AUT UNIVERSITY GAMBLING RESEARCH CENTRE

PROBLEM GAMBLING ASSESSMENT AND SCREENING INSTRUMENTS

PHASE TWO

FINAL REPORT

9 January 2008

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WELLINGTON

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ACKNOWLEGEMENTS

This report has been prepared by the Gambling Research Centre, National Institute for Public Health and Mental Health Research, Division of Public Health and Psychosocial Studies, Faculty of Health and Environmental Sciences, Auckland University of Technology, Private Bag 92006, Auckland 1142, New Zealand.

The authors gratefully acknowledge the following service provider organisations which provided valuable staff time and commitment to the trial phase of the project:

Gambling Helpline New Zealand
Higher Ground Drug Rehabilitation Trust
Problem Gambling Foundation of New Zealand
Problem Gambling Foundation of New Zealand, Asian Services
Salvation Army Oasis Centres
Te Rangihaeata Oranga
Tupu Pacific Services

The project was commissioned and initially funded by the Problem Gambling Committee and subsequently by the Ministry of Health who assumed responsibility for funding the project from January 2005.

CONTENTS

LIST OF TABLES

EXECUTIVE SUMMARY

Objectives

This project was commissioned by the Problem Gambling Committee (PGC); subsequently the Ministry of Health assumed responsibility from the PGC. The primary objectives of the project were to:

1. Review the assessment and screening instruments currently used in New Zealand and internationally for the assessment of problem gamblers at the clinical level including by the telephone helpline
2. Following the review, to recommend a full set of screening and assessment instruments to be used in the clinical treatment of problem gamblers; selected instruments should be able to be used to monitor client progress in follow-up assessments currently undertaken at various set intervals
3. To pilot the recommended screening and assessment instruments in order to test the application of these screens in the New Zealand setting

The research was divided into two phases. There was a particular focus on the screening instruments currently mandated for use by Ministry of Health funded problem gambling service providers, namely the South Oaks Gambling Screen - Three Month time frame (SOGS-3M), DSM-IV gambling criteria, Dollars Lost assessment and Control over Gambling assessment. Other screening tools used by the service providers were also considered. Additionally, the family/whanau checklist for use with 'significant others' was reviewed.

Reporting

Objectives 1 and 2 have been addressed separately in the Phase One report for this project (Bellringer, Abbott, Volberg, Garrett & Coombes, 2007).

This report details Phase Two of the study, covering the third objective of piloting the recommended screening and assessment instruments in the New Zealand clinical setting.

