Final Report

Pulling out of gambling treatment:

Research, service, practitioner, and client perspectives

Prepared by:

Hawker, C. O.*, Merkouris, S. S.*, Dowling, N. A., & Thomas, A. C.

*Joint first authors

Deakin University

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Executive summary

Introduction

Around one in ten adults experience problems with their gambling in Aotearoa New Zealand, with 2.4% experiencing moderate-risk or problem gambling and 8.3% gambling at harmful levels.[1] Only a minority seek help (1 in 5 with problem gambling and 1 in 25 with moderate-risk gambling),[2] with common barriers including shame and stigma, a preference for self-reliance, and practical obstacles.[3] While effective psychological treatments are available, many clients pull out of formal treatment services early, potentially limiting their benefits as more sessions generally lead to better outcomes.[4,5] Yet, little is known about when, why, and with what consequences people pull out of treatment, or how services might better support retention.

Project aims and methodology

This project examines definitions, estimates, predictors, reasons, consequences, and potential solutions related to pulling out of formal psychological gambling treatment. Co-designed with a panel of people with lived experience of gambling harm, the project draws on research, service, practitioner, and client perspectives through four complementary studies:

1. A scoping review of contemporary gambling research (2004-2025; 66 studies).
2. A service analysis of 10 years of routinely collected gambling treatment data from a network of services across New Zealand (2014-2023; *n*=18,642, 65% male).
3. An online survey and follow-up hui with gambling treatment practitioners from New Zealand (*n*=15; 73% female, of which 4 participated in the hui).

4. A two-timepoint online survey (pre-treatment and 1-month follow-up) with clients of gambling harm treatment services in New Zealand (*n*=35; 74.3% male).

Key findings

Table 1 summarises the key findings across the four studies. A brief snapshot of the project findings across the six aspects of pulling out of formal psychological gambling treatment are below:

- **Definitions**: The scoping review identified that pulling out of treatment is typically defined by session attendance; however, insights from the other studies suggest a more nuanced definition incorporating session attendance, progress toward goals, and outcome changes, given the non-linear nature of treatment engagement.
- **Estimates**: Consistent findings across the studies suggest that approximately 1/3 of clients pull out of treatment, usually within the first 1-2 sessions.
- **Predictors**: Few consistent predictors of pulling out of treatment were identified. The scoping review and service data identified individual-level factors, such as marital status, younger age, male gender, alcohol use, depression, and impulsivity, some of which were also noted by practitioners. The client survey further highlighted the role of gambling and treatment experience factors. The scoping review also noted a lack of research into practitioner- and service-level predictors.
- **Reasons**: While limited research has examined reasons for pulling out of treatment, the scoping review and practitioner and client perspectives identified common reasons such as practical barriers, low motivation or readiness, lack of support, concerns about treatment, or early goal attainment. Service data also showed some clients completed treatment in just a few sessions, though limited further insight was available as many clients were uncontactable.

- **Consequences**: Little is known about consequences of pulling out of treatment, with emerging research, practitioner, and client evidence suggesting worsened gambling and mental health. While practitioners also identified some positive consequences, such as improved insight, no research has examined the full range of potential positive and negative consequences of pulling out of treatment.
- **Solutions**: Strategies to improve retention in formal psychological gambling treatment are underexplored in research, with only two studies from the scoping review exploring solutions, both of which suggest using motivational techniques. Practitioners suggest offering accessible, client-centred care. Clients suggest focusing on therapeutic relationships, proactive contact, and peer/group support.

Summary of key findings

This report synthesised findings from a scoping review, service data, and practitioner and client perspectives to better understand the issue of clients pulling out of formal psychological gambling treatment. Together, the findings suggest that pulling out of gambling treatment is common (one in three clients), typically occurs early, and is influenced by a mix of individual and treatment-related factors rather than any single predictor. Current definitions that focus only on session attendance may underestimate the complexity of engagement, which often involves non-linear progress and early treatment plan completion for some clients. Reasons for pulling out highlight both challenges and opportunities - practical barriers and low readiness can limit engagement, but early goal attainment and improved insight suggest that even short treatment journeys are beneficial for some. The limited evidence on consequences and solutions underscores an urgent need for services to prioritise early engagement, strengthen therapeutic relationships, and adopt more flexible, client-centred, and

culturally responsive approaches. These insights point to tangible opportunities to improve retention, equity, and outcomes in formal psychological gambling treatment.

Practical implications

⇒ **Use client-centred, culturally appropriate terminology** and avoid deficit-based labels like 'dropout' when referring to pulling out of treatment.

⇒ **Improve service data systems** through routine administration of brief measures capturing treatment progress, outcomes, and reasons for pulling out of treatment, which are subsequently recorded in service databases.

⇒ **Provide flexible and accessible service options**, including after-hours, online, and peer/group formats.

⇒ **Prioritise early engagement** by setting clear goals, aligning treatment with client expectations, and addressing initial barriers, particularly in the first 1–2 sessions.

⇒ **Tailor support for Māori, Pacific, and younger clients**, using culturally grounded and client-centred approaches. For example, whānau-centred and *va*-based approaches were suggested for Māori and Pacific clients, respectively.

⇒ **Invest in the workforce** with gambling-specific and cultural competency training in response to practitioner calls for greater workforce development.

Future research directions

Given the limited understanding of why clients pull out of formal psychological gambling treatment, the consequences of doing so, and how best to respond, further research should prioritise examining: (1) a comprehensive range of reasons for pulling out, including practitioner- and service-level factors; (2) both positive and negative consequences, with attention to holistic outcomes valued by clients; and (3) strategies

to improve retention, including their timing and delivery. This evidence could help services tailor their approaches to better support client engagement and retention.

Table 1. Summary of key findings from the four studies examining six aspects of pulling out of formal gambling treatment

	Research perspectives (66 studies)	Service analysis (n=18,642 outpatients)	Practitioner perspectives (n=15 practitioners)	Client perspectives (n=35 clients)
Definitions of 'pulling out of treatment'	• 48 studies contributed data. • Defined by treatment non-attendance, non-completion, or practitioner judgement. • Three studies defined by goal attainment and/or symptom improvement.	• Data collection methods precluded analyses of 'pulling out' as there was no set treatment length or relevant outcome measures. • Session attendance used as a proxy for 'pulling out'.	• Considerable variation in preferred terminology, but more commonly preferred 'disengagement.' • Some practitioners avoid concept completely as treatment engagement is viewed as non-linear.	• Defined by not completing treatment sessions, not achieving goals, or not intending to attend subsequent scheduled session in this study. • Clients were not asked about preferred terminology.
Estimates of how many clients pull out, and when they do so.	• 62 studies contributed data. • Median estimate of pulling out was 33.4%. • Most clients pull out within 1-2 sessions.	• 27.7% of clients attended one session, 35.5% attended 2-5 sessions, 36.8% attended 6 or more. • Most clients (58.2%) attended 3 or fewer sessions.	• Practitioners estimated 35%-36% of clients pull out of treatment.	• 22.6% pulled out within 1-month of starting treatment, typically after attending 1 session.
Predictors of pulling out of treatment	• 49 studies contributed data. • Common predictors: marital status, younger age, male gender, alcohol use, depression, distress, impulsivity.	• Predictors of lower session attendance: Younger age, male gender, Māori or Pacific identities, higher gambling expenditure, no-to-little gambling.	• Perceived predictors: client's readiness to change, gambling harms, gambling cognitions, impulsivity, and low social support.	• Pulling out associated with: frequent gambling, lower motivation to gamble for pleasure, lower treatment satisfaction, and weaker therapeutic alliance.

	Research perspectives (66 studies)	Service analysis (n=18,642 outpatients)	Practitioner perspectives (n=15 practitioners)	Client perspectives (n=35 clients)
Reasons for pulling out of treatment	• Only 10 studies contributed data. • Typically identified individual barriers (e.g., practical issues, lack of progress). Some studies cite treatment-related reason (e.g., group format).	• One-half of clients lost contact with the service (56.2%); 2.1% transferred to other services. • Portion completed treatment plan despite few sessions (26.5% in one session, 34.7% in 2-5 sessions).	• Perceived reasons: fluctuating motivation and readiness, shame, stigma, practical reasons. • Positive reasons also identified (i.e., having needs met early).	• Reported reasons among 8 clients who pulled out of treatment by the 1-month follow-up: severity of gambling or mental health issues, logistics, motivation, lack of social support.
Consequences of pulling out of treatment	• Only 5 studies contributed data. • Worsened gambling and mental health characteristics, albeit limited studies.	*Not applicable.*	• Perceived negative consequences: worsened gambling and mental health, relationships, and future help-seeking. • Perceived positive consequences: improved insight, autonomy, and awareness of services.	• Compared to completing treatment, pulling out was associated with less improvement in problem gambling severity, urge self-efficacy, wellbeing, anxiety, and depression 1-month after starting treatment.
Solutions for improving retention in treatment	• Only 2 studies contributed data. • Both reduced pulling out by adding motivational techniques to treatment.	*Not applicable.*	• Suggestions to increase accessibility, offer client-centred care, be culturally responsive, and develop workforce.	• Suggestions to build therapeutic alliance, and to offer flexible services, proactive contact, and peer/group connection.

1. Background

1.1. Gambling harm and treatment

Problem gambling[a] involves difficulties controlling time and money spent gambling,[7] leading to significant harm for individuals, families, and communities.[8] The latest New Zealand Gambling Survey (2023/24) indicates that 2.4% of adults display moderate-risk or problem gambling, with an additional 8.3% gambling at harmful levels.[1] Gambling harms include financial strain, mental and physical health deterioration, relationship breakdowns, employment and legal issues, and cultural disconnection.[8]

Only a minority of people with gambling problems seek help. Globally, around one in five people with problem gambling, and one in 25 with moderate-risk gambling, seek any form of help, including formal/professional, informal, or self-help options.[2] Commonly reported barriers to help-seeking include shame, stigma, a preference for self-reliance, and practical obstacles such as cost, access, and cultural fit.[3] Most people who recover from problem gambling do so without formal treatment, often through self-change efforts.[9, 10]

Formal psychological treatment refers to practitioner-delivered interventions, commonly provided within specialist gambling services. In this report, 'practitioners'

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[a]References to "problem gambling" are made in the context of research using measures such as the Problem Gambling Severity Index, which assesses both behavioural dependence and adverse consequences from gambling. 'Gambling harm' is a closely related but distinct construct, which only considers adverse consequences. This report uses "harmful gambling" and person-first language wherever possible to avoid stigmatising language and to recognise the complex range of social, cultural, policy, and economic factors that influence gambling harm.[6]

refers to professionals (e.g., psychologists, counsellors, social workers, or other health professionals) with competency supporting people affected by gambling harm, while 'services' refers to treatment organisations delivering gambling harm support. Among psychological interventions, cognitive behavioural therapy (CBT) and motivational interviewing (MI) have the strongest empirical support for reducing gambling severity and distress.[11-13] Both CBT and MI are therefore recommended in national and international practice guidelines for the management of gambling-related harm.[14, 15] A typical, recommended course of CBT comprises six-eight sessions, though more sessions generally lead to better outcomes.[5, 16] Treatment effectiveness may be hindered, however, by high rates of people pulling out of formal psychological treatment, which is a persistent challenge across addiction services.[17-19]

1.2. Terminology around pulling out of treatment

In psychological treatment research, including gambling research, the term 'dropout' is typically used to describe situations where people pull out of treatment earlier than anticipated.[17] This term can be stigmatising, however, as it may imply a personal failure rather than acknowledging the complex reasons people may leave treatment, such as financial difficulties, competing responsibilities, doubts about treatment effectiveness, feelings of stigma and shame, or referral to other services.[18] 'Dropout' also carries negative connotations of insufficient treatment and poor outcomes, when some people may pull out of treatment because they met their goals early, are satisfied with their level of engagement, or would prefer an alternative approach.[20] This report therefore utilises the phrase ***'pulling out of treatment'*** based on consultation with an Expert Advisory Panel of people with lived experience of gambling harm from Māori, Pacific, Asian, and New Zealand European communities with whom this project was co-

designed (see section 3.2). This lived experience panel considered a range of alternatives, such as 'disengagement' and 'leaving treatment,' before reaching consensus on 'pulling out of treatment' as a more neutral term.

1.3. Pulling out of treatment in the gambling literature

A recent review found that over one-third (39%) of clients pull out of face-to-face CBT and/or MI for harmful gambling, though rates for other treatment modalities have not been reviewed.[17] Rates of pulling out varied widely depending on how it is defined, ranging from 27% based on practitioner judgement, 33% based on session attendance, and up to 64% based on treatment non-completion. While research on factors that may predict pulling out of formal psychological treatment is growing, the evidence remains inconsistent,[17, 18] hindering targeted efforts to improve retention among those who need or want continued support. In addition, research exploring why clients pull out of treatment and the consequences of doing so is limited. Initial findings suggest that pulling out may reflect personal barriers to engagement[21, 22] and may be associated with poorer outcomes;[23-26] however, no studies to date have examined the full range of potential reasons or consequences. Moreover, almost no studies have explicitly tested practical solutions to improve retention,[18] leaving gambling harm services with limited evidence-based guidance for supporting clients at risk of pulling out of treatment.

1.3.1. Pulling out of treatment in gambling services across Aotearoa New Zealand

In Aotearoa New Zealand, gambling harm services support approximately 9,900 clients or tāngata whaiora (herein referred to as clients) each year.[27] Anecdotal reports from practitioners suggests that pulling out of formal psychological treatment early is common; however, the reasons, such as partial treatment completion or transfer to

another service, are inconsistently recorded and interpreted across providers.[28] While it is evident that many clients pull out of treatment, there remains limited understanding of how many do so, when and why this occurs, the impact on outcomes, and how services can better support retention. Addressing these evidence gaps is essential to improve service delivery and promote health equity, particularly among groups identified by the New Zealand Gambling Strategy as disproportionately affected by gambling harm (herein referred to as 'priority populations'), including Māori, Pacific peoples, Asian peoples, young people/rangatahi, and older adults.[27] Research in this area can help ensure services are accessible, culturally responsive, and better equipped to meet the diverse needs of those seeking support.

2. Purpose

2.1. Objective of this project

Drawing on research, service, practitioner, and client perspectives, this project aims to increase our understanding of clients pulling out of formal psychological gambling treatment services in Aotearoa New Zealand, which may have broad impacts at a policy, operational, and service delivery level. The project specifically addresses gaps in our understanding of six key aspects of pulling out of treatment, including:

(1) **Definitions:** How is ‘pulling out of treatment’ defined?

(2) **Estimates:** How many clients pull out of treatment and when do they do so?

(3) **Predictors:** Which clients are more likely to pull out of treatment?

(4) **Reasons:** Why do clients pull out of treatment?

(5) **Consequences:** What are the positive and negative outcomes clients experience after pulling out of treatment?

(6) **Solutions:** What can practitioners and services do to help clients stay in treatment when they need or want continued support?

3. Project methodology

3.1. Project methods

A comprehensive examination of these six aspects of pulling out of formal psychological treatment (definitions, estimates, predictors, reasons, consequences, and solutions) was conducted through four complementary studies (summarised in Table 2), incorporating research, service analysis, practitioner, and client perspectives.

Methods used in this project included:

1. A scoping review of contemporary gambling research:

A scoping review was conducted following Arksey and O'Malley's framework, enhanced by Levac et al.,[29, 30] to examine the six aspects of pulling out of formal psychological gambling treatment delivered face-to-face. Studies published between January 2024 and February 2025 were included if they reported original quantitative or qualitative data involving adults seeking help for their own gambling. Of 2,127 studies screened, 66 studies (from 67 articles) met inclusion criteria and contributed to definitions (k=48; 73%), estimates (k=62; 94%), predictors (k=49; 74%), reasons (k=10; 15%), consequences (k=5; 8%), and solutions (k=2; 3%).

Most studies were conducted in Spain (k=32), Australia (k=13), Canada (k=9), and the United States of America (k=7), with only one study conducted in New Zealand. Single-arm designs (k=33) and outpatient settings (n=64) were most common. Treatments primarily involved CBT (k=65) - delivered in group (k=36), individual (k=24), or mixed formats (k=5) - followed by multimodal approaches (k=7), exposure therapy

(k=6), cognitive therapy (k=5), and MI (k=5). Table A1 (Appendix A) summarises study characteristics, including location, design, sample details, treatment conditions, reported rates of pulling out of treatment and session attendance, and how pulling out of treatment was defined.

2. A service analysis of outpatient gambling treatment data in New Zealand via a retrospective cohort study:

A retrospective cohort study was conducted using 10 years of routinely collected data (2014-2023) from over 15 specialist outpatient gambling treatment services across New Zealand. This study examined estimates, reasons, and predictors of attendance (single session vs. two - five sessions vs. six or more sessions). Attendance patterns were used as a proxy for treatment engagement due to the absence of predefined treatment lengths, routine outcome measures, and standardised indicators of treatment completion in the national database, which precluded reliable classification of 'pulling out of treatment'.

The analysis included adults who sought help for their own gambling and attended at least one 'full intervention' session. Full interventions typically involve up to six 60-minute clinical sessions over three months, covering screening, therapy, relapse prevention, and exit planning, along with optional 'facilitation' sessions to address co-occurring issues. While six sessions is a common benchmark, treatment is flexibly tailored in length, format (individual, group, couple, family), modality (face-to-face or remote), and content. Follow-ups are routinely offered at 1, 3, 6, and 12 months, and

treatment is delivered by qualified professionals. Clients access services via self-referral or referrals from health, justice, or community sources.

