, case studies) with robust sampling strategies. Some discussion of why the chosen design and method are well-suited to answering the research question.</p> <p>3 = The study is a literature review, meta-analysis, or discussion of more than one completed intervention.</p> <p>Methodology exploits quasi-experimental designs as well as explicit randomisation into treatment and control groups. The study provides clear evidence on the comparability of treatment and control groups. Extensive discussion of why the chosen design and method are well-suited to answering the research question.</p>	1 - 3
Relevance	<p>Does the study help to answer the research question?</p> <p>1 = The research question or hypothesis is not directly related to the proposed research questions. Alternatively, the external validity of the study is not guaranteed, albeit the country would be comparable.</p> <p>2 = Study addresses an intervention from a comparable territory, including Northern Ireland, USA, Australia and New Zealand, Canada, or a comparable EU or EEA country. The research question or hypothesis is only somewhat related to the proposed research questions.</p> <p>3 = Study addresses an intervention within Great Britain. The research question or hypothesis is directly related to the proposed research questions.</p>	1-3
Overall judgment	Considering the above categories, what is the overall judgment?	3-9

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