Recap of findings from Phase One

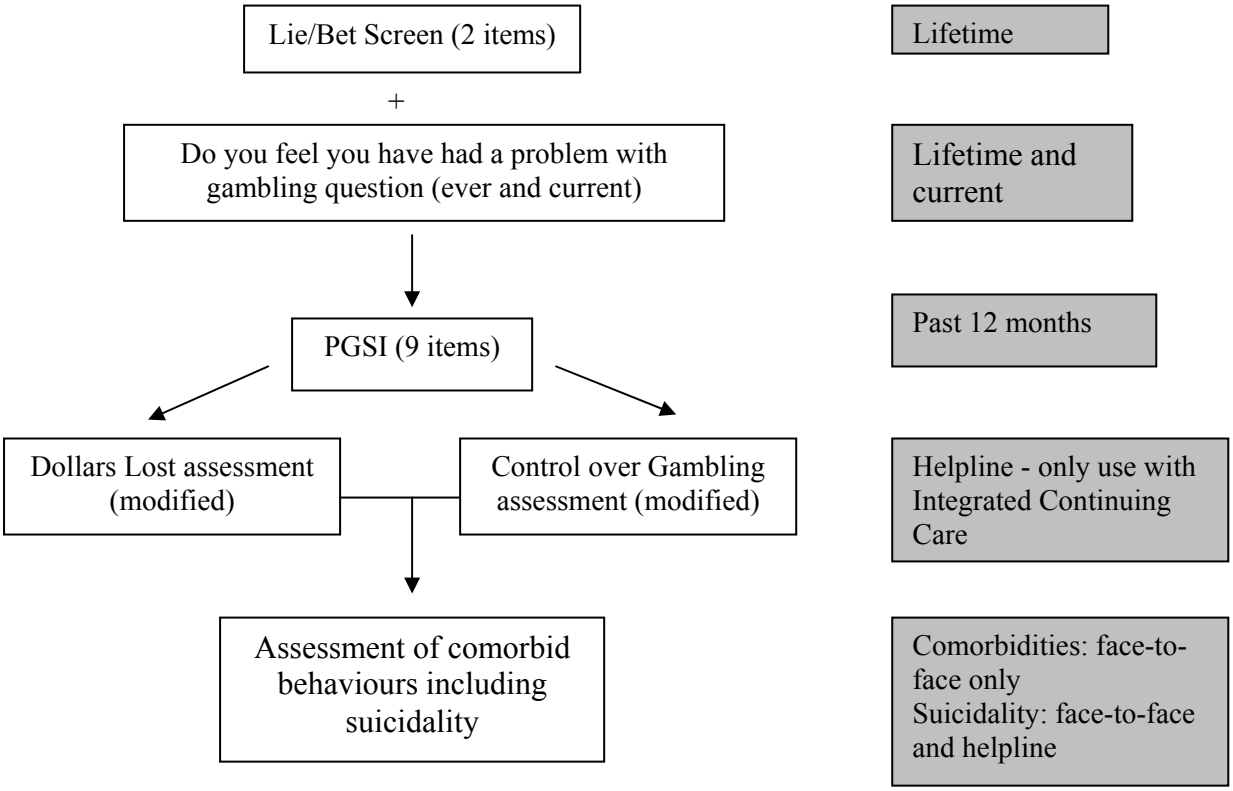
- The literature review identified that more applicable and practical problem gambling screening instruments are available than the tools currently in use by service providers in New Zealand.
- Results from in-depth interviews and focus groups with service provider staff identified significant reliability, practicality and applicability problems with the use of the current tools. They also identified a lack of consensus on the general usefulness of screening tools and on the best screening tools to assist provision of effective treatment. No consensus was reached on the most suitable cultural approaches to use with the different ethnic groups.
- There was consensus from the in-depth interviews and focus groups that screening and assessment of clients at (generally) the first or second interview is a clinically useful process enabling holistic identification of a client's situation which can be used as part of the therapeutic process (for example, in the development of a client-tailored treatment plan or in helping a client to understand the nature of their problem).
- Analysis of data from a five-year period collected from the national databases (face-to-face counselling and telephone helpline) identified some reliability and validity issues as well as several items within the SOGS-3M and DSM-IV gambling criteria that did not add to the usefulness of the tools within the context of problem gamblers seeking formal help.

- The recommended instrument to overcome the current issues and problems comprises a significantly reduced number of questions integrating validated problem gambling screens (Lie/Bet and PGSI[1]), questions relating to dollars lost gambling (expenditure) and control over gambling, and brief questions identifying other comorbid behaviours (including the three-item AUDIT-C for alcohol misuse). This standardised battery can be supplemented by the addition of in-depth screens for comorbid disorders or the use of cultural models of health, to enable organisations to work within a framework that fits with the needs of their cultural client base.
- This covers the clinical need to have a tool that will be useful with a minimal clinical time burden in the therapeutic process as well as meeting the Ministry's need to have a robust and valid dataset that will enable monitoring of people receiving specialist problem gambling services and facilitate comparison with national prevalence data and client populations in other countries.

Recap of screening instruments being trialled[2]

Gambling screens

Use in helpline and face-to-face clinics



[1] Problem Gambling Severity Index from the Canadian Problem Gambling Index.

[2] Some of the recommended instruments detailed have not previously been evaluated within a New Zealand context. Thus their usability in the specific cultural contexts of New Zealand (especially Maori, Pacific and Asian populations) is not known. Likewise, the usefulness of the screens for different gender and age groups have not previously been adequately ascertained. However, it is important to note that service providers currently use screening tools with which there is evidence of dissatisfaction and that the data collected from use of these screens are sometimes invalid or inaccurate. The aim of this new set of recommended screening instruments is to find a balance between functionality for the counsellor and for the national database.

To assess therapeutic change over time it was recommended that a reduced time frame PGSI, be utilised at follow-up assessments, as necessary.