The final sample comprised 18,642 clients (65.1% male; M_{age}=41.0 years, SD=13.4), with cultural identities spanning New Zealand European/Pākehā (38.3%), Māori (26.7%), Pacific Nations (15.2%), and Asian (13.2%). Despite 39.4% missing data on the Problem Gambling Severity Index (PGSI), available data indicated that 37.6% of the sample displayed problem gambling, 11.4% moderate-risk gambling, 5.4% low-risk gambling, and 5.7% non-problem gambling. Sample characteristics are presented in Table A2 (Appendix A).

3. A cross-sectional online survey with gambling treatment practitioners in New Zealand and an online hui with a subsample of practitioners:

An online survey, hosted by Qualtrics, was conducted to examine practitioner perspectives on the definitions, estimates, predictors, reasons, consequences, and solutions to pulling out of formal psychological gambling treatment in Aotearoa New Zealand. The sample comprised 15 current practitioners (20.0% male; M_{age} = 48.3 years, SD = 13.0) from four specialist gambling treatment services, recruited via convenience and snowball sampling. At the end of the 20-minute survey, practitioners could opt into a follow-up hui to discuss the implications of the project findings for service delivery. Four practitioners (25.0% male) from two services participated in the two-hour hui, hosted by Zoom, with scheduling designed to maximise diversity across gender, cultural identity, role, and service type. The online survey sample characteristics are presented in Table A3 (Appendix A).

4. A two-timepoint (pre-treatment and 1-month follow-up) online survey with current clients of gambling treatment services in New Zealand:

A prospective two-timepoint survey, hosted by Qualtrics, was conducted to examine client perspectives on estimates, predictors, reasons, consequences, and potential solutions related to pulling out of formal psychological gambling treatment in Aotearoa New Zealand. Eligible clients were adults, living in New Zealand, who had begun treatment in the past month for their own gambling and were proficient in English (as the surveys were in English). The sample comprised 35 clients (74.3% male; M_{age} = 32.0 years, SD=10.6) from four specialist gambling treatment services, recruited via purposive sampling. While treatment models varied across services, they typically involved personalised psychosocial support delivered through a series of one-on-one clinical sessions, with some services recommending up to six sessions over three months. Sessions could be delivered in-person or remotely by a range of qualified professionals. At pre-treatment, most clients reported engaging in face-to-face sessions (62.9%), primarily with a counsellor (94.3%). Most clients identified as New Zealand European/Pākehā (77.1%), with smaller numbers identifying as Māori (14.3%), Pacific (8.6%), or Asian (2.9%). Most clients (68.6%) displayed moderate-to-extreme gambling symptom severity, where the median number of gambling days was 7 and the median loss was $1500 in the past month. The sample and treatment characteristics are presented in Tables A4 and A5, respectively (Appendix A).

Table 2. Overarching project methodology to explore research, service, practitioner, and client perspectives

Study	Aimed to identify:	Key sample characteristics
Scoping review (Appendix A)	• *Research perspectives:* Review the definitions, estimates, predictors, reasons, consequences, and solutions to pulling out of formal psychological treatment, delivered face-to-face, reported in contemporary gambling research (2004-2025).	• 66 empirical research studies (with any study design) reported in a journal article or report from Jan 2004 to Feb 2025. ○ 1 study was based in New Zealand
Service analysis (Appendix B)	• *Service perspectives*: Examine estimates, predictors, and reasons of (non)-attendance using 10 years of routinely collected data from a national network of specialist outpatient gambling treatment services across New Zealand (2014-2023). This study focused on number of sessions attended due to the nature of the data (see section 4.3).	• 18,642 adult gambling treatment outpatients ○ 65% male; mean age of 41 years ○ 38.3% Pākehā, 7% Māori, 15.2% Pacific, and 13.2% Asian peoples ○ 38% displayed problem gambling
Practitioner survey and hui (Appendix C)	• *Practitioner perspectives*: Examine practitioner perspectives on the definitions, estimates, predictors, reasons, consequences, and solutions to pulling out of formal psychological gambling treatment in New Zealand using an online survey. An online hui (with a subsample) explored implications of project findings.	• 15 gambling treatment practitioners ○ 73% female; mean age of 48 years ○ 53.3% Pākehā, 26.7% Māori, 13.3% Pacific, and 6.7% Asian peoples ○ Hui subsample of 4 (75% female)
Client survey with two-timepoints (Appendix D)	• *Client perspectives*: Examine estimates, predictors, reasons, consequences, and perceived solutions to pulling out of treatment among clients of formal psychological gambling treatment services in New Zealand using online surveys at ‘pre-treatment’ and a ‘1-month follow-up’.	• 35 gambling treatment clients ○ 74.3% male; mean age of 32 years ○ 77.1% Pākehā, 14.3% Māori, 8.6% Pacific, and 2.9% Asian peoples ○ 40.0% had severe-to-extreme gambling symptoms at pre-treatment

3.2. Expert Advisory Panel for this project

This project was co-designed with a fit-for-purpose Expert Advisory Panel, which guided the project through all stages, including study design, interpretation of findings, and dissemination strategies. The panel included people with lived experience of gambling harm and practitioners/researchers from Māori, Pacific, and Asian communities. The panel met prior to the research to co-design roles, tasks, and processes, and convened online three times throughout the project for a total duration of approximately 5 hours. The panel focused on lived experience to ensure culturally responsive outcomes.

3.3. Report structure

Sections four– nine in this report present key findings from each study on the six aspects of pulling out of treatment, with each topic addressed in separate dedicated sections. Each of these sections end with an integrated summary of the project findings with a subsequent spotlight on those that relate to priority populations, practical implications of the findings, and directions for future research. Extended methodological details are provided in a supplementary technical report.

4. Definitions: How is ‘pulling out of treatment’ defined?

4.1. Preface

Section 4 presents the key findings on the definitions of pulling out of formal psychological treatment from the perspectives of research, services, practitioners, and clients across all four studies of the project.

4.2. Research perspectives: Scoping review of the literature (2004-2025)

The scoping review found that a large proportion of the research (48 studies; 73%) defined pulling out of gambling treatment, of which 42 studies used the term ‘dropout.’ Other terms included ‘early withdrawal,’ ‘compliance,’ or ‘retention.’ No studies included in this section of the review were conducted in New Zealand.

Pulling out of treatment was typically defined in three ways, including by the:

- Non-attendance of a set number of sessions (33 studies)
- Non-completion of the full treatment program (10 studies)
- Therapist’s judgement of premature termination (6 studies)

Most CBT studies defined ‘dropout’ as missing three consecutive sessions, with some using two or four-session thresholds. Three studies used unique definitions, whereby two considered ‘dropout’ as stopping treatment before achieving psychological improvement in psychological distress[31] or a reduction in cooccurring depressive symptoms,[32] and another used therapist-rated categories to assess treatment progress, reasons for closure, and goal attainment.[33] These alternate definitions aimed to avoid misclassifying clients as having pulled out when they improved or met their goals,

regardless of session attendance or treatment completion. Table A1 (Appendix A) indicates the type of definition employed in individual studies.

4.3. Service analysis: Retrospective cohort study of treatment data in New Zealand (2014-2023)

The service analysis revealed key challenges in identifying when clients had pulled out of treatment, largely due to the absence of a predefined treatment length and routine data on client progress and outcomes. Definitions from the scoping review could not be applied, as the database lacked information on planned treatment length, progress toward goals, and symptom change. Pulling out of treatment could only be inferred indirectly via attendance at follow-up sessions or a discharge reason of "treatment plan complete" – yet discharge reasons were often unknown (56%), typically due to a loss of contact or a client request for no further contact. These limitations highlight the need for improved database recording to support more accurate identification of 'pulling out of treatment' in future service examinations. Improvements could include routine monitoring of treatment plans (e.g., every 3 sessions), progress toward goals, and practitioner- or client-reported session outcomes.

4.4. Practitioner perspectives: Survey and hui with practitioners in New Zealand

When asked to define 'dropout', most practitioners referred to a client's active or passive disengagement, such as being "*unable to be contacted after initial engagement or making the decision to have no further support*" (Counsellor). Some emphasised that disengagement occurs "*when a person leaves before getting their needs met or before achieving their self-defined treatment goals*" (Manager). Importantly, several practitioners viewed 'dropout' as stigmatising and inappropriate for use with clients:

“Respectfully, the term 'dropout' is stigmatising and runs parallel with the term 'problem gambler’. These narratives draw focus to people being problematic. As a kaupapa Māori service engaging with whānau Māori and hapori Māori, we would not use this term in any capacity in our mahi.” (Manager/Counsellor)

Others preferred metaphors to reflect the fluidity of engagement:

“Ua taofi le faamoemoe (the goals are on hold) or faamoe le toa (the rooster must sleep). The terminology should influence change talk.” (Counsellor/Matua role)

In addition to defining ‘dropout’, practitioners were asked to select a preferred term for clients not completing treatment from ‘dropout’, ‘poor engagement’, ‘poor adherence’, or ‘other (please specify)’ for exploratory purposes. Five chose ‘poor engagement,’ two chose ‘dropout,’ one chose ‘poor adherence,’ and seven suggested other alternatives (e.g., *disengaged*, *not ready*, *enacting choice to leave*). These findings highlight the challenge of identifying universal language and the need for client-centred, culturally responsive terms that reflect autonomy and dynamic engagement. Some terms, such as ‘poor engagement’, may also inadvertently imply blame, reinforcing the importance of adopting neutral terminology.

Practitioners who attended the hui (n=4) discussed the implications of dynamic engagement for creating challenges in classifying clients as having ‘pulled out of treatment’. In many cultural contexts in New Zealand, treatment is not seen as having a fixed end point; rather, clients may dip in and out of treatment over time. Practitioners framed engagement as a negotiated, goal-focused partnership, not a time-limited process: *“it’s not linear, it’s dimensional… we give them an idea of what might be helpful, but we don’t put a length of time on it, we’re here for as long as it takes to figure*

out what we need to figure out together." One practitioner noted that one client may only need one session, while another may need months, or even years, of support. These insights provide further support for routine monitoring to contextualise each client's treatment engagement (section 4.3).

4.5. Client perspectives: Two-timepoint survey with clients in New Zealand

Based on these earlier project findings, the client survey defined pulling out of treatment as either: (1) having no upcoming sessions despite not completing the allocated treatment or meeting personal goals; or (2) having upcoming sessions scheduled but no intention to attend them; reported at the 1-month follow-up survey. Clients were not asked about definitions to maintain a survey focus on experiential content.

4.6. Summary of findings on the definition of pulling out of treatment

While research uses the term 'dropout,' typically defined based on non-attendance, there are recent moves to also consider symptom improvement and goal attainment when defining someone as having pulled out of formal psychological treatment. Practitioners favour terms like 'disengagement,' although there is considerable variation in preferred terminology, indicating the need for client-centred, culturally responsive language. The client survey used a definition based on self-reported early exit (before meeting goals) or intention not to attend, to reflect the value of client perspectives in defining disengagement. The service analysis showed that applying such definitions was difficult in practice due to limited data on planned treatment length, client progress, and outcomes - reinforcing the need for improved routine data collection.

4.6.1. Spotlight on Priority Populations

Pasifika practitioners expressed strong concerns about the stigmatising nature of the term ‘dropout,’ noting its alignment with deficit-based narratives. Instead, they advocated for language that is mana-enhancing and reflective of cultural values, such as “*ua taofi le faamoemoe (the goals are on hold)”* or *“faamoe le toa (the rooster must sleep).”* These culturally grounded terms emphasise autonomy, fluidity of engagement, and holistic wellbeing. While data from Māori and Asian communities were limited, responses from Māori practitioners reinforced the importance of respectful, culturally aligned language to support inclusive care.

4.6.2. Practice Implications

Attendance-based definitions of pulling out of formal psychological treatment, common in research, do not align with how practitioners understand and approach engagement in New Zealand. Practitioners in these services use flexible, client-led language and avoid terms like ‘dropout,’ particularly when working with Māori and Pacific clients. Embedding culturally and therapeutically appropriate terminology in practice guidelines and communication may strengthen engagement and reduce stigma. Challenges in defining ‘pulling out of treatment’ indicate the need for improved database recording to routinely capture planned treatment length, progress toward client goals, and both practitioner- and client-rated outcomes (e.g., every session), as well as the need for practitioner-client agreement on expected treatment length and treatment goals.

4.6.3. Future Research Directions

Further research is needed to identify language that resonates with clients, including those from priority populations in New Zealand. A qualitative or participatory study co-designed with clients, including Māori, Pacific, and Asian clients, could explore the terms they prefer and how these influence re-engagement, trust, and perceptions of the service.

- Suggested research question: *What terms do clients, including those from priority populations, prefer to describe pulling out of formal psychological treatment, and what impact does this have on their sense of autonomy, therapeutic trust, and willingness to return?*

5. Estimates: How many clients pull out of treatment and when do they do so?

5.1. Preface

Section 5 presents the key findings on the estimates of pulling out of formal psychological treatment from the perspectives of research, services, practitioners, and clients across all four studies of the project.

5.2. Research perspectives: Scoping review of the literature (2004-2025)

5.2.1. How many clients pull out of gambling treatment?

The scoping review found that most of the research (62 studies; 94%) provided estimates of pulling out of gambling treatment. There was, however, wide variation across the 76 reported estimates (0.0%-92.0%),[34, 35] with a median of 35.4%, indicating that approximately a third of clients pull out. Median rates differed by treatment type:

- Cognitive therapy: 31.8% (5 studies)
- CBT-based approaches: 34.8% (55 studies)
- Multimodal approaches: 43.7% (6 studies)
- Exposure therapy: 46.8% (4 studies)
- MI-based approaches: 57.4% (3 studies)

Single studies reported rates for congruence couples therapy (11.1%), brief check-ins (22.2%), systemic psychotherapy (36.1%), behavioural psychotherapy (39.0%), and two studies did not report treatment modality (11.4%-30.4%). Only one study in this review was based in New Zealand, which reported rates for CBT (92.0%) and MI (75.7%).[35] Table A1 (Appendix A) displays individual study estimates of pulling out of treatment.

5.2.2. *When do clients pull out of treatment?*

The scoping review identified 33 studies analysing when people pull out of treatment. In these studies, most pulled out within the first one - two sessions, with attendance tending to stabilise around the midpoint of treatment. On average, people attended between five and 14 sessions (based on 17 studies). The only New Zealand-based study found that most people pulled out by session four in both a 10-session CBT and six -session MI-based treatment, with a sharper drop off in CBT, which supports the use of stepped-care models that offer lower-intensity options early.[35] Table A1 (Appendix A) displays individual study attendance rates.

5.3. Service analysis: Retrospective cohort study of treatment data in New Zealand (2014-2023)

5.3.1. *How many clients pull out of treatment?*

While it was not possible to determine how many clients pulled out of treatment in the analysis of client data from gambling harm services across New Zealand (see section 4.3), data from 18,642 clients (2014-2023) were used to identify the number attending a single session, multiple (two to five) sessions, and a longer course of six or more sessions. These attendance-based subgroups were used to explore differences in clients who attend one versus multiple sessions[5, 17] and research and service guidance indicating that six sessions is both the average[4] and recommended[5, 36] dose in gambling treatment.

Overall, just under a third of clients attended a single session (27.7%), while just over a third attended multiple (two to five) sessions (35.5%) or six or more sessions (36.8%). Similar proportions were seen among Māori (*n*=4797) and Pacific clients

(*n*=2834), whereas more than half of Asian clients (*n*=2463) attended six or more sessions. Table 3 displays attendance rates for the overall sample and these priority populations.

Table 3. Attendance rates among the overall sample and priority populations

	Attended a single session	Attended multiple (2-5) sessions	Attended 6 or more sessions
Overall sample (*n*=18,642)	27.7%	35.5%	36.8%
Māori clients (*n*=4,979)	31.7%	36.5%	31.8%
Pacific clients (*n*=2,834)	32.7%	36.5%	30.8%
Asian clients (*n*=2,463)	19.2%	26.2%	54.6%

To indirectly estimate the proportion of clients who pulled out of treatment, attendance at follow-up sessions (routinely offered following treatment completion) was examined. Follow-up rates (Table 4) indicate that about a quarter of clients attending a single session (23.7%) and a third attending multiple sessions (38.8%) had completed treatment, suggesting that lower attendance may still reflect meaningful engagement and positive outcomes for these clients. Similar patterns were observed across Māori, Pacific, and Asian clients, although follow-up attendance was slightly lower for Māori clients. These findings support recent moves toward more nuanced definitions of pulling out of treatment that consider more than just session attendance.

Table 4. Follow-up attendance among the overall sample and priority populations

	Attended a follow-up session		
	Attended a single session	Attended multiple (2-5) sessions	Attended 6 or more sessions
Overall sample (*n*=18,642)	23.7%	38.8%	61.0%
Māori clients (*n*=4,979)	19.8%	32.1%	53.2%
Pacific clients (*n*=2,834)	24.7%	38.0%	62.9%
Asian clients (*n*=2,463)	23.0%	39.4%	64.8%

5.3.2. When do clients pull out of treatment?

Attendance data for the overall sample (Figure 1, blue line) showed the biggest decline after the first session, with just over a quarter of clients (27.7%) attending a single session. The decline in attendance was steepest in the first three sessions (72.3% attended session two; 58.2% at session 3) than the next three sessions (48.9% at session four; 42.2% at session five; 36.8% at session six), with most clients attending three or fewer sessions.

Attendance data for the priority populations defined by cultural identity indicates that Māori clients (orange line) and Pacific clients (green line) had slightly lower attendance rates across all sessions than the overall sample. By session three, about half of Māori (53.5%) and Pacific (50.8%) clients remained engaged, compared to 58.2% in the overall sample. By session six, less than a third of Māori (31.8%) and Pacific (30.8%) clients remained in treatment. Asian clients (red line) showed a more gradual decline; by session three, about three quarters (72.2%) remained engaged, with over half (54.6%) remaining in treatment at session six, which is nearly 18% more than the overall sample.

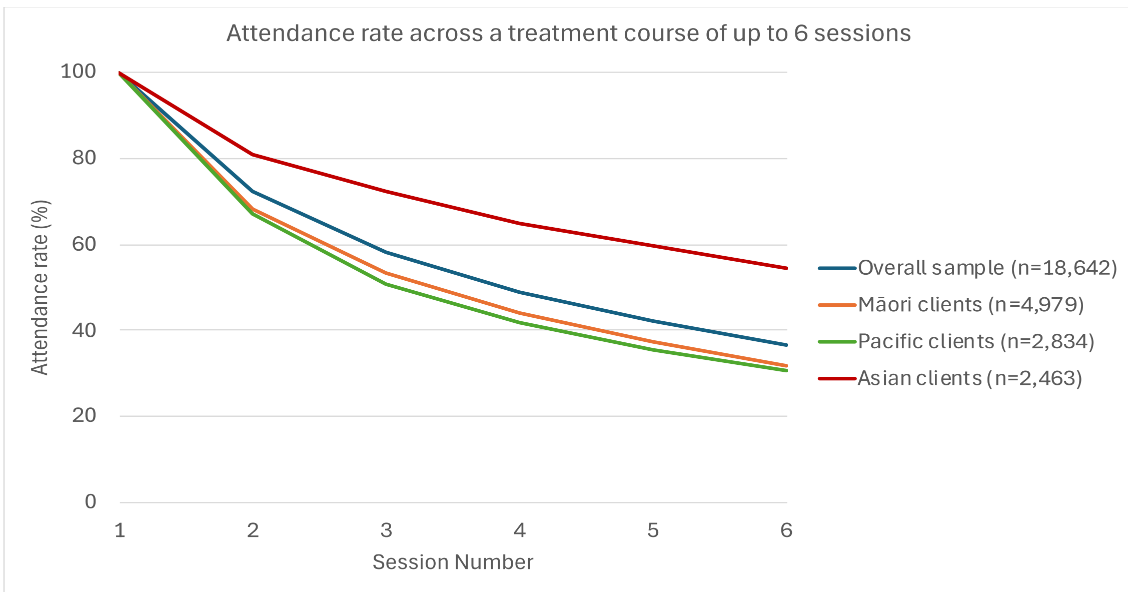

Figure 1. Attendance rate across six sessions for the overall sample (blue) and the priority populations of Māori (orange), Pacific (green), and Asian (red) clients

5.4. Practitioner perspectives: Survey and hui with practitioners in New Zealand

5.4.1. How many clients pull out of treatment?

In the online survey, practitioners estimated that about a third of their own clients (M=35.3%, SD=26.4) or the service's clients (M=36.0%, SD=25.0) pulled out of gambling treatment any time before their final session.

5.4.2. When do clients pull out of treatment?

While the practitioner survey did not capture views on when clients pull out of treatment, practitioners in the hui highlighted the difficulty of tracking this data because client engagement is often non-linear (see section 4.4).

5.5. Client perspectives: Two-timepoint survey with clients in New Zealand

5.5.1. How many clients pull out of treatment?

At the time of reporting, 35 clients had completed the 1-month follow-up survey, wherein eight clients (22.9%) had pulled out of treatment, 8 (22.9%) had completed treatment, and 19 (54.3%) remained in treatment. Three clients reported attending no sessions, six reported attending one session, 22 reported attending two-to-five sessions, and four reported attending six or more sessions.

5.5.2. When do clients pull out of treatment?

At the 1-month follow-up, clients who had pulled out of treatment (n=8) reported attending an average of 2.3 sessions (SD=1.8), with half (50.0%) attending one or fewer. In comparison, those who completed treatment (n=8) attended an average of 4.0 sessions (SD=4.4), while those still in treatment (n=19) reported an average of 3.4 sessions (SD=1.4).

5.6. Summary of findings on estimates of pulling out of treatment

Estimates of pulling out of formal psychological gambling treatment were consistently around one-third, with a median of 35.4% reported in the scoping review closely aligning with practitioner estimates (35–36%) and the proportion of clients attending a single session in service data (27.7%). A slightly lower proportion (22.9%) was observed in the client survey, which likely reflected the one-month follow-up timeframe. Although estimates varied by treatment type and setting, most research identified that clients tend to pull out within the first one - two sessions; this was supported by the service data and client survey, which showed most clients attended three or fewer sessions. These converging findings highlight early sessions as a critical point of engagement.

5.6.1. Spotlight on Priority Populations

Service data indicated that Māori and Pacific clients were more likely to attend one session and less likely to attend six or more sessions compared to the overall sample. Follow-up attendance, an indirect indicator of treatment completion, was also slightly lower for Māori clients. In contrast, Asian clients showed higher levels of sustained engagement, with over half attending six or more sessions and strong follow-up attendance. Anecdotally, practitioners suggest that a proportion of these Asian clients may be motivated to attend six sessions for revocation of self-exclusion orders; though, this hypothesis cannot be confirmed in the absence of corresponding database recording on whether treatment was mandated. These findings suggest that treatment services in New Zealand may be adopting flexible, client-centred models that enable clients to engage with support according to their needs.

5.6.2. Practice Implications

To support early engagement in formal psychological treatment, services could prioritise strategies such as setting clear, collaborative goals, offering flexible options, providing culturally responsive care, and addressing immediate barriers in the first one -two sessions. These approaches can align treatment with clients' expectations, needs, and preferences.[37, 38] Brief engagement should not necessarily be viewed as unsuccessful, as some clients may achieve their goals in fewer sessions. Building on earlier practical implications (section 4.6.2), these findings support improved database recording on treatment length, progress toward goals, and symptom change, as well as whether treatment is mandated to enable more nuanced tracking of pulling out of treatment.

5.6.3. Future Research Directions

Further research is needed to understand treatment pathways beyond attendance. Longitudinal studies could track client engagement, goal attainment, and outcomes to provide a clearer picture of meaningful progress across patterns of attendance.

- Suggested research question: *How do gambling treatment clients’ outcomes and goal attainment vary based on different patterns of attendance over time?*

A study co-designed with Māori and Pacific communities could also examine how clients from these cultural groups define progress, success, and the role of whānau and cultural values in their treatment journey.

- Suggested research question: *How do Māori and Pacific clients define meaningful engagement in gambling treatment, and what cultural and relational factors shape their treatment experience?*

6. Predictors: Which clients pull out of treatment?

6.1. Preface

Section 6 presents the key findings on the predictors of pulling out of formal psychological treatment from the perspectives of research, services, practitioners, and clients across all four studies of the project.

6.2. Research perspectives: Scoping review of the literature (2004-2025)

The scoping review found that a large proportion of the research (49 studies; 74%) examined predictors of pulling out of gambling treatment, including predisposing factors (45 studies), during-treatment factors (11 studies), and a qualitative study of retrospective factors. None of the studies in this section of the review were conducted in New Zealand.

Socio-demographic characteristics: Of 15 variables identified, only being married consistently predicted lower pulling out rates. Other commonly examined characteristics (age, sex, education, employment, socioeconomic status) showed mixed results, with the balance only in favour of younger age and male gender, while ethnicity and living situation had no significant effects.

Gambling-related factors: Of 31 variables identified, no gambling-related factors consistently predicted pulling out of treatment. Commonly examined characteristics, including gambling severity, gambling harm, specific gambling activities, gambling debt, and gambling disorder duration, yielded inconsistent results whereby some studies linked them to higher rates of pulling out of treatment and others to lower rates. Gambling frequency and perceived control over gambling were consistently non-predictive of pulling out of treatment.

Psychological and social factors: Of 59 variables identified, higher alcohol use, depression, psychological distress, sensation seeking, and impulsivity were associated with pulling out of treatment in a few studies. Other psychological factors (e.g., comorbid psychiatric disorder, anxiety, smoking) showed inconsistent findings, whereby they predicted higher rates of pulling out in some studies but lower rates in others. Social factors including low family/social support, parental divorce, and childhood adversity predicted pulling out of treatment in single studies.

Treatment-related factors: Of 15 variables identified, single studies found that pulling out of treatment was linked to no prior treatment for a mental health disorder, lack of psychotropic medication use, shorter treatment duration (6 months or less), the absence of a significant other, and not being in the 'action stage' of readiness to change.

6.3. Service analysis: Retrospective cohort study of treatment data in New Zealand (2014-2023)

Service data (2014-2023) from 18,642 clients identified numerous unique predictors of attending a single session or multiple (two to five) sessions, relative to a longer course of six or more sessions (Table 5; more detailed results in Table B1, Appendix B). As an example, results in Table 5 are interpreted as:

- Positive (+) result: Younger clients were more likely to attend a single session than a longer course of six or more sessions.
- Negative (-) result: Asian clients were less likely to attend a single session than a longer course of six or more sessions.

Table 5. Significant predictors of single session or multiple session attendance (vs. attending a longer course of six or more sessions) using service data (2014-2023)

	Single session (vs. 6 or more)	Multiple sessions (vs. 6 or more)
Significant predictors		
Younger clients (vs. older)	+	+
Male clients (vs. female)	+	ns
Māori clients (vs. European/Pākehā)	+	ns
Pacific clients (vs. European/Pākehā)	ns	+
Asian clients (vs. European/Pākehā)	–	–
Lower income (<$100,000; vs. higher)	–	ns
Problem gambling severity	–	–
Higher gambling expenditure	ns	+
No-to-little control over gambling	+	ns
Depressive symptoms	–	ns
Self-harm and suicidality	–	–
Face-to-face modality	+	–

Note. ns = not significant; + indicates a significant positive relationship (i.e., more likely to attend a single or multiple sessions); – indicates a significant negative relationship (i.e., less likely to attend a single or multiple sessions).

Several predictors of attending a single or multiple session/s, relative to six or more, were also identified among the priority populations (see Table B2, Appendix B).

- **Māori clients:** More likely to attend six or more sessions if they were older, had higher problem gambling severity, had depressive symptoms, or were involved couple/family/group sessions. More likely to attend a single session if it was face-to-face.

- **Pacific clients**: More likely to attend six or more sessions if they were male, had higher income, problem gambling severity, depressive symptoms, and couple/family/group sessions. More likely to attend a single session if they had no-to-little control over gambling.
- **Asian clients**: More likely to attend six or more sessions if they were older, female, or did not have depressive symptoms.

6.4. Practitioner perspectives: Survey with practitioners in New Zealand

In the online survey, practitioners rated how likely a comprehensive set of factors was to predict clients pulling out of treatment on a 5-point scale from 1 (not at all likely) to 5 (extremely likely). Almost all the factors were perceived as likely predictors (see Table B3, Appendix B). Table 6 displays the eight factors identified as highly likely (mean rating of ≥4), with readiness to change seen as the most likely predictor, and the eight factors perceived as unlikely (mean rating of <3), with tobacco use seen as the least likely predictor.

Table 6. Practitioner-identified predictors of pulling out of treatment (*n*=15)

Highly likely predictors	Unlikely predictors
• Readiness to change	• Tobacco use
• Experience of gambling harms	• Marital status
• Erroneous gambling cognitions	• Gender
• Impulsivity	• Income
• Lack of effective family communication	• Living situation
• Confidence in ability to reach goals	• Practitioner’s level of experience
• Lack of social support	• Treatment type (e.g., counselling)
• Intention to attend treatment	• Treatment modality (e.g., CBT)

6.5. Client perspectives: Two-timepoint survey with clients in New Zealand

The client survey identified several gambling and treatment-related factors significantly associated with pulling out of treatment at the 1-month follow-up (Table 7; more detailed results in Table B4, Appendix B), but no socio-demographic, psychological, and social factors. Clients were more likely to pull out of treatment if they gambled frequently at pre-treatment. Conversely, clients were less likely to pull out if they reported gambling for pleasure at pre-treatment, or higher treatment satisfaction, goal-aligned sessions, and a strong therapeutic alliance characterised by positive collaboration and practitioner input at follow-up. Interestingly, clients who expected treatment to be straightforward were also less likely to pull out, suggesting that the treatment experience aligned with their initial expectations.

Table 7. Factors significantly correlated with pulling out of treatment (vs. completing treatment) at the 1-month follow-up client survey (*n*=16)

	Pulling out of treatment (vs. completing treatment)
Gambling-related characteristics	
Gambling frequency	+
Enhancement motives (gambling for pleasure)	-
Treatment-related measures	
Expecting treatment to be straightforward	-
Treatment satisfaction	-
Overall treatment experience	-
Relevant treatment goals	-

	Pulling out of treatment (vs. completing treatment)
Overall therapeutic alliance	-
Positive collaboration with practitioner	-
Positive input from practitioner	-

Note. + indicates a significant positive relationship (i.e., more likely to pull out of treatment); – indicates a significant negative relationship (i.e., less likely to pull out of treatment).

6.6. Summary of findings on predictors of pulling out of treatment

Predictors of pulling out of formal psychological gambling treatment reflect a complex interplay of client characteristics and treatment experiences. The scoping review found few consistent predictors, where being unmarried was consistently associated with pulling out, while younger age, male gender, alcohol use, depression, psychological distress, and impulsivity were often linked with pulling out. New Zealand service data from over 15 outpatient gambling treatment services showed that younger, male, Māori, and Pacific clients were more likely to attend a single or multiple sessions, while Asian clients were more likely to remain engaged in longer treatment courses. Practitioners emphasised readiness to change, gambling cognitions and harms, impulsivity, and limited social or family support as important contributors to pulling out of treatment. Client survey findings highlighted that pulling out was more common among those who gambled frequently, whereas completing treatment was associated with greater treatment satisfaction, experience, and therapeutic alliance. Together, these findings suggest that pulling out of treatment is shaped by both individual factors and the quality of the treatment experience – namely, clients' satisfaction with treatment, the extent to

which sessions aligned with their goals, and the strength of the therapeutic alliance. Nonetheless, there remains a gap in research exploring systemic, service-level, and practitioner-related influences.

6.6.1. Spotlight on Priority Populations

Service data identified that Māori and Pacific clients were more likely to attend one session or multiple sessions than to remain engaged in longer treatment (six or more sessions). Predictors of retention among these groups included older age, greater gambling severity, depressive symptoms, and participation in couple, family, or group sessions, highlighting the importance of culturally grounded, relational approaches to care. Asian clients were more likely to attend longer treatment than to attend a single session or multiple sessions, whereby retention was stronger among older and female clients, and those without depressive symptoms. These patterns may reflect different help-seeking contexts or service access pathways that warrant further exploration. Age differences were also apparent, whereby younger clients were more likely to pull out of treatment in research studies and to attend a single or multiple sessions (compared to six or more sessions) in the service analysis, suggesting a need for services to offer more engaging and accessible approaches that may support retention. Older clients were more likely to remain in longer-term treatment, particularly when experiencing more severe gambling problems.

6.6.2. Practice Implications

Efforts to improve early engagement in formal psychological treatment should prioritise the first few sessions, focusing on building a collaborative therapeutic relationship,

clarifying treatment expectations, and establishing treatment goals. Services can support retention by collaborating with clients on treatment goals and expectations and proactively addressing concerns about treatment relevance. Readiness to change may be a useful entry point for conversations that build motivation. Culturally tailored strategies are important for Māori, Pacific, and younger clients, who are more likely to pull out of treatment early; this may include offering multiple session formats, involving whānau, providing peer support, and delivering developmentally and culturally appropriate content.[39]

6.6.3. Future Research Directions

Further research is needed to examine how systemic, service-level, and practitioner-related factors influence which clients pull out of treatment, such as service accessibility, cultural responsiveness, and practitioner characteristics.

- Suggested research question: *What systemic, service, and practitioner-level factors contribute to clients pulling out of gambling treatment, and how can services adapt to improve retention?*

7. Reasons: Why do clients pull out of treatment?

7.1. Preface

Section 7 presents the key findings on the reasons for pulling out of formal psychological treatment from the perspectives of research, services, practitioners, and clients across all four studies of the project.

7.2. Research perspectives: Scoping review of the literature (2004-2025)

The scoping review identified only 10 studies (15% of the literature) exploring reasons for pulling out of gambling treatment, with all but one conducted in outpatient settings. None of the studies in this section of the review were conducted in New Zealand.