Other screens

Culture
Information from this project clearly indicated a need for cultural appropriateness when screening and assessing gambling-related clients. As this will vary depending on the organisation providing the service, it was recommended that ethnic-specific services should also use whatever assessment processes are culturally appropriate for their organisation, in addition to using the recommended screens detailed previously.

In-depth alcohol and depression/anxiety screens
As there were mixed participant responses relating to the usefulness of using in-depth screens for issues such as alcohol misuse, depression and anxiety, it was recommended that these screens are not used routinely with clients but are used at the discretion of the counsellor. The choice of screen used should be an organisational decision; however, in terms of alcohol misuse/dependence there was good agreement by participants in Phase One of this study that the AUDIT was useful. At a key stakeholder meeting, the three-question AUDIT-C was approved as the instrument of choice and was included as part of the comorbidity questions being trialled.

Alcohol and drug treatment services
Rehabilitation trust participants stated the need for a gambling screen to assess comorbidities with alcohol and drug dependence. It was recommended that the full Canadian Problem Gambling Index (CPGI) be used in this setting.

Integrated Continuing Care
The purpose of screening/assessing a client during the Integrated Continuing Care process is to ascertain behavioural change, including level and control over gambling. It was recommended that for those clients the nine-item PGSI be used (in a shortened timeframe to fit with the time interval between follow-up calls) together with the Dollars Lost and Control over Gambling assessments.

Phase Two methodology

As many new and returning clients as possible, within a three-month time frame, were recruited by counsellors of problem gambling treatment services to take part in the trial of the screening/assessment instrument/s recommended from Phase One of this project. The trial ran alongside the currently used screening and assessment process to allow comparison between the current process and the 'new' recommended process, and also to allow continuity of data collection for the national and organisational databases. Responses to the screening/ assessment instrument/s being trialled were obtained by the counsellor asking the client the questions or by the client self-completing the questions (face-to-face counselling services) or through the counsellor eliciting responses during the clinical interview using motivational interviewing techniques (helpline). Counsellors also completed feedback forms relating to the functionality and utility of the trialled screening/assessment instrument/s.

All data were analysed quantitatively. Results of the trial were compared with the results of the analysis of archival data from Phase One to ascertain the advantages of using the recommended screening instruments over those currently used.

Phase Two results and discussion

Fifty-three participants were recruited from face-to-face problem gambling counselling services. This was a smaller sample than intended; a consequence of concurrent demands on services for participants for other research projects, the short (three-month) time frame for the trial, low numbers of clients accessing services during that time, and the volume of paperwork required to be completed per client (standard mandated screening battery plus trial questionnaire.

The sample recruited from the telephone helpline was substantially larger (262). However, the way counsellors completed questionnaires (responses to questions gathered through the motivational conversation between counsellor and client rather than the client being directly asked the questions) lead to a significant amount of missing data.

Whilst the foregoing places some constraints on conclusions drawn from the trial, the study has generated much useful information.

Helpline

Due to the modus operandi of the helpline (since there is a need to build an immediate rapport with clients who are often in crisis) where clients are not asked direct questions, it appears that the use of a problem gambling screen is of limited value since items may not be completed (i.e. any screen scores obtained will not be robust and thus not comparable with other data). Additionally, any screen requiring multiple option answers (as opposed to dichotomous responses) will also be difficult to administer under such circumstances. However, results from the trial indicted that brief screens such as the two-item Lie/Bet in conjunction with questions relating to the participant's perception as to whether they feel they have a problem with gambling (ever and current timeframes) (which could be easily ascertained through the conversation without the need to ask the participant) are useful to indicate the participant's status as a problem gambler. Use of the PGSI with its multiple response format was problematic given the method of obtaining responses (a significant proportion of missing data); nevertheless, a high level of internal consistency was obtained in Cronbach's alpha analyses (all values exceeded 0.9).

For participants who are telephoned by the helpline at regular intervals following face-to-face counselling (Integrated Continuing Care clients - ICC) it was seen (despite the previously mentioned limitations) that these participants skewed towards the lower end of PGSI scores (non-problem gambler through to moderate risk gambler) compared with new and returning helpline callers who skewed towards the higher end of the score (problem gambler). This is expected given the participant type and indicates that, overall, the PGSI has some value within the helpline context even when not all items are answered. Given that the helpline currently uses a non-validated questionnaire based on the DSM-IV gambling criteria, it may be preferable for the validated PGSI to be used. The PGSI scores obtained in the trial correlated well with SOGS-3M scores for ICC participants. However, as a tool for assessing change over time, the sensitivity of the PGSI has not yet been ascertained. In this trial, the time frame of the PGSI was varied dependent on the time frame of the follow-up call to the participant. This needs to be standardised and trialled.