Most reasons were unrelated to the therapeutic approach (9 studies), including practical barriers (6 studies), such as scheduling conflicts, work and family commitments, and relocation, referrals to other agencies (3 studies), a lack of motivation, progress, or support (3 studies), legal issues (2 studies), physical or mental health concerns (2 studies), or unidentified reasons (3 studies). In single studies, participants pulled out due to dissatisfaction with changing therapists, a belief they could stop gambling without treatment, missing the thrill of gambling, or hoping for financial recovery through continued gambling.

In contrast, some reasons were specific to the CBT delivered (4 studies), including discomfort with group therapy, confidence in managing gambling urges, interest in alternative treatments, and rule violations in a residential program. Additionally, reasons for pulling out of exposure therapy in one study included

misalignment between treatment goals (abstinence vs. non-abstinence goals), perceived rigidity of the program, and confusion about the treatment rationale.

7.3. Service analysis: Retrospective cohort study of treatment data in New Zealand (2014-2023)

Service data (2014-2023) indicated that discharge reasons were recorded for 13,613 clients (73.0% of the 18,642 unique clients, reflecting the database structure in which reasons were only reported when a session was coded as the 'last session'). Among these clients, practitioner-coded reasons for treatment ending were:

1. *Uncontactable after three attempts*: 36.8%.
2. *Requested no further contact*: 19.4%.
3. *Transferred to another gambling service*: 0.9%.
4. *Transferred to a non-gambling service*: 1.3%.
5. *Completed treatment plan:* 41.6%.

    Further broken down by session attendance:

    - 26.5% of clients who attended a single session.
    - 34.7% of clients who attended multiple (two to five) sessions.
    - 54.4% of clients who attended six or more sessions.

While these findings are limited by the large proportion of clients with unknown discharge reasons (over half were recorded as uncontactable or requested no contact), they suggest that even brief engagement may represent a positive outcome. About a quarter of clients who attended only one session, and a third of those who attended multiple sessions, were recorded as having completed their treatment plan. Notably,

completing a plan does not always mean therapeutic benefit, however, improvements are strongly predicted by therapeutic alliance and client engagement.[40]

7.4. Practitioner perspectives: Survey and hui with practitioners in New Zealand

In the online survey, practitioners identified several reasons why clients pull out of treatment, with low motivation and fluctuating readiness to change identified as most common. Many clients were observed to cycle in and out of treatment. As one counsellor explained, *"Some dip in and out due to the nature of gambling behaviour. Many admit they try to stop many times before they commit to change in treatment*" (Counsellor). Stigma and shame, particularly after relapse, were also observed as key reasons for pulling out: "*Relapse can seem like failure and makes it hard to come back*" (Counsellor); as well as external life pressures, such as work or family commitments: *"Life becomes in the way to access appointments*" (Counsellor). Conversely, some were thought to pull out because their needs had been met early: "*For some, just making the phone call can get them back on track*" (Counsellor). Quantitative survey data echoed these findings (see Table C1, Appendix C), with commonly perceived reasons for pulling out including goal attainment, low motivation, hopelessness, and limited support.

Practitioners who attended the hui (n=4) also indicated that reasons for pulling out of treatment often reflect the reasons clients initially engage, such as meeting goals early or fulfilling mandates (e.g., six -session attendance for revocation of self-exclusion orders). A strong client–practitioner fit, including alignment in needs, identity, and values, was seen as crucial for maintaining engagement, with changes in practitioner (e.g., leave or turnover) potentially explaining disengagement. Limited options, particularly for clients seeking culturally or LGBTIQA+ affirming support, were noted as

key reasons for pulling out: “*We are such a small resource, if there isn’t a fit, we don’t have all those options available.”* These issues underscore the importance of a well-developed and supported workforce in providing flexible, identity-responsive care.

7.5. Client perspectives: Two-timepoint survey with clients in New Zealand

At pre-treatment, 13 clients (37.1%) identified potential barriers to attending treatment. These barriers included feeling stuck in a cycle of gambling to pay off debts, followed by worsened mental health or relationships, and difficulty engaging in treatment (e.g., “*Possibly preoccupied trying to scramble out of urgent debt to save relationships*”, Male, 29). Other barriers included external life circumstances (e.g., competing work commitments), logistical difficulties, shame, and additional health concerns.

At the 1-month follow-up, eight clients had pulled out of treatment, citing various reasons. Two reported having upcoming sessions but no intention to attend them due to general distress (“*I don’t know, I’m having a hard time”*, Male, 26) and an early treatment focus on financial stress (“*efforts are too focused on short term urgent debt, it’s not allowing me to sleep”,* Male, 28). The other six who pulled out (defined by having no upcoming sessions despite not completing treatment nor meeting their goals), completed a 28-item true/false checklist of reasons for pulling out (see Table C2, Appendix C). Five clients (83.3%) reported pulling out due to the severity of their gambling or mental health issues, four (66.7%) cited logistical barriers, three (50.0%) cited motivational challenges, three (50.0%) cited outside influences (e.g., lack of support), two (33.3%) cited boundary concerns, one (16.7%) reported that they did not like the services on offer, and one reported not liking some of the staff (16.7%). An open-ended item identified additional reasons of embarrassment, a lack of follow-up from the service, and a mismatch between their needs and the service approach: “*the*

focus of the treatment was more for long term. It did not help me resolve my short-term problems", Male, 26). Together, these findings consistently identify problem severity, logistical issues, motivation, and a lack of support as common reasons for pulling out.

7.6. Summary of findings on reasons for pulling out of treatment

Clients pull out of formal psychological treatment for a range of reasons that span practical, psychological, and treatment-related domains. Limited research studies most identified practical barriers, low motivation, and treatment-specific reasons (e.g., misalignment between client and treatment goals). Practitioner and client perspectives echoed these themes, with consistent emphasis on external life stressors, logistical challenges, and fluctuating readiness to change. Stigma and shame, particularly following relapse, also emerged as a key reason for pulling out. Across the practitioner and client surveys, the quality of the therapeutic relationship was seen as critical, with poor fit or therapist turnover sometimes leading to pulling out. While service data offered limited explanatory insight, it highlighted that a portion of clients completed treatment in a single session (26.5%) or multiple sessions (34.7%), suggesting that they got what they needed from a brief course of treatment - a reason also strongly endorsed by practitioners but underexplored in existing research.

7.6.1. Spotlight on Priority Populations

Clients from priority populations may face unique barriers contributing to pulling out of formal psychological treatment. For example, clients seeking culturally responsive or LGBTIQA+ affirming support may struggle to stay engaged if those options are limited or unavailable. In the hui, practitioners noted that New Zealand's small, specialised workforce can make it difficult to match clients with practitioners who align with their

identity and values, particularly when a change in practitioner occurs. Shame and stigma may also weigh more heavily in some cultural contexts, affecting the likelihood of returning to treatment.

7.6.2. Practice Implications

Building on earlier practical implications (section 4.6.2 and 5.8.2), a better understanding of pulling out of formal psychological treatment could be supported by improved service database recording on reasons for entering and leaving treatment, as well as proactive service follow up with clients who disengage. Strategies to build motivation, provide flexible engagement options (e.g., online or after-hours), and increase access to support, such as couple, family, group, or peer-based approaches could help to address common barriers and increase retention.

7.6.3. Future Research Directions

Further research is needed to understand the full range of reasons why clients may pull out of formal psychological treatment (including practitioner- and service-level factors) and how services can support re-engagement after disengagement.

- Suggested research question: *Under what circumstances do clients achieve positive outcomes after brief formal treatment, and what supports re-engagement following early disengagement from gambling treatment?*

8. Consequences: What are the positive and negative outcomes clients experience after pulling out of treatment?

8.1. Preface

Section 8 presents the key findings on the consequences of pulling out of formal psychological treatment from the perspectives of research, practitioners, and clients across three studies of the project. The service analysis did not examine consequences due to a lack of routine outcome data.

8.2. Research perspectives: Scoping review of the literature (2004-2025)

The scoping review found only studies (8% of the literature) examining consequences of dropout, which focused on gambling-related symptoms, psychological outcomes, and other impacts. People who pulled out of treatment generally showed greater gambling severity and more frequent urges, cognitions, and gambling episodes post-treatment compared to those who completed treatment, particularly in CBT or exposure therapy.[23-26] In a single study, people who pulled out of outpatient gambling treatment also reported missing more time at work but reported no differences in job loss, bankruptcy, or gambling-related arrests compared to those who completed treatment.[41] Psychological outcomes were mixed, some studies suggested completing treatment was associated with greater improvements in distress and lower depressive symptoms, while others found no difference.[23-25, 32] No significant differences were found in social functioning or alcohol use, although people who pulled out reported lower treatment satisfaction in one study.[41] None of the studies contributing data to this section of the review were conducted in New Zealand. Given the relatively consistent association between pulling

out of treatment and poorer outcomes, and the scarcity of research in this area, there is strong rationale for future studies aimed at identifying and testing strategies to improve treatment retention as a way of reducing harm.

8.3. Practitioner perspectives: Survey and hui with practitioners in New Zealand

In the online survey, practitioners reported consequences of pulling out of treatment that they perceived as either positive or negative for clients, with negative impacts more commonly reported (Table 8). Perceived negative consequences included worsened gambling behaviour and harms, worsened mental health and addiction issues, increased isolation, and reduced trust in services:

> *"The harmful cycle of gambling harm continues and potentially could get worse having long term impact."* (Manager)
>
> *"Increase in anxiety and depression, feelings of hopelessness, and thoughts of self-harm… Family may be less willing to support them because they dropped out of treatment, and they are at their wits end."* (Manager)
>
> *"They could lose faith in services ability to help them and so not want to return and try again."* (Manager)

Perceived positive consequences included that clients could gain insight into their gambling and mental health, develop a sense of autonomy, and have a chance to implement learned strategies, which might encourage future re-engagement in treatment:

> *"Even one or two sessions can provide insight… and could plant some seeds and encourage engagement in the future."* (Manager/Counsellor)
>
> *"They can leave on their own terms with some tools and know the option to return is always there."* (Counsellor)

Practitioners who attended the hui (n=4) reflected on the importance of measuring short-term or session outcomes alongside attendance, while challenging traditional, deficit-focused models. While routine outcome measurement was seen as useful for client feedback, service quality, and funding evidence, concerns were raised about its resource demands and potential to miss what matters most. Instead, practitioners advocated for holistic, culturally grounded indicators of 'recovery capital,'[42] such as increased connection, purpose, or relational wellbeing. A Pasifika-informed perspective centred on *va* (relational space), framing gambling harm as deeply embedded in the quality of one's relationships and lived context. As one practitioner stated: "*You can get a lower PGSI (measure of problem gambling severity) but still have no housing, still have lots of debt… you really need to get a bigger picture*." Practitioners recommended that outcome frameworks employed in services remain responsive to diverse recovery goals, including co-occurring issues, relational healing, and culturally defined notions of wellbeing.

Table 8. Practitioner-identified consequences of pulling out of formal psychological treatment (*n*=15)

	Positive consequences of pulling out of treatment	Negative consequences of pulling out of treatment
Gambling behaviour and issues	• Improved insight into gambling behaviour • May have got what they needed, made up their mind to stop, and successfully did so. • Opportunity to utilise tools and figure out own methods of managing their gambling	• Continued or worsened cycle of gambling • Reinforced unhelpful beliefs, and lower confidence, about ability to change • More gambling urges and loss of money • Higher risk of gambling-related harms
Mental health and other addictions	• Improved insight into the connection between mental health and gambling • Gained clarity on changes needed to improve	• Worsened mental health, anxiety, depression, hopelessness, substance use, and self-worth • Increased risk of harm to self or others • Reduced quality of life (due to difficulty covering essential household or wellbeing expenses)
Social and family support and issues	• Opportunity to move forward and support others by sharing their success	• Increased isolation from social networks • Reduced access to support systems (due to shame or family and friends at their wits' end) • Increased risk of family violence due to ongoing distress
Engagement in future gambling treatment	• Awareness of available services • Plant seeds for future engagement	• Delayed or reduced likelihood of help-seeking, especially after negative treatment experiences • May lose faith in services' helpfulness

8.4. Client perspectives: Two-timepoint survey with clients in New Zealand

The client survey compared clients who pulled out of treatment with those who completed treatment (*n*=16, 8 per group) at the 1-month follow-up survey. Several outcomes significantly associated with pulling out of treatment were identified. Specifically, clients who completed treatment showed greater improvements in problem gambling severity (i.e., reductions in severity), urge self-efficacy (confidence in managing gambling urges), overall wellbeing, physical wellbeing, emotional wellbeing, anxiety symptoms, and depressive symptoms than those who pulled out of treatment. Clients who completed treatment were also more likely to have sought help-seeking from non-gambling professionals, potentially indicating broader engagement with support systems. Notwithstanding small sample sizes, these findings indicate that pulling out of treatment is associated with poorer outcomes across gambling and mental health domains. Detailed results are presented in Table D1, Appendix D.

8.5. Summary of findings on consequences of pulling out of treatment

Findings across the studies suggest that pulling out of formal psychological treatment is often associated with poorer outcomes in gambling severity, psychological wellbeing, and access to support. The evidence also highlights, however, that not all instances of pulling out reflect poor outcomes. Practitioners indicate that, even after brief engagement, some clients gain insight, autonomy, or tools for change and may re-engage with treatment when ready. Practitioners encouraged a shift away from deficit-focused models toward more holistic, culturally grounded frameworks that consider relational healing, co-occurring challenges, and diverse indicators of recovery. These findings support the need for outcome measurement approaches that capture both

short-term and long-term progress across domains that matter to clients. They also reinforce the importance of research on how to keep clients engaged in treatment, as improving retention has the potential to amplify the positive impacts observed among people who completed treatment while reducing the harms associated with pulling out of treatment.

8.5.1. Spotlight on Priority Populations

Little is known about the consequences of pulling out of formal psychological treatment, particularly for clients from priority populations. Practitioners highlighted the importance of culturally relevant understandings of harm and healing, particularly for Māori and Pacific clients. For Pacific clients, the concept of *va* (relational space) was seen as central, where progress also considers improvements in relationships, identity, and purpose.

8.5.2. Practice Implications

To reduce harm and support recovery among clients who pull out of formal psychological treatment, services should focus on keeping the door open for future engagement. Even brief contact can provide insight and motivation, so offering low-barrier entry points and affirming clients' autonomy to return when ready is critical. Embedding culturally grounded frameworks, such as *va* for Pacific clients and whānau-centred approaches for Māori, can help define progress in ways that go beyond symptom reduction. Services should prioritise outcome measures that reflect relational, emotional, and practical changes, and proactively follow up with clients who disengage, particularly those at greater risk. Routinely capturing outcome or

satisfaction measures at each session can also provide valuable insights at the point of last contact, especially for clients who pull out and become uncontactable.

8.5.3. Future Research Directions

Further research is needed to systematically explore the full range of consequences associated with pulling out of formal psychological gambling treatment. A comprehensive understanding of outcomes, such as gambling severity, mental health, relational wellbeing, service trust, and recovery capital,[42] is essential to inform client-centred service design.

- Suggested research question: *What are the short- and long-term consequences, both positive and negative, of pulling out of formal gambling treatment across gambling, psychological, relational, recovery, and service engagement domains?*

9. Solutions: What can practitioners and services do to help clients stay in treatment when they need or want more support?

9.1. Preface

Section 9 presents the key findings on the solutions to pulling out of formal psychological treatment from the perspectives of research, practitioners, and clients across three studies of the project. The service analysis did not examine solutions due to a lack of relevant data.

9.2. Research perspectives: Scoping review of the literature (2004-2025)

The scoping review found that only two studies (3% of the literature) examined potential solutions for improving treatment retention in outpatient gambling treatment. Firstly, a randomized trial in Australia compared standard CBT (*n*=20) with "compliance-improving" CBT (*n*=20), which incorporated motivational strategies like positive reinforcement, appointment reminders, assessment feedback, and improving self-efficacy (confidence in ability to change).[43] Significantly less participants pulled out of the compliance-improving CBT group (35%) than the standard CBT group (65%). Secondly, a non-randomized trial (*n*=21) in the United States examined a manualised "CBT + MI" approach that began with 2-3 motivational sessions prior to gambling-specific CBT sessions and 2 final relapse prevention sessions.[34] None of the participants in the CBT + MI group pulled out, compared to 33% in the treatment-as-usual group. Together, these findings support the integration of motivational techniques to support engagement, particularly in the early sessions; though, neither study design could identify the efficacy of individual motivational techniques. Given the extremely limited evidence base, and the

consistently poorer outcomes linked to pulling out of treatment, there is a compelling case for further research to identify, refine, and test retention-enhancing strategies in gambling treatment.

9.3. Practitioner perspectives: Survey and hui with practitioners in New Zealand

In the online survey, practitioners recommended a range of practical, clinical, and systemic strategies to improve treatment retention, which have been clustered thematically in Table 9. Practitioners who attended the hui (n=4) also identified solutions to pulling out of treatment focused on strengthening relationships, cultural alignment, and system design. Practitioners emphasised that engagement is more likely when clients feel understood - "*counselling might be the only point of face-to-face they get*" - and called for additional non-clinical roles to *"wrap support around clients and their whānau*." A major solution identified was developing a diverse, specialised workforce in gambling support through embedded curriculum and in-house training, noting *"there is more available to train an AOD (alcohol and other drug) practitioner than a gambling practitioner"* – referring to the broader availability of formal education pathways, clinical placements, and professional development resources in AOD than in gambling. Flexible and stepped care was also recommended - where clients are offered the least intensive intervention likely to be effective (e.g., self-help resources), with the option to step up to more intensive support (e.g., professional help) as needed[44] – which could be matched to motivation and safety needs, with digital tools used to extend reach without replacing the "*art of healing*." Finally, clearer expectations and inviting language (e.g., avoiding the term "*treatment*") were seen as essential to reduce anxiety and support engagement: "*people are nervous, don't know what to expect*."

Table 9. Practitioner-recommended strategies for improving retention (*n*=15)

Recommended Strategies
Practical accessibility • Unlimited sessions available • Flexible and accessible scheduling (e.g., outside of usual business hours) • Opt-in non-personalised appointment reminders (e.g., SMS stating appointment date/time and a number to call to cancel or reschedule) • Multiple treatment modes (e.g., online, in-person) and formats (e.g., individual, group, peer support) available
Client-centred and integrated care • Client-led goals, session content, and location • Integrated motivational interviewing to support engagement • Flexibility to address co-occurring issues (e.g., a "*one stop shop"* model) • Good client-practitioner match with support to switch, where needed
Cultural responsiveness • Increase workforce diversity (e.g., "*practitioners embedded in their community*") • Offer holistic support through culturally meaningful roles and frameworks   o *"Continue supporting clients by extending/wrapping other support around them and their whānau. A taila provides the non-clinical support [to] maintain a whaiora's ability to stay engaged."* (Counsellor)
System-level and workforce strategies • Increase staffing to reduce waitlists and expand geographical coverage • Improve workplace culture and practitioner wellbeing ("*Caring for carers*") • Ongoing professional development (e.g., Dual diagnosis training) • Design services to reduce barriers and offer stepped care: o *"Consider all barriers to help-seeking and design the service to reduce these, such as video and eHealth, taking a stepped care approach, matching right service, at the right intensity, at the right time."* (Manager)

9.4. Client perspectives: Two-timepoint survey with clients in New Zealand

Table 10 displays reflections from clients who completed, or were still in, treatment about what helped them to stay engaged (*n*=19), as well as all clients' suggestions for

what would help to support engagement among those who need or want more support in gambling treatment services (*n*=35). Their suggestions converge on four key strategies for supporting treatment engagement:

- Building strong therapeutic relationships
- Providing flexible, accessible, and clearly communicated services
- Maintaining proactive contact for accountability and considering incentives
- Offering connection through peers and groups, where desired

These suggestions reinforce and expand on many existing service practices, while providing directions for how services might continue to evolve to meet client needs.

Table 10. Client reflections on what helped (*n*=19) and what would help to support engagement (*n*=35) in formal psychological gambling treatment

Theme	What Helped	What Could Help More
Supportive therapeutic relationships	• Strong practitioner-client therapeutic alliance • Gaining new ways of thinking and insight "*My counsellor has been very supportive and encouraging, keeps me focused.*" - Female, 68 *“Helped me realise I could use the money I was gambling on something important.”* - Female, 30	• Early and proactive outreach • Reminders to maintain contact *“A call first to introduce themselves or email.”* – Female, 31 "*My therapist is not front of mind. I forget to stay in touch*." - Female, 49
Flexible, accessible, and practical support	• Access via Zoom and support groups • Use of practical tools (e.g., gambling blockers, self-exclusion, distractions) *"Convenient that I can attend through Zoom… also attend women’s support group."* - Female, 68	• After-hours sessions and flexible platforms • Clearer information about services and personalised options *"Face-to-face appointments available on weekends."* - Male, 32 *“A social media messaging system.”* – Female, 36 *“More advertisement for services like this and what is included.”* – Male, 27 *"Give me options of what would be beneficial for me."* - Male, 26

Theme	What Helped	What Could Help More
Ongoing contact, accountability, and incentives	• Encouragement from family and support networks *"Support networks helped."* - Female, 25	• Regular follow-up or check-ins • Incentives to mimic gambling rewards *"Reaching out weekly to see how people are tracking."* - Male, 33 "*Incentives for motivation because the root of gambling is the incentive to get a monetary reward or stimulant from winning*." - Male, 38
Peer and group support	• No relevant results	• Interest in connecting with others through group therapy or social support "*Introduce me to others, get involved with a social group... who can find other ways to connect over other things except gambling*." - Female, 49 "*Start a group thing... talk about why you gambled and why you can't stop*." - Male, 19

9.5. Summary of findings on solutions to pulling out of treatment

Across the studies, solutions to pulling out of formal psychological gambling treatment consistently emphasised the importance of motivation, relationships, flexibility, and cultural alignment. The limited research evidence supports the use of motivational strategies (e.g., feedback, reminders, self-efficacy support) to enhance retention. Practitioner insights also highlighted the value of strong therapeutic relationships, stepped care, and culturally grounded, client-led approaches. Clients echoed these themes, identifying connection with their practitioner, flexible service options, and proactive contact as key to staying engaged. Clients also offered practical suggestions, such as early outreach, incentives, and peer connection, which reinforce and extend existing service practices. Together, these findings suggest that appropriate service responses to maintain engagement requires both individual-level strategies and system-level change, including workforce development, culturally responsive models, and clear, client-friendly service design. The convergence of limited empirical evidence and strong practitioner/client consensus on key engagement strategies further strengthens the argument for targeted research into how best to improve retention and, in turn, reduce the harms associated with pulling out of treatment.

9.5.1. Spotlight on Priority Populations

Practitioners noted that Māori and Pacific clients may pull out if services are not culturally aligned, and called for embedding non-clinical roles (e.g., *taila*) to provide relational, wraparound support for clients and their whānau. Some younger clients expressed a desire for informal, tech-based communication, greater personalisation, and clear information about the variety of available services. Some older clients

emphasised the value of therapeutic relationships and welcomed digital delivery when it enhanced access and reduced barriers. Clients of all ages showed interest in connecting with others through group therapy or support groups in treatment.

9.5.2. Practice Implications

Several actionable strategies were identified to improve engagement in formal psychological treatment for gambling:

- Invest in relationships**:** Strong therapeutic alliances help clients stay engaged. Early outreach and consistent follow-up can build trust and accountability.
- Be flexible and accessible**:** Offer multiple modes (e.g., in-person, online) and formats (e.g., group/peer), including after-hours sessions, to increase access.
- Match services to motivation and goals**:** Use stepped care and motivational interviewing to align treatment with client readiness, priorities, and preferences.
- Make services culturally responsive**:** Embed non-clinical cultural roles, increase workforce diversity, and use inclusive language to enhance belonging.
- Support the workforce**:** Recruit and develop practitioners with gambling-specific and cultural expertise through embedded training in curriculum and services.
- Clarify expectations**:** Ensure clients understand what services involve from the outset, using accessible, client-centred language.

9.5.3. Future Research Directions

Further research is needed to identify which treatment components (e.g., motivational techniques) are most effective for improving retention in formal psychological gambling treatment among different clients, and when during the treatment process they are best

delivered. Given the diversity of client needs and preferences, research should prioritise flexible, person-centred approaches to engagement.

- Suggested research question: *Which motivational or engagement strategies are most effective for improving retention in gambling treatment, and at what point in the treatment cycle should they be applied?*
- *How can treatment services be tailored to better support priority populations, such as Māori, Pacific, and younger clients? For example, future research could evaluate the impact of whānau- and va-centred models that embed cultural values and collective approaches among Māori and Pacific clients, and the effectiveness of youth-oriented engagement strategies, such as digital communication, peer support, and gamified interventions.*

10. Summary of practice implications and future directions

This project comprehensively examined six aspects of pulling out of formal psychological gambling treatment from the perspectives of research, services, practitioners, and clients. To conclude this report, this section summarises the practice implications (Table 11) and future research directions (Table 12) indicated throughout this project for ease of reference.

Table 11. Summary of this project's practice implications

Theme	Recommended practices

1. Language, definitions, and data systems	• Use culturally and therapeutically appropriate language in guidelines and service communications, such as "patterns of engagement" and not "dropout".
	• Improve service databases to routinely capture:
	  ○ Planned treatment length
	  ○ Progress toward client-defined goals
	  ○ Practitioner- and client-rated outcomes (e.g., every session or every three sessions)
	  ○ Reasons for entering and leaving treatment
	  ○ Whether treatment was mandated

2. Early engagement and retention	• Prioritise engagement strategies in the first one – two sessions:
	  ○ Set clear, collaborative goals
	  ○ Use motivational techniques
	  ○ Align practitioner-client expectations of treatment length
	  ○ Address immediate barriers to attendance
	  ○ Target client groups at risk of leaving early (e.g., younger clients, male clients, clients with cooccurring alcohol use or depression)

Theme	Recommended practices
	• Offer stepped care to match client readiness and preferences. • Build therapeutic alliance through early outreach and consistent follow-up. • Do not assume brief treatment is unsuccessful; some clients may meet goals early.
3. Service flexibility and access	• Provide multiple modes and formats of care (e.g., in-person, online, group, peer support). • Offer after-hours sessions and flexible scheduling. • Maintain open-door policies: affirm autonomy and welcome return when ready. • Proactively follow up with clients who pull out early.

4. Cultural responsiveness and inclusions	• Offer culturally tailored strategies for Māori, Pacific, and younger clients:
	  ○ Multiple session formats
	  ○ Involvement of whānau
	  ○ Peer-based or developmentally appropriate content
	• Embed cultural frameworks such as *va* (Pacific) and whānau-centred approaches (Māori).
	• Include non-clinical cultural roles and ensure culturally diverse workforce.
	• Reflect progress in client-valued relational, emotional, and practical outcomes, not just symptom change.

5. Workforce development and support	• Invest in practitioner training on gambling-specific and cultural competencies. • Promote training in tertiary curricula and professional development within services. • Ensure clients clearly understand service offerings from the outset using accessible, client-friendly language.

Table 12. Summary of future research directions

Section	Recommended direction	Suggested research question
Definitions	Explore language preferences and impacts related to treatment engagement and progress among clients, including those from priority populations.	*What terms do clients prefer to describe pulling out of treatment? What impact does this have on their sense of autonomy, therapeutic trust, and willingness to return?*
Estimates	Explore treatment pathways by tracking attendance alongside goal attainment and outcomes changes.	*How do client outcomes and goal attainment vary based on different patterns of treatment attendance over time?*
Predictors	Examine how systemic, service-level, and practitioner-related factors influence which clients pull out.	*What systemic, service, and practitioner-level factors contribute to clients pulling out of gambling treatment?*
Reasons	Explore the full range of reasons why clients may pull out of treatment, and how services can support re-engagement after disengagement.	*Under what circumstances do clients achieve positive outcomes after brief treatment, and what supports re-engagement following early treatment disengagement?*
Consequences	Explore the full range of positive and negative consequences associated with pulling out of treatment and identify client-valued outcomes.	*What are the positive and negative consequences of pulling out of treatment across gambling, psychological, relational, recovery, and service engagement domains?*
Solutions	Examine which treatment components most effectively improve retention, and when they are best delivered, for different clients.	*Which engagement strategies are most effective for improving retention in gambling treatment, and at what point in the treatment cycle should they be applied?* *How can treatment services be tailored to better support priority populations, such as Māori, Pacific, and younger clients?*

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Appendices

Appendix A. Methodology information

Table A1. Description of included studies in the scoping review (k=66 studies)

Study	Study location	Study type	Mean age in years (SD)	% male	Relevant study conditions	Duration	n	Rate of pulling out of treatment	Number of sessions attended (M, SD, median, or IQR)	Definition of pulling out of treatment
Alvarez-Moya et al. (2011)	Spain	Single-arm treatment study	36.7 (11.1)	92%	Group CBT	16 weeks	88	30.7%	nr	Non-completion of the full treatment program
Aragay et al. (2015)	Spain	Single-arm treatment study	43.5 (13.0)	92%	CBT	6 months	566	27.7%	nr	(Non)-attendance of a set number of sessions
Baenas et al. (2021)	Spain	Single-arm treatment study	45.0 (16.9)	92%	Group CBT	16 weeks	86	37.2%	nr	nr
Bano et al. (2021)	Spain	Single-arm treatment study	49.2 (12.3)	0%	Group CBT	16 weeks	214	42.1%	nr	(Non)-attendance of a set number of sessions
Bellringer et al. (2021)	NZ	RCT	nr	57%	CBT	12 weeks	112	92.0%	nr	nr
				61%	CBT + post-treatment text messaging	12 months			nr	
				57%	MI + CBT workbook + telephone	12 weeks	115	75.7%	nr	

Study	Study location	Study type	Mean age in years (SD)	% male	Relevant study conditions	Duration	n	Rate of pulling out of treatment	Number of sessions attended (M, SD, median, or IQR)	Definition of pulling out of treatment
					boosters (MI+W+B)					
				68%	MI+W+B + post-treatment text messaging	12 months			nr	
Campos et al. (2023)	USA	Single-arm treatment study	45.9 (12.6) among those with no reduction in depression; 46.7 (12.9) among those with reliable reductions in depression	63%	Predominately CBT, but no required approach	No predeter mined duration	689	36.9%	nr	Non-completion of the full treatment program
Carlbring et al. (2010)	SWE	RCT	40.5 (12.3)	84%	Group CBT	8 weeks	59	58.0%	5.6 (2.3)	nr
					MI	8 weeks	68	57.4%	0.9 (1.1)	
Dowling (2009)	AUS	RCT	45.5 (11.0)	0%	Group or Individual CBT	12 weeks		19.5%	4.5 (3.0) for treatment dropouts	Non-completion of the full treatment program
					CBT	12 weeks		24.0%	nr	
					Group CBT	12 weeks		14.0%	nr	

Study	Study location	Study type	Mean age in years (SD)	% male	Relevant study conditions	Duration	n	Rate of pulling out of treatment	Number of sessions attended (M, SD, median, or IQR)	Definition of pulling out of treatment
Dunn et al. (2012)	AUS	Qualitative study	45.1	70%	CBT	nr	10	nr	nr	(Non)-attendance of a set number of sessions
Gavriel-Fried et al. (2024)	Spain	Longitudinal study	49.1 (12.4)	0%	Group CBT	16 weeks	211	42.2%	9.0 (4.8) for childless women; 8.9 (4.9) for mothers	(Non)-attendance of a set number of sessions
Gomes & Pascal-Leone et al. (2015)	CAN	Single-arm treatment study	45	64%	No required treatment approach	No predetermined duration	50	40.0%	nr	nr
Gomez-Pena et al. (2012)	Spain	Single-arm treatment study	39.6 (12.3)	100%	Group CBT	16 weeks	191	52.9%	nr	(Non)-attendance of a set number of sessions
Granero et al. (2021)	Spain	Single-arm treatment study	42.1 (12.9)	100%	Group CBT	16 weeks	998	29.6%	7.2 (5.8) for participants with a lack of money control 12.8 (3.6) for participants with full money control	(Non)-attendance of a set number of sessions
Grant et al. (2004)	USA	Treatment chart review	47.7 (10.7)	50%	CBT, supportive, or psychodynamic therapy	No predetermined duration	50	48.0%	553.7 days in treatment (391.2) among those who continued treatment; 151 days (100.0) among those who dropped out	nr
Jara-Rizzo et al. (2019)	Spain	Single-arm treatment study	37.7 (11.3) among treatment completers; 33.9 (10.5) among dropouts	97%	Mostly mutual help groups + CBT	~ 2 years	66	36.4%	nr	Therapist's judgement of premature termination

Study	Study location	Study type	Mean age in years (SD)	% male	Relevant study conditions	Duration	n	Rate of pulling out of treatment	Number of sessions attended (M, SD, median, or IQR)	Definition of pulling out of treatment
Jimenez-Murcia et al. (2007)	Spain	Single-arm treatment study	39.9 (12.9)	98%	Group CBT	16 weeks	290	30.3%	nr	(Non)-attendance of a set number of sessions
Jimenez-Murcia et al. (2010)	Spain	Single-arm treatment study	39.4 (12.5)	92%	Group CBT	16 weeks	904	36.3%	nr	nr
Jimenez-Murcia et al. (2016)	Spain	Single-arm treatment study	45.0 (12.2)	100%	Group CBT	16 weeks	111	1.0%	nr	nr
Jimenez-Murcia et al. (2017)	Spain	Two-arm treatment study	43.0 (12.7)	100%	Group CBT	16 weeks	138	38.4%	6.4 sessions *not* attended (5.28)	nr
					CBT + Concerned Significant Other involvement	16 weeks	537	22.9%	4.3 sessions *not* attended (4.5)	
Jimenez-Murcia et al. (2012)	Spain	Two-arm treatment study	39.8 (12.5)	100%	Group CBT + Exposure Response Prevention	16 weeks	189	53.4%	7.6 (5.9)	(Non)-attendance of a set number of sessions
					Group CBT	16 weeks	313	29.7%	10.6 (5.7)	
Jimenez-Murcia et al. (2015)	Spain	Single-arm treatment study	41.2 (12.5)	95%	Group CBT + some family involvement	16 weeks	440	44.5%	nr	(Non)-attendance of a set number of sessions
Khanbhai et al. (2017)	AUS	Single-arm treatment study	48.8 (12.7) among female pokies players; 37.8	58%	Behavioural-focused (exposure therapy) CBT	No predeter mined duration (average	410	46.80%	nr	Bespoke definition