To put Dollars Lost (in the previous month) figures into perspective, questions on total household income were included in the trial. Household income was not documented for any helpline participants, possibly because this is unlikely to be a topic that comes up in general conversation. This is not considered to be of importance in the helpline context since the expenditure question is only asked of ICC clients (and not of new/returning clients) as a measure of ascertaining control over gambling following counselling/treatment. As household income will have previously been obtained by the face-to-face service attended by

the client, subsequent expenditure on gambling can be matched to previously recorded income levels. There appeared to be no problems in the helpline context for ascertaining participants' perceptions of control over gambling (ICC participants) or suicidality (all participants).

Samples sizes were too small to draw firm conclusions relating to differences in gender or ethnicity.

No feedback forms were received from helpline counsellors so their perceptions as to the utility and effectiveness of the trial process could not be ascertained.

Face-to-face counselling services

As with the helpline participants, use of the Lie/Bet screen plus questions relating to participants' perceptions of whether they have a problem with gambling (ever and current) appeared to be a useful indicator of problem gambling status. This could be used in the initial rapport-building stage with the client and then followed with the PGSI. The PGSI had high internal consistency in Cronbach's alpha analyses though the question relating to criticism (Q6) had reduced reliability. Problem gambler classifications using the PGSI generally matched the problem gambler category (score 3+) with the SOGS-3M with only one discrepancy (participant classified as moderate risk gambler on PGSI but non-problem gambler on SOGS-3M).

Assessment of expenditure on gambling in the previous month (Dollars Lost) had a statistically significant association with total household income, demonstrating the importance of including assessment of household income in the screening battery.

As part of the trial, leader questions for comorbid behaviours (alcohol, other drug use, depression, self-harm, and family concern) were used instead of blanket screening for the major comorbid disorders (this was identified as a preferable option from Phase One of the project). In this regard, the three-item AUDIT-C was trialled instead of the full AUDIT which is currently used to screen for alcohol misuse/dependence. The leader questions and AUDIT-C appeared to be effective in flagging comorbid behaviours and allowed the counsellor to make their own judgement as to whether to perform a full screen for any particular comorbid behaviour.

Samples sizes were too small to draw firm conclusions relating to differences in gender or ethnicity.

Counsellor feedback regarding the use of the trial screening instruments/questionnaire indicated that it was an improvement over the currently used screening battery, and that it also was a practical tool aiding the therapeutic process. There were some issues in terms of participant comprehension of certain questions, notably the expenditure question and those relating to comorbid behaviours. Translation of the questionnaire was also an issue raised for participants for whom English was not their native language.

Alcohol and drug rehabilitation trust

Participants at an alcohol and drug rehabilitation residential centre completed the full Canadian Problem Gambling Index (CPGI). The currently used problem gambling screen used at this centre is an in-house developed screen incorporating the SOGS plus various health and comorbid behaviour questions. The CPGI appeared to work well in this context and favourable counsellor feedback was received indicting satisfaction with the screen and its usefulness in the therapeutic process for at least some of the time.

Conclusion

Modest sample sizes due to a low number of participants (face-to-face counselling services) or due to a significant proportion of missing data (telephone helpline) have precluded the possibility for firm conclusions to be drawn regarding the effectiveness or utility of the trialled questionnaire (including specific gambling screens). However, there are strong indications are that the trialled questionnaire has potential and advantages over the currently mandated screening instruments.

Recommendations

- The screening instruments trialled in this project should probably be evaluated further
- The trial needs to extend to ethnic-specific services
- The PGSI needs to be robustly assessed in the clinical population
- The trial of the PGSI should be concurrent with a validated screen of similar length
- Treatment providers should participate fully in any subsequent trial of screening instruments
- Whether a standardised screening instrument should be used for all service provider organisations should be considered
- The time frame for follow-up ICC clients should be standardised
- Some of the health-related questions should be reworded
- Counsellors need to receive standardised and formal training in the use and interpretation of screens
- Counsellors should complete the screens/questionnaires with their clients

1. BACKGROUND

2.1 Introduction

In October 2004, the Problem Gambling Committee commissioned the Gambling Research Centre, Auckland University of Technology to undertake a project investigating the problem gambling-related assessment and screening instruments currently utilised by problem gambling and other service providers within New Zealand. In December 2004, the Ministry of Health assumed responsibility for Problem Gambling Committee projects and thus for the funding of this project.