Study	Study location	Study type	Mean age in years (SD)	% male	Relevant study conditions	Duration	n	Rate of pulling out of treatment	Number of sessions attended (M, SD, median, or IQR)	Definition of pulling out of treatment
			(11.6) among male pokies players; 38.2 (12.4) among male racing track bettors			5-12 weeks)				
Ladouceur et al. (2001)	CAN	RCT	40.8 (10.2)	89%	Cognitive treatment	10 weeks	64	47.7%	nr	(Non)-attendance of a set number of sessions
Ladouceur et al. (2003)	CAN	RCT	42.6 (10.5)	74%	Cognitive treatment	< 20 weeks	59	26.0%	nr	nr
Lara-Huallipe et al. (2022)	Spain	Single-arm treatment study	47.8 (11.3)	0%	CBT	16 weeks	163	42.9%	nr	nr
Leblonde et al. (2003)	AUS	Two-arm treatment study	41.7 (10.2) among treatment completers; 38.5 (10.9) among dropouts	81%	Group or Individual Cognitive treatment	10 weeks	112	38.4%	nr	nr
Ledgerwood et al. (2020)	CAN	Treatment chart review	45.7 (13.9)	65%	nr	19 days	125	11.4%	nr	Non-completion of the full treatment program
Lee et al. (2015)	CAN	RCT	49.3 among gamblers; 48.9 among spouses	66%	Congruence Couple Therapy	12 weeks	9	11.1%	nr	nr
					3 x brief check-ins	12 weeks	9	22.2%	nr	

Study	Study location	Study type	Mean age in years (SD)	% male	Relevant study conditions	Duration	n	Rate of pulling out of treatment	Number of sessions attended (M, SD, median, or IQR)	Definition of pulling out of treatment
Lloret et al. (2014)	Spain	Two-arm treatment study	37.8 (10.3)	86%	CBT	13 sessions	21	33.3%	nr	(Non)-attendance of a set number of sessions
					CBT + Hypnosis	7 sessions	28	35.7%	nr	
Lucas et al. (2023)	Spain	Single-arm treatment study	42.99 (13.38)	86%	Group CBT	16 weeks	1699	34.8%	nr	(Non)-attendance of a set number of sessions
Maccallum et al. (2007)	AUS	Single-arm treatment study	38.1 (11.0)	73%	Group CBT	6 weeks	60	25.0%	nr	(Non)-attendance of a set number of sessions
Mallorqui-Bague et al. (2018)	Spain	Single-arm treatment study	42.6 (9.6)	100%	Group CBT	16 weeks	144	50.0%	nr	(Non)-attendance of a set number of sessions
Mallorqui-Bague et al. (2019)	Spain	Single-arm treatment study	42.38 (13.55)	100%	Group CBT	16 weeks	205	nr	nr	(Non)-attendance of a set number of sessions
Maniaci et al. (2017)	Italy	RCT	42.2 (11.9)	89%	Systemic psychotherapy + family sessions	6 months	194	36.1%	nr	Therapist's judgement of premature termination
Mena-Moreno, Munguia, et al. (2022)	Spain	RCT	40.2 (14.7)	95%	Group CBT	16 weeks	64	23.4%	13.6 (4.0)	Non-completion of the full treatment program
					Group CBT + videogame (e-Estesia)	16 weeks + 15 video game sessions	40	15.0%	14.5 (3.7)	

Study	Study location	Study type	Mean age in years (SD)	% male	Relevant study conditions	Duration	n	Rate of pulling out of treatment	Number of sessions attended (M, SD, median, or IQR)	Definition of pulling out of treatment
Mena-Moreno, Testa, et al. (2022)	Spain	Single-arm treatment study	44.6 (12.7)	100%	Group CBT	16 weeks	133	18.8%	nr	(Non)-attendance of a set number of sessions
Mestre-Bach et al. (2016)	Spain	Single-arm treatment study	48.2 (12.9)	0%	Group CBT	12 weeks	61	67.2%	nr	(Non)-attendance of a set number of sessions
Mestre Bach et al. (2019)	Spain	Single-arm treatment study	41.5 (13.1)	100%	Group CBT	16 weeks	398	45.7%	nr	(Non)-attendance of a set number of sessions
Mestre-Bach et al. (2022)	Spain	Single-arm treatment study	41.7 (12.8)	96%	Group CBT	16 weeks	1248	29.6%	nr	(Non)-attendance of a set number of sessions
Milton et al. (2002)	AUS	Two-arm treatment study	37.6	73%	CBT	4 months	20	65.0%	nr	Non-completion of the full treatment program
					CBT + Compliance-improving interventions	4 months	20	35.0%	nr	
Najavits et al. (2023)	CAN	RCT	44.9 (12.0)	40%	CBT	12 weeks	33	21.2%	6.0 (4.5)	nr
Odlaug et al. (2012)	USA	Prospective cohort study	42.6 (12.1) among those with daily tobacco use; 45.6 (12.0) among those without	44% among those with tobacco use; 49% among	nr	No predetermined duration	385	30.4%	nr	Therapist's judgement of premature termination

Study	Study location	Study type	Mean age in years (SD)	% male	Relevant study conditions	Duration	n	Rate of pulling out of treatment	Number of sessions attended (M, SD, median, or IQR)	Definition of pulling out of treatment
				those without						
Pelletier et al. (2008)	CAN	Single-arm treatment study	42.7 (11.2)	72%	CBT	No predeter mined duration	100	58.0%	8.2 (5.1)	(Non)-attendance of a set number of sessions AND Therapist's judgement of premature termination
Pfund et al. (2018)	USA	Single-arm treatment study	46.2 (11.0)	35%	CBT	No predeter mined duration	334	49.0%	7.4 (9.3)	Bespoke definition
Ramos-Grille et al. (2013)	Spain	Naturalistic follow-up study	39.3 (10.3)	95%	CBT	No predeter mined duration	73	52.0%	nr	Therapist's judgement of premature termination
Ramos-Grille et al. (2015)	Spain	Two-arm treatment study	39.8 (13.6)	91%	CBT	12 months	132	32.0%	nr	Therapist's judgement of premature termination
Riley et al. (2015)	AUS	Single-arm treatment study	41.2 (13.9) among treatment completers	nr	CBT	< 12 sessions	74	28.4%	7.0 (2.6) among 45 participants who engaged in treatment	(Non)-attendance of a set number of sessions AND Therapist's judgement of premature termination
Riley et al. (2011)	AUS	Single-arm treatment study	43.7 (12.6)	51%	Behavioural psychotherapy	No predeter mined duration (average 8.85 weeks)	551	39.0%	11.3 (12.6)	(Non)-attendance of a set number of sessions AND Therapist's judgement of premature termination

Study	Study location	Study type	Mean age in years (SD)	% male	Relevant study conditions	Duration	n	Rate of pulling out of treatment	Number of sessions attended (M, SD, median, or IQR)	Definition of pulling out of treatment
Roberts et al. (2019)	UK	Single-arm treatment study	34.8 (10.0)	100%	Group &/or Individual CBT	3, 6, or 9 months	658	51.2%	nr	Non-completion of the full treatment program
Ronzitti et al. (2015)	UK	Single-arm treatment study	34.6 (10.0) among those with tobacco use; 37.3 (11.6) among those without	46% among those with tobacco use; 54% among those without	Group &/or Individual CBT	No predetermined duration	678	27.9%	nr	nr
Ronzitti et al. (2018)	UK	Single-arm treatment study	35.5 (10.7)	93%	Group &/or Individual CBT	8 weeks	524	20.8%	nr	Non-completion of the full treatment program
Ronzitti et al. (2017)	UK	Single-arm treatment study	35.0 (10.4)	93%	Group &/or Individual CBT	9 weeks	846	17.4%	nr	(Non)-attendance of a set number of sessions AND Therapist's judgement of premature termination
Shaffer et al. (2005)	USA	Single-arm treatment study	nr	nr	Multimodal (Group, individual, and family sessions, orientation not specified)	No predetermined duration	2356	90.0%	nr	nr
Shin et al. (2014)	South Korea	Treatment chart review	33.1 (8.5) among those with gambling onset before 25 years old;	100%	Multimodal (Group or Individual CBT, Group or Individual MI)	nr	702	nr	nr	nr

Study	Study location	Study type	Mean age in years (SD)	% male	Relevant study conditions	Duration	n	Rate of pulling out of treatment	Number of sessions attended (M, SD, median, or IQR)	Definition of pulling out of treatment
			38.4 (7.5) among those with onset between 25-34 years old; 46.2 (6.7) among those with onset between 35-44 years old; 57.0 (6.7) among those with onset older than 45 years old							
Smith et al. (2010)	AUS	Single-arm treatment study	43.1 (12.7)	54%	Exposure therapy	No predeter mined duration	127	32.0%	Median= 5 (IQR: 3, 9)	(Non)-attendance of a set number of sessions AND Therapist's judgement of premature termination
Smith et al. (2015) – manuscript ; Battersby et al. (2013) - report	AUS	RCT	47.5 (13.9)	50%	Cognitive therapy	12 weeks	44	31.8%	Median = 9.5 (IQR, 8-14) for treatment completers	(Non)-attendance of a set number of sessions AND Therapist's judgement of premature termination
			45.4 (12.1)		Exposure therapy	12 weeks	43	51.2%	Median = 9 (IQR, 12.0-28.7) for treatment completers	

Study	Study location	Study type	Mean age in years (SD)	% male	Relevant study conditions	Duration	n	Rate of pulling out of treatment	Number of sessions attended (M, SD, median, or IQR)	Definition of pulling out of treatment
Smith et al. (2016)	AUS	Qualitative follow-up to Smith et al. (2015)	nr	50%	As above	As above	As above	As above	nr	nr
Soberay et al. (2014)	USA	Single-arm treatment study	nr	61%	Multimodal (CBT, time-limited Psychodynamic Therapy, &/or Solution-Focused Brief Therapy)	No predeter mined duration	71	43.7%	nr	Non-completion of the full treatment program
Tarrega et al. (2015)	Spain	Single-arm treatment study	34.8 (6.0)	100%	Group CBT + video game (Playmancer)	16 weeks	16	12.5%	nr	(Non)-attendance of a set number of sessions AND Therapist's judgement of premature termination
Tolchard & Battersby (2013)	AUS	Single-arm treatment study	nr	42%	CBT	12 sessions	205	30.2%	nr	nr
Uriszar et al. (2023)	Spain	Single-arm treatment study	42.1 (14.5)	89%	Group CBT	16 weeks	1416	37.5%	nr	(Non)-attendance of a set number of sessions AND Therapist's judgement of premature termination
Valenciano Mendoza et al. (2021)	Spain	Single-arm treatment study	44.2 (13.0) among treatment completers; 42.7 among (13.4) dropouts	85% among treatme nt comple ters; 69% among	Group CBT	16 weeks	1112	26.0%	nr	(Non)-attendance of a set number of sessions AND Therapist's judgement of premature termination

Study	Study location	Study type	Mean age in years (SD)	% male	Relevant study conditions	Duration	n	Rate of pulling out of treatment	Number of sessions attended (M, SD, median, or IQR)	Definition of pulling out of treatment
				dropouts						
Vintro-Alcaraz, Mestre-Bach et al. (2022)	Spain	Single-arm treatment study	41.4 (13.4)	93%	Group CBT	16 weeks	171	50.3%	nr	(Non)-attendance of a set number of sessions AND Therapist's judgement of premature termination
Vintro-Alcaraz, Munguia et al. (2022)	Spain	Two-arm treatment study	39.7 (13.1)	91%	Group CBT	16 weeks	459	26.4%	nr	(Non)-attendance of a set number of sessions AND Therapist's judgement of premature termination
Vintro-Alcaraz et al. (2024)	Spain	Single-arm treatment study	41.0 (12.6)	92%	Group CBT	16 weeks	170	48.2%	10.1 (5.6) among participants without comorbid ADHD; 10.2 (5.6) among participants with comorbid ADHD	(Non)-attendance of a set number of sessions AND Therapist's judgement of premature termination
Wulfert et al. (2006)	USA	Two-arm treatment study	43.8	100%	CBT/MI	No predetermined duration	9	0.0%	16	nr
			44.3		Multimodal (12-step, insight-based, or eclectic orientation)	No predetermined duration	12	33.3%	nr	

Note. AUS = Australia; CAN = Canada; USA = United States of America; SWE = Sweden; CBT=Cognitive Behavioural Therapy; MI=Motivational interviewing; M=Mean; SD=standard deviation; IQR=interquartile range; nr = not reported. A full reference list of the included studies is provided at the end of Appendix A in the technical report.

Table A2. Descriptive statistics across the overall sample and participant subgroups in the service analysis

	Overall sample (*n*=18,642)	Attended single session (*n*=5168)	Attended 2-5 sessions (*n*=6623)	Attended 6 or more sessions (*n*=6851)
Sociodemographic characteristics				
Age in years (M, SD)	41.0 (13.4)	40.3 (13.5)	40.1 (13.2)	42.3 (13.4)
Gender (n, % male)	12140 (65.1)	3270 (63.3)	4407 (66.5)	4463 (65.1)
Cultural identity (n, %)				
New Zealand European/Pākehā	7133 (38.3)	1857 (35.9)	2659 (40.1)	2617 (38.2)
Māori	4979 (26.7)	1579 (30.6)	1817 (27.4)	1583 (23.1)
Pacific Nations	2834 (15.2)	926 (17.9)	1035 (15.6)	873 (12.7)
Asian	2463 (13.2)	474 (9.2)	645 (9.7)	1344 (19.6)
Other/Not specified	1229 (6.6)	331 (6.4)	465 (7.0)	433 (6.3)
Not reported	4 (0.02)	1 (0.02)	2 (0.03)	1 (0.01)
Annual household income, (n, %)				
$100,000 NZD or less	9006 (48.3)	2597 (50.3)	3252 (49.1)	3157 (46.1)
$101,000 NZD or more	1368 (7.3)	299 (5.8)	497 (7.5)	572 (8.4)
Not reported	8268 (44.4)	2272 (44.0)	2874 (43.4)	3122 (45.6)
Gambling-related characteristics				
Problem gambling severity (PGSI), (M, SD)	11.0 (7.7)	9.3 (7.9)	11.4 (7.6)	11.9 (7.5)
Non-problem gambling (n, %)	1057 (5.7)	551 (10.7)	274 (4.1)	232 (3.4)
Low-risk gambling (n, %)	1015 (5.4)	353 (6.8)	317 (4.8)	345 (5.0)
Moderate-risk gambling (n, %)	2126 (11.4)	618 (12.0)	061 (12.2)	702 (10.3)
Problem gambling (n, %)	7017 (37.6)	1677 (32.5)	2633 (39.8)	2707 (39.5)
Not reported	7427 (39.4)	1969 (38.1)	2593 (39.2)	2865 (41.8)

	Overall sample (*n*=18,642)	Attended single session (*n*=5168)	Attended 2-5 sessions (*n*=6623)	Attended 6 or more sessions (*n*=6851)
Past-month control over gambling (n, %)				
No-to-little control	4124 (22.1)	903 (17.5)	1563 (23.6)	1658 (24.2)
Some-to-complete control	6624 (35.5)	2101 (40.7)	2286 (34.5)	2237 (32.7)
Not reported	7894 (42.4)	2164 (41.9)	2774 (41.9)	2956 (43.2)
Past-month gambling expenditure ($NZD lost), (Median, IQR)	500.00 (1960)	200 (999)	500 (1950)	600 (1900)
Not reported (n, %)	7932 (42.5)	2192 (42.4)	2766 (41.8)	2974 (43.4)
Psychological characteristics				
Past-year risky alcohol use (AUDIT-C), (n, %)	12473 (66.9)	3424 (66.3)	486 (67.7)	4563 (66.6)
Past-year depressive symptoms (PHQ-2), (n, %)	5543 (29.7)	1341 (26.0)	2057 (31.1)	2145 (31.3)
Not reported	8975 (48.1)	2493 (48.2)	3168 (47.8)	3314 (48.4)
Past-year self-harm and suicidality (n, %)	2054 (11.0)	453 (8.8)	719 (10.9)	882 (12.9)
Not reported	8934 (47.9)	2503 (48.4)	3159 (47.7)	3272 (47.8)
Past-year family concern for health (n, %)	4903 (26.3)	1208 (23.4)	1849 (27.9)	1846 (26.9)
Not reported	9174 (49.2)	2565 (49.6)	3236 (48.9)	3373 (49.2)
Treatment-related characteristics				
Session type (n, %)				
Individual	16169 (86.7)	4537 (87.8)	5683 (85.8)	5949 (86.8)
Group	1826 (9.8)	476 (9.2)	692 (10.5)	658 (9.6)
Couple	366 (2.0)	82 (1.6)	147 (2.2)	137 (2.0)
Family	281 (1.5)	73 (1.4)	101 (1.5)	107 (1.6)
Session modality (n, %)				
Face-to-face	14525 (77.9)	3815 (73.8)	5280 (79.7)	5430 (79.3)

	Overall sample (*n*=18,642)	**Attended single session (*n*=5168)**	**Attended 2-5 sessions (*n*=6623)**	**Attended 6 or more sessions (*n*=6851)**
Remote	4117 (22.1)	1353 (26.2)	1343 (20.3)	1421 (20.7)
Intervention session type				
Clinical session	18443 (98.9)	4994 (96.6)	6598 (99.6)	6851 (100.0)
‘Facilitation’ session	3217 (17.3)	175 (3.4)	821 (12.4)	2221 (32.4)

Notes. AUDIT-C=Alcohol Use Disorders Identification Test – Consumption; PHQ=Patient Health Questionnaire-2 items; PGSI=Problem Gambling Severity Index; NZD=New Zealand dollars; M=mean; SD=standard deviation; IQR=interquartile range. Risky alcohol use defined by AUDIT-C score of 5 or more for men and 4 or more for women; depressive symptoms defined by positive endorsement on at least one item; problem gambling severity defined by PGSI total scores of 0 (non-problem gambling), 1-2 (low-risk gambling), 3-7 (moderate-risk gambling), 8-27 (problem gambling); self-harm and suicidality defined by those endorsing self-harm or suicidal ideation, planning, and/or behaviour. ‘Facilitation’ sessions involve the practitioner supporting the client to access other services for co-existing issues. Gambling-related and psychological measures were typically administered within the first two sessions; however, only data collected during the first session are reported to maintain the integrity of comparisons across groups, which contributes to the substantial amount of missing data on several variables.

Table A3. Sample descriptives for the practitioner survey (n=15)

Sample descriptives	n (%)
Age (years), M (SD)	48.3 (13.0)
Years of experience in gambling harm service delivery, M (SD)	5.6 (5.1)
Gender	
Female	11 (73.3)
Male	3 (20.0)
Prefer not to specify	1 (6.7)
Born in New Zealand	13 (86.7)
Ethnicity*	
New Zealand European	8 (53.3)
Māori	4 (26.7)
Pacific	2 (13.3)
Asian	1 (6.7)
Other	2 (13.3)
Clinical role*	
Counsellor	10 (66.7)
Manager	4 (26.7)
Peer support worker	2 (13.3)
Team leader	2 (13.3)
Other	1 (6.7)
Lived experience of gambling-related harm	
Lived experience of gambling harm	1 (6.7)
Lived experience of another person's gambling harm	3 (20.0)

Note. M = mean, SD = standard deviation. *Practitioners could indicate multiple ethnicities and clinical roles.

Table A4. Pre-treatment sample descriptive statistics for the client survey (n=35)

	n (%)
Sociodemographic characteristics	
Age in years (M, SD)	32.4 (10.6)
Gender (% male)	26 (74.3)
Born in New Zealand	32 (91.4)
Ethnicity	
New Zealand European/Pākehā	27 (77.1)
Māori	5 (14.3)
Pacific Nations	3 (8.6)
Asian	1 (2.9)
Other	2 (5.7)
Employment status	
Full-time work	23 (65.7)
Part-time or casual work	2 (5.7)
Full-time student	2 (5.7)
Full-time home duties	3 (8.6)
Sick or disability pension	1 (2.9)
Retired	1 (2.9)
Other	3 (8.6)
Marital status	
Never married	23 (65.7)
Married or de facto	7 (20.0)
Separated	3 (8.6)
Divorced	2 (5.7)
Gambling-related characteristics	
Gambling symptom severity (G-SAS; M, SD)	27.3 (13.4)
Extreme severity	8 (22.9)
Severe severity	6 (17.1)
Moderate severity	10 (28.6)
Mild severity	7 (20.0)
Non-problem gambling	4 (11.4)
Past-month gambling frequency (days; Median, IQR)	7 (14)
Past-month gambling expenditure ($NZD lost; Median, IQR)	1500 (1800)
Presence of current gambling-related debt	23 (65.7)
Any gambling harms (DGHS-7)	34 (97.1)
Any financial harms	33 (94.3)
Any relationship harms	33 (94.3)
Any emotional or psychological harms	34 (97.1)

	n (%)
Any health-related harms	34 (97.1)
Any work/study-related harms	28 (80.0)
Any cultural harms	17 (48.6)
Any legal harms	17 (48.6)
Harmful gambling activity	
Pokies or electronic gaming machines	26 (74.3)
Sports and event result betting	15 (42.9)
Race betting (horses, harness racing, greyhounds)	13 (37.1)
Table games (e.g., blackjack, roulette, poker)	11 (31.4)
Number games (e.g., lotteries, keno, Powerball)	7 (20.0)
Informal private betting	4 (11.4)
Preferred gambling modality	
Venue	5 (14.3)
Online	13 (37.1)
Both venue and online	17 (48.6)
Gambling motives (GMQ-F; scores out of 4) (M, SD)	
Enhancement motives (it is exciting)	2.8 (0.9)
Financial motives (the thought of a jackpot)	2.8 (0.9)
Social motives (enhances enjoyment at social events)	2.0 (0.9)
Coping motives (helps to cope with worries)	2.7 (1.0)
Age (in years) began gambling (M, SD)	22.1 (8.4)
Age (in years) began experiencing gambling issues (M, SD)	27.0 (8.5)
Family history of harmful gambling	23 (65.7)
Psychological and social characteristics	
Anxiety symptoms (GAD-2)	24 (68.6)
Depressive symptoms (PHQ-2)	19 (54.3)
Risky alcohol use (AUDIT-3)	2 (5.7)
Past-month experience of family violence	
Victim/survivor of family violence	5 (14.3)
Perpetrator of family violence	2 (5.7)
	M (SD)
Past-month frequency of substance use	4.6 (7.6)
Overall wellbeing (Hua Oranga; score out of 80)	49.1 (13.0)
Physical wellbeing (score out of 16)	15.1 (3.9)
Spiritual wellbeing (score out of 16)	10.4 (4.3)
Emotional wellbeing (score out of 16)	11.5 (3.5)
Family wellbeing (score out of 16)	12.2 (3.7)
Social support (BS6; score out of 24)	15.5 (3.7)
Tangible/practical support (score out of 12)	7.5 (2.2)

	n (%)
Emotional/informational support (score out of 12)	8.0 (2.1)

Note. M=mean; SD=standard deviation. AUDIT-3=Alcohol Use Disorders Identification Test-3; BS6=Brief Social Support-6 items; DGHS-7=Domain General Harms Scale-7; G-SAS=Gambling Symptom Assessment Scale; GAD-2=Generalised Anxiety Disorder-2 item; GMQ-F=Gambling Motives Questionnaire-Financial; NZD=New Zealand Dollars; PHQ-2=Patient Health Questionnaire-2 item.
Higher scores on the: GMQ-F indicate stronger motives; Hua Oranga indicate greater wellbeing; BS6 indicate greater perceived support.

Table A5. Treatment characteristics at pre-treatment and follow-up for the client survey (n=35)

	M (SD)
Pre-treatment measures	
Mode of treatment (n, %)	
Predominately face-to-face	22 (62.9)
Predominately remote	6 (17.1)
Combination of face-to-face and remote	7 (20.0)
Practitioner/s involved in treatment (n, %)	
Counsellor	33 (94.3)
Peer support worker	2 (5.7)
Whānau worker	1 (2.9)
Case worker	2 (5.7)
Other (specify)	0 (0.0)
Treatment expectations (TEX-Q; scores out of 10)	
Anticipate treatment benefit	7.2 (2.5)
Anticipate positive impact	7.2 (2.5)
Anticipate negative impact	3.9 (3.7)
Anticipate adverse events	4.0 (2.9)
Anticipate straightforward treatment process	5.2 (2.1)
Perceived personal influence over treatment success	7.5 (2.5)
Treatment motivations (CMTS; scores out of 7)	
Intrinsic motivation (because it is enjoyable)	3.8 (1.4)
Integrated regulation (because it aligns with value)	5.3 (1.3)
Identified regulation (because it is important)	6.1 (1.1)
Introjected regulation (because of internal pressures like guilt)	5.8 (1.5)
External regulation (because of external pressures from others)	5.3 (2.0)
Amotivation (lack of motivation)	2.4 (1.7)
Treatment attitudes/intention to attend (TAP; scores out of 7)	
Subjective norms (people approve of me attending)	6.3 (1.3)
Intention to attend	6.2 (1.4)
Barriers to treatment (BRS; scores out of 7)	
Low perceived need for treatment	2.4 (1.4)
Social concerns (e.g., lose relationships)	2.5 (1.8)
Concerns about missing gambling	3.8 (2.2)
Personal limitations (e.g., tendency to forget things)	2.9 (1.3)
Logistic barriers (e.g., transportation, scheduling issues)	3.2 (1.7)
Follow-up measures	
Client satisfaction (CSQ-4; score out of 16)	12.1 (2.7)
Met client needs (score out of 4)	2.7 (0.8)

Helped deal with gambling harm (score out of 4)	3.1 (0.7)
Overall satisfaction (score out of 4)	3.0 (0.8)
Would return to the service (score out of 4)	3.3 (0.7)
Session Rating Scale (SRS; scores out of 10)	7.2 (2.4)
Relationship	7.4 (2.4)
Goals	7.4 (2.5)
Approach	6.9 (2.9)
Overall	7.2 (2.9)
Therapeutic alliance (STAR-P, score out of 48)	34.2 (8.3)
Positive practitioner input (score out of 24)	18.2 (4.9)
Positive collaboration (score out of 12)	8.1 (2.7)
Non-supportive practitioner input (score out of 12)	7.9 (2.7)

Note. M=mean; SD=standard deviation. BRS=Barrier to Retention Scale; CMTS=Client Motivation for Therapy Scale; CSQ-4=Client Satisfaction Questionnaire-4 item; SRS=Session Rating Scale; STAR-P= Service to Clients Relationship Scale-Patient; TAP=Therapy Attitudes and Process Questionnaire; TEX-Q=Treatment Expectation Questionnaire.

Higher scores on the: TEX-Q indicate stronger expectations of treatment; CMTS indicate stronger motivations for treatment; TAP indicate greater approval of treatment among important others and greater intention to attend treatment; BRS indicate greater barriers to treatment; CSQ-4 indicate greater satisfaction; SRS indicate better treatment experience; and STAR-P indicate better therapeutic alliance.

Appendix B. Predictors of pulling out of treatment

Table B1. Examining predictors of session attendance in the service analysis

	Relative Risk Ratios (95% CI)			
	Univariate regressions		Multivariate regression	
	Attended 1 session vs. 6 or more sessions	Attended 2-5 sessions vs. 6 or more sessions	Attended 1 session vs. 6 or more sessions	Attended 2-5 sessions vs. 6 or more sessions
Age at first session	**0.99 (0.99, 0.99)*** **	**0.99 (0.99, 0.99)*** **	**0.98 (0.98, 0.99)*** **	**0.99 (0.98, 0.99)*** **
Male gender	**1.08 (1.00, 1.17)***	0.94 (0.88, 1.01)	**1.14 (1.01, 1.28)***	0.94 (0.84, 1.06)
Cultural identity (New Zealand European)				
Māori	**1.41 (1.28, 1.54)*** **	**1.13 (1.04, 1.23)** **	**1.35 (1.18, 1.55)*** **	1.04 (0.92, 1.18)
Pacific	**1.49 (1.34, 1.67)*** **	**1.17 (1.05, 1.30)** **	1.14 (0.95, 1.36)	**1.27 (1.07, 1.50)** **
Asian	**0.50 (0.44, 0.56)*** **	**0.47 (0.43, 0.53)*** **	**0.24 (0.19, 0.29)*** **	**0.39 (0.33, 0.47)*** **
Other/Not specified	1.08 (0.92, 1.26)	1.06 (0.92, 1.22)	**0.65 (0.51, 0.83)** **	0.88 (0.72, 1.08)
Income (≤$100,000)	**0.63 (0.54, 0.73)*** **	**0.83 (0.73, 0.95)** **	**0.76 (0.64, 0.91)** **	0.89 (0.77, 1.03)
Problem gambling severity	**0.96 (0.95, 0.96)*** **	**0.99 (0.99, 1.00)** **	**0.96 (0.95, 0.97)*** **	**0.98 (0.97, 0.99)*** **
No-to-little control over gambling	**1.73 (1.57, 1.91)*** **	1.09 (1.00, 1.19)	**1.29 (1.13, 1.48)*** **	0.99 (0.867, 1.12)
Gambling expenditure	**1.00 (1.00, 1.00)*** **	**1.00 (1.00, 1.00)*** **	1.00 (1.00, 1.00)	**1.00 (1.00, 1.00)***

	Relative Risk Ratios (95% CI)			
	Univariate regressions		Multivariate regression	
	Attended 1 session vs. 6 or more sessions	Attended 2-5 sessions vs. 6 or more sessions	Attended 1 session vs. 6 or more sessions	Attended 2-5 sessions vs. 6 or more sessions
Risky alcohol use	0.99 (0.91, 1.07)	1.05 (0.97, 1.12)	-	-
Depressive symptoms	**0.65 (0.59, 0.72)*** **	0.94 (0.86, 1.04)	**0.81 (0.70, 0.92)** **	0.91 (0.81, 1.04)
Self-harm and suicidality	**0.63 (0.55, 0.71)*** **	**0.79 (0.71, 0.89)*** **	**0.83 (0.71, 0.97)* **	**0.80 (0.70, 0.91)** **
Family concern for health	**0.76 (0.68, 0.84)*** **	1.05 (0.95, 1.15)	0.98 (0.86, 1.10)	1.10 (0.98, 1.23)
Individual session type	0.91 (0.81, 1.01)	1.06 (0.96, 1.17)	-	-
Face-to-face modality	**1.34 (1.23, 1.46)*** **	0.96 (0.88, 1.04)	**1.47 (1.25, 1.73)*** **	**0.82 (0.69, 0.98)* **

Note. 95% CI = 95% confidence interval. The reference group for all comparisons is clients who attended six or more sessions. Due to missing data: n=18638 for cultural identity, n=10404 for income, n=11242 for problem gambling severity, n = 10775 for control over gambling, n=10733 for gambling expenditure, n=9692 for depressive symptoms, n=9728 for self-harm and suicidality, and n=9494 for family concern in the univariate regressions; n=8891 in the multivariate regressions. Variables that were significant at p<.05 in univariate regressions were included in the multivariate regression. **Regression effects significant at p<.05*, p<.01**, p<.001***.**

Table B2. Examining predictors of attendance among Māori, Pacific, and Asian clients in the service analysis

	Relative Risk Ratios (95% CI) in multivariate regressions					
	Māori clients (*n*=4979)		Pacific clients (*n*=2834)		Asian clients (*n*=2463)	
	Attended 1 session vs. 6 or more	Attended 2-5 sessions vs. 6 or more	Attended 1 session vs. 6 or more	Attended 2-5 sessions vs. 6 or more	Attended 1 session vs. 6 or more	Attended 2-5 sessions vs. 6 or more
Age at first session	**0.99*** **(0.98, 0.99)**	**0.98***** **(0.97, 0.99)**	0.99 (0.98, 1.01)	0.99 (0.98, 1.00)	**0.97***** **(0.96, 0.99)**	**0.99**** **(0.98, 0.99)**
Male gender	-	-	**0.68*** **(0.49, 0.96)**	**0.53***** **(0.38, 0.72)**	**1.63**** **(1.17, 2.25)**	0.99 (0.74, 1.33)
Income (≤$100,000)	-	-	1.09 (0.59, 2.01)	**0.55*** **(0.31, 0.98)**	-	-
Problem gambling severity	**0.96***** **(0.94, 0.97)**	**0.97***** **(0.95, 0.98)**	**0.96**** **(0.94, 0.99)**	**0.97*** **(0.95, 0.99)**	-	**-**
No-to-little control over gambling	1.01 (0.79, 1.29)	0.93 (0.76, 1.15)	**1.91**** **(1.31, 2.78)**	1.17 (0.83, 1.65)	-	-
Risky alcohol use	1.09 (0.88, 1.36)	0.93 (0.76, 1.15)	1.05 (0.72, 1.55)	0.95 (0.67, 1.34)	-	-
Depressive symptoms	**0.72*** **(0.56, 0.93)**	1.02 (0.79, 1.31)	**0.47***** **(0.31, 0.71)**	**0.61*** **(0.41, 0.91)**	1.02 (0.73, 1.41)	**1.36*** **(1.04, 1.78)**
Self-harm and suicidality	0.92 (0.70, 1.21)	0.91 (0.70, 1.17)	-	-	-	-
Family concern for health	0.81 (0.65, 1.02)	1.08 (0.85, 1.35)	1.09 (0.75, 1.58)	1.17 (0.83, 1.65)	-	-
Individual session type	0.75	**0.65***	**0.64***	0.85	0.55	1.16

	(0.49, 1.16)	**(0.43, 0.99)**	**(0.42, 0.97)**	(0.59, 1.24)	(0.28, 1.07)	(0.74, 1.80)
Face-to-face modality	**1.34*** **	0.96	**1.47*** **	**0.82***	1.05	0.94
	(1.23, 1.46)	(0.88, 1.04)	**(1.25, 1.73)**	**(0.69, 0.98)**	(0.71, 1.55)	(0.65, 1.37)

Note. 95% CI = 95% confidence interval. The reference group for all comparisons is clients who attended six or more sessions. Due to missing data: n=2381 Māori clients, 1182 Pacific clients, and 1319 Asian clients. Only significant variables at p<.05 in univariate regressions were included in these multivariate regressions. **Regression effects significant at p<.05*, p<.01**, p<.001***.**

Table B3. Practitioner-perceived predictors of pulling out of treatment (n=15)

Predictors of pulling out of treatment	M (SD)
Socio-demographic predictors	
Employment status	3.5 (1.1)
Cultural background	3.5 (1.3)
Age	3.3 (1.2)
Socioeconomic status	3.3 (1.4)
Education level	3.0 (1.2)
Income	2.9 (1.4)
Living situation (e.g., living alone or with a partner)	2.9 (1.4)
Gender	2.8 (1.2)
Marital status	2.7 (1.3)
Gambling-related predictors	
Gambling harms	4.2 (1.1)
Erroneous gambling cognitions	4.2 (1.1)
Duration of harmful gambling	3.9 (1.0)
Gambling self-efficacy (confidence in the ability to control/stop gambling)	3.9 (1.2)
Gambling motives	3.9 (1.3)
Severity of harmful gambling	3.8 (1.1)
Mode of harmful gambling (e.g., venue or online)	3.8 (1.1)
Gambling urges or cravings	3.8 (1.3)
Age of onset of harmful gambling	3.6 (1.0)
Gambling debt	3.6 (1.4)
Gambling frequency	3.4 (1.0)
Harmful gambling activity (e.g., poker machines)	3.3 (1.0)
Gambling expenditure	3.2 (0.9)
Family history of gambling	3.1 (1.4)
Psychological factors	
Impulsivity	4.2 (1.5)
Substance use	3.9 (1.2)
PTSD symptoms	3.9 (1.4)
Social anxiety symptoms	3.8 (1.3)
Anxiety symptoms	3.8 (1.4)
Personality disorder symptoms	3.8 (1.5)
Alcohol use	3.7 (1.2)
Psychological distress	3.6 (1.3)
Emotional health	3.6 (1.3)
Psychotic symptoms	3.6 (1.3)
Depressive symptoms	3.6 (1.4)

Predictors of pulling out of treatment	M (SD)
ADHD symptoms	3.5 (1.3)
Spiritual health	3.5 (1.4)
Personality traits (e.g., neuroticism)	3.4 (1.3)
Physical health	3.3 (1.1)
Suicidal ideation or attempts	3.2 (1.3)
Tobacco use	2.2 (1.1)
Social factors	
Lack of effective communication in the family	4.1 (1.2)
Lack of social support	4.0 (1.3)
Lack of family support	3.9 (1.2)
Being a victim/survivor of family violence	3.5 (1.4)
Being a perpetrator of family violence	3.5 (1.4)
Client-related treatment factors	
Readiness to change	4.3 (1.2)
Confidence in ability to reach their goals	4.1 (1.2)
Intention/Motivation to attend treatment	4.0 (1.1)
Post-session experience (how client feels after session)	4.0 (1.1)
During-session experience (how client feels during session)	3.9 (1.1)
Perceived treatment effectiveness	3.9 (1.2)
Treatment satisfaction	3.9 (1.3)
Treatment acceptability	3.7 (1.2)
Anticipated adverse effects	3.5 (1.2)
Prior treatment experience	3.4 (1.2)
Other current help-seeking	3.3 (1.3)
Other medication use	3.0 (1.4)
Practitioner-related or treatment-specific factors	
Forced goal setting	3.7 (1.4)
Barriers to treatment	3.5 (1.2)
Therapeutic alliance	3.3 (1.5)
Length of treatment	3.1 (1.3)
Practitioner-related factors (e.g., age, gender)	3.1 (1.3)
Therapeutic modality (e.g., CBT, ACT)	2.9 (1.2)
Clinical contact type (e.g., counselling, peer support)	2.9 (1.2)
Practitioner years of experience in gambling harm services	2.9 (1.2)

Note. M = mean, SD = standard deviation, ADHD = Attention-Deficit/Hyperactivity Disorder, PTSD = Posttraumatic stress disorder, CBT = cognitive behaviour therapy, ACT = acceptance commitment therapy.

Items were rated on a 5-point scale from 1 (not at all likely) to 5 (extremely likely), with a sixth option of not sure (treated as missing); as such the number of respondents fluctuated across items: n=14 for employment status, cultural

Predictors of pulling out of treatment	M (SD)
background, socioeconomic status, education level, living situation, gambling urges, age of onset of harmful gambling, family history, PTSD symptoms, psychological distress, emotional health, readiness to change, and intention to attend; n=13 for gambling self-efficacy, impulsivity, psychotic symptoms, ADHD symptoms, spiritual health, physical health, and suicidal ideation; n=12 for medication use; and n=11 for personality disorder symptoms and personality traits. Higher mean ratings indicate that the factor is more likely to predict pulling out of treatment in the practitioners' clinical experience. Predictors have been ordered within each subsection from most (top) to least (bottom) likely predictors.	

Table B4. Factors significantly associated with clients pulling out of treatment (vs. completing treatment) at follow-up (n=16)

	Pulled out vs completed treatment
Sociodemographic characteristics	
Age	ns
Gambling-related characteristics	
Family history of harmful gambling	ns
Gambling symptom severity (G-SAS)	ns
Gambling frequency	0.6340*
Gambling urges (G-SAS subscale)	ns
Gambling harms (DGHS-7)	ns
Work/study gambling harms (DGHS-7)	ns
Gambling money cognitions (JAS)	ns
Gambling skill cognitions (JAS)	ns
Gambling chance cognitions (JAS)	ns
Urge self-efficacy	ns
Enhancement gambling motives (GMQ-F)	-0.6707**
Priority of reducing gambling	ns
Psychological and social characteristics	
Overall wellbeing (Hua Oranga)	ns
Emotional wellbeing (Hua Oranga)	ns
Physical wellbeing (Hua Oranga)	ns
Spiritual wellbeing (Hua Oranga)	ns
Depressive symptoms (PHQ-2)	ns
Treatment-related measures	
Expected treatment benefit (TEX-Q)	ns
Expected positive impacts (TEX-Q)	ns
Expected adverse events (TEX-Q)	ns
Expected straightforward process (TEX-Q)	-0.6165*
Intrinsic treatment motivation (CMTS)	ns
Integrated regulation treatment motivation (CMTS)	ns
Identified regulation treatment motivation (CMTS)	ns
Amotivation for treatment (CMTS)	ns
Intention to attend treatment (TAP)	ns
Barrier of social concerns (BRS)	ns
Barrier of missing gambling (BRS)	ns
Barrier of personal limitations (BRS)	ns
Barrier of logistical issues (BRS)	ns

	Pulled out vs completed treatment
Treatment satisfaction (CSQ-4)	-0.6743**
Overall treatment experience (SRS)	-0.5175*
Goal-aligned treatment experience (SRS)	-0.5732*
Overall therapeutic alliance (STAR-P)	-0.7035**
Positive collaboration with practitioner (STAR-P)	-0.8507***
Positive input from practitioner (STAR-P)	-0.5945*

Note. ns = not significant; G-SAS=Gambling Symptom Assessment Scale; DGHS-7=Domain General Harms Scale-7; JAS=Jonsson-Abbott Scale; GMQ-F=Gambling Motives Questionnaire-Financial; PHQ-2=Patient Health Questionnaire-2; TEX-Q=Treatment Expectation Questionnaire; CMTS=Client Motivation for Therapy Scale; TAP=Therapy Attitudes and Process Questionnaire; BRS=Barrier to Retention Scale; CSQ-4=Client Satisfaction Questionnaire-4; SRS=Session Rating Scale; STAR-P=Service to Clients Relationship Scale-Patient.

Appendix C. Reasons for pulling out of treatment

Table C1. Practitioner-perceived reasons for pulling out of treatment (n=15)

Reasons	**M (SD)**
Reached treatment goals or got what they needed from treatment	4.1 (0.9)
Lack of motivation or commitment to change	3.4 (1.1)
Feelings of hopelessness	3.3 (1.2)
Lack of support from others	3.3 (1.4)
Lack of progress in treatment	3.0 (1.1)
Worsened problem severity (e.g., addiction-related issues stopped client from coming in)	2.8 (0.9)
Logistical problems (e.g., transportation, childcare)	2.5 (0.7)
Did not like the services on offer	2.2 (1.2)
Referred or transferred to a different service	2.1 (1.1)
Negative interactions with, or distrust of, staff	2.0 (1.1)
Privacy or confidentiality concerns	1.7 (0.9)

Note. M = mean, SD = standard deviation. Items were rated on a 5-point scale from 1 (not at all often) to 5 (extremely often). Reasons are ordered from most (top) to least (bottom) frequently encountered based on mean ratings.

Table C2. Reasons for pulling out of treatment in the client survey (n=6)

Reasons for pulling out of treatment	n (%)
Problem severity	5 (83.3)
My medical problems kept me from coming in	0 (0.0)
My gambling was so frequent I could not come in.	3 (50.0)
My drug and/or alcohol use was so heavy I could not come in.	1 (16.7)
My mental health or psychological problems kept me from coming.	4 (66.7)
Logistical problems	4 (66.7)
I had transportation problems that kept me from coming.	1 (16.7)
I had childcare problems that kept me from coming in.	1 (16.7)
The hours of the service were not good for me.	1 (16.7)
I did not have money or insurance to pay for the service.	2 (33.33)
Motivational inconsistencies	3 (50.0)
I changed my mind about being in treatment at this point.	2 (33.3)
I had no good reason to stop gambling.	0 (0.0)
I did not feel motivated enough to keep coming.	2 (33.3)
I lost hope in my ability to change right now.	3 (50.0)
Outside influences	3 (50.0)
Problems with family or acquaintances kept me from coming in.	0 (0.0)
I felt that I could get better on my own or with self-help meetings.	1 (16.7)
I did not have enough support from people in my life to stay at the service.	2 (33.3)
I decided to go to another program for help.	0 (0.0)
Boundary concerns	2 (33.3)
I felt my privacy or confidentiality might not be protected.	1 (16.7)
Somebody I know is a client or staff at the service.	0 (0.0)
I said or did some things that would make it hard for me to go back.	0 (0.0)
I was worried I would get involved in things like gambling, drugs, sex, or crime because of people around the service.	1 (16.7)
Program expectations	1 (16.7)
I did not like the rules of the program.	0 (0.0)
I was confused about what the service wanted me to do.	0 (0.0)
I did not like the kind of services on offer.	1 (16.7)
The wait to start the counselling sessions was too long.	0 (0.0)
Staff conflicts	1 (16.7)
I had a negative interaction with another client or staff.	0 (0.0)

Reasons for pulling out of treatment	n (%)
I did not like or trust some of the staff.	1 (16.7)
I felt that staff did not like, respect, or want to help me.	0 (0.0)
I had a personality conflict with people at the service.	0 (0.0)

Note. Table presents the number (and percentage) of clients who endorsed each reason for leaving treatment, as well as any item within each subscale. The Reasons for Leaving Treatment questionnaire was completed by six of the eight clients who were classified as having pulled out of treatment due to an administrative error.

Appendix D. Consequences of pulling out of treatment

Table D1. Descriptive statistics for outcome measures administered at pre-treatment and follow-up and significant correlations between percentage change in outcome and pulling out of treatment (vs. completing treatment) (n=16)

	M (SD)		**% change in outcome from pre-treatment to follow-up**
	Pre-treatment	**1-month follow-up**	**Pulled out vs. completed treatment**
Gambling-related measures			
Gambling symptom severity (G-SAS; score out of 48)	27.3 (13.4)	20.0 (15.1)	**-0.6532****
Extreme severity (scores of 41-48; n, %)	8 (22.9)	5 (14.3)	-
Severe severity (scores of 31-40; n, %)	6 (17.1)	3 (8.6)	-
Moderate severity (scores of 21-30; n, %)	10 (28.6)	7 (20.0)	-
Mild severity (scores of 8-20; n, %)	7 (20.0)	9 (25.7)	-
Non-problem gambling (scores of 0-7; n, %)	4 (11.4)	11 (31.4)	-
Gambling urges (G-SAS subscale; score out of 16)	8.8 (5.0)	6.5 (5.4)	ns
Past-month gambling frequency (days; Median, IQR)	7 (14)	3 (12)	ns
Past-month gambling expenditure ($NZD lost; Median, IQR)	1500 (1800)	200 (1200)	ns
Gambling-related erroneous cognitions (JAS; score out of 21)	11.6 (4.9)	9.3 (4.4)	ns
Money-related (score out of 7)	4.4 (2.1)	3.5 (2.1)	ns
Skill-related (score out of 7)	3.1 (1.9)	2.8 (1.8)	ns
Chance-related (score out of 7)	4.1 (1.8)	2.9 (1.6)	ns
Gambling urge self-efficacy (score out of 10)	5.0 (2.6)	6.0 (3.0)	**0.6202***
Perceived importance of limiting gambling (score out of 10)	8.8 (2.0)	8.7 (2.4)	ns
Perceived priority level of limiting gambling (score out of 10)	7.7 (2.6)	8.0 (2.9)	ns

	M (SD)		% change in outcome from pre-treatment to follow-up
	Pre-treatment	**1-month follow-up**	**Pulled out vs. completed treatment**
Psychological and social characteristics			
Overall wellbeing (Hua Oranga; score out of 80)	49.1 (13.0)	54.9 (15.4)	**0.5423***
Physical wellbeing (score out of 20)	15.1 (3.9)	15.1 (3.6)	**0.5983**
Spiritual wellbeing (score out of 20)	10.4 (4.3)	12.4 (4.8)	ns
Emotional wellbeing (score out of 20)	11.5 (3.5)	13.9 (4.2)	**0.6106***
Family wellbeing (score out of 20)	12.2 (3.7)	13.5 (4.5)	ns
Anxiety symptoms (GAD-2; score out of 6)	3.8 (1.7)	2.7 (2.1)	**-0.6151***
Positive screen for clinical anxiety (n, %)	24 (68.6)	14 (40.0)	-
Depressive symptoms (PHQ-2; score out of 6)	3.1 (3.1)	2.5 (2.0)	**-0.7239****
Positive screen for clinical depression (n, %)	19 (54.3)	14 (40.0)	-
Risky alcohol use (AUDIT-3; score out of 4)	1.5 (1.4)	1.4 (1.2)	ns
Positive screen for risky alcohol use (n, %)	2 (5.7)	1 (2.9)	-
Past-month frequency of substance use (number of times)	4.6 (7.6)	4.3 (5.9)	ns
Past-month experience of family violence (n, %)			
Victim/survivor of family violence	5 (14.3)	3 (8.6)	ns
Perpetrator of family violence	2 (5.7)	1 (2.9)	ns
Impulsivity (SIS; scores out of 4)			
Reward	1.3 (0.9)	0.9 (0.8)	ns
Automatism	1.1 (0.9)	0.8 (0.7)	ns
Attentional	1.4 (0.9)	1.1 (0.7)	ns
Coping behaviour (Brief COPE; scores out of 4)			

	M (SD)		% change in outcome from pre-treatment to follow-up
	Pre-treatment	**1-month follow-up**	**Pulled out vs. completed treatment**
Self-distraction	2.6 (0.9)	3.2 (1.0)	ns
Active coping	2.8 (0.8)	2.8 (0.7)	ns
Use of emotional support	2.8 (0.9)	3.1 (0.9)	ns
Use of instrumental support	2.7 (0.9)	3.3 (0.9)	ns
Positive reframing	2.5 (0.9)	3.2 (0.8)	ns
Self-blame	3.3 (0.8)	2.5 (0.9)	ns
Planning	3.0 (0.9)	2.7 (0.8)	ns
Behavioural disengagement	2.4 (1.0)	3.0 (1.1)	ns
Help-seeking behaviour			
Past-month help-seeking (n, %)			
Mental health professional or residential facility for gambling	21 (60.0)	20 (57.1)	ns
Mental health professional or residential facility for any mental health issue (excluding gambling)	22 (62.9)	19 (54.3)	**-0.5000***
Another support service for gambling (e.g., email counselling, helpline, website, app)	25 (71.4)	19 (54.3)	ns
Exclusion from land-based venue	9 (25.7)	6 (17.1)	ns
Exclusion from online gambling website/app	13 (37.1)	17 (48.6)	ns
Online blocking software to block gambling sites, apps, and servers	13 (37.1)	10 (28.6)	ns
Whānau, family members, or friends	28 (80.0)	28 (80.0)	ns

	M (SD)		% change in outcome from pre-treatment to follow-up
	Pre-treatment	**1-month follow-up**	**Pulled out vs. completed treatment**
Peer support	18 (51.4)	15 (42.9)	ns
Psychotropic medication use	13 (37.1)	11 (31.4)	ns

Note. M=mean; SD=standard deviation. AUDIT-3=Alcohol Use Disorders Identification Test; G-SAS=Gambling Symptom Assessment Scale; GAD-2=Generalized Anxiety Disorder-2; JAS=Jonsson-Abbott Scale; NZD=New Zealand Dollars; PHQ-2=Patient Health Questionnaire-2; SIS=State Impulsivity Scale.

Higher scores on the: GSAS indicate greater gambling symptom severity; JAS indicate stronger erroneous cognitions; Hua Oranga indicate greater wellbeing; GAD-2 indicate greater anxiety symptoms; PHQ-2 indicate greater depressive symptoms; AUDIT-3 indicate more frequent risky drinking; SIS indicate greater impulsivity; and Brief COPE indicate greater use of the respective coping behaviour.

In Spearman correlations, completing treatment was coded as 1 and pulling out was coded as 0.