The primary objectives of the project were to:

1. Review the assessment and screening instruments currently used in New Zealand and internationally for the assessment of problem gamblers at both the clinical and primary health levels including by the telephone helpline
2. Following the review, to recommend a full set of screening and assessment instruments to be used in the clinical treatment of problem gamblers and potentially in primary health settings; selected instruments should be able to be used to monitor client progress in follow-up assessments
3. To pilot the recommended screening and assessment instruments in order to test the application of these screens in the New Zealand setting

Given the time frame and budget for the project and following discussion with John Hannifin, on behalf of the Problem Gambling Committee, primary health services were excluded from the project and the focus was centred on specialist problem gambling clinical settings.

2.2 Research design

The research was conducted in two phases.

Phase One

- Review screening and assessment instruments currently used by Ministry of Health funded problem gambling service providers
- Ascertain what problem gambling service providers want to achieve by screening and assessing clients
- Ascertain how problem gambling service providers use current screening and assessment data and whether the screens/assessments deliver the required information (including in terms of cultural/ethnic variations and requirements)
- Review national and international literature pertaining to problem gambling screening and assessment instruments
- Determine item analysis/internal consistency of SOGS-3M and DSM-IV
- Recommend problem gambling screening/assessment instruments for use within a New Zealand context

Methodology, results, discussion and recommendations arising from conduct of the first phase have been reported separately in the Phase One report for this project (Bellringer, Abbott, Volberg, Garrett & Coombes, 2007).

Phase Two

- Trial the recommended screening/assessment instruments to ascertain effectiveness and usefulness

Methodology, results, discussion and recommendations arising from conduct of the second phase are reported in this document.

2.2.1 Phase One

1) The first phase of the project involved four components, some of which occurred concurrently.

Component A

- Review screening and assessment instruments currently used by Ministry of Health funded problem gambling service providers
- Ascertain what problem gambling service providers want to achieve by screening and assessing clients
- Ascertain how problem gambling service providers use current screening and assessment data and whether the screens/assessments deliver the required information (including in terms of cultural/ethnic variations and requirements)

The aims of this component were to discover what service providers are seeking to achieve when screening/assessing problem gamblers, in each setting, and current practice in terms of how each provider uses the screens/assessment results, including discussing results with clients.

Concurrently, it was important to establish what each service area was currently using to screen/assess problem gamblers and whether the current screens/assessments delivered required information. This included a review of the measures used in Ministry of Health funded services (i.e. SOGS-3M, Dollars Lost, Control over Gambling, Family/Whanau Checklist and other measures such as depression screens, substance misuse/dependency screens and suicidality screens). If service providers felt that the current screens/assessments did not deliver the required information or could be improved, the aim was to find out what was required taking into consideration inter-agency collaboration such as Integrated Continuing Care between the helpline and face-to-face services. A further important area to assess was whether the current measurements were ethnic-specific/reliable and valid for use with people from different ethnicities.

The project also aimed to obtain each service provider's view on using a standard problem gambling screen across all settings and ascertain whether there were any preferences. Additionally, each service provider's view on adding a measure of more general psychopathology, for example the GHQ-12, or more specific comorbidities (e.g. alcohol misuse/dependence, drug misuse/dependence) were ascertained.

Interviews and focus groups were conducted with representatives of service providers to obtain the required information.

Component B

- Review national and international literature pertaining to problem gambling screening and assessment instruments

This involved an in-depth review of national and international literature on available problem gambling psychometric tools/screening instruments. This included general health index screens for the measurement of harms experienced by problem gamblers as well as conventional problem gambling screens. The review was conducted via: interlibrary loan,

electronic bibliographic indexes accessed via on-line database searches, specialist libraries accessed via web-based searches and searches through personal collections, and professional and informal networks contacted via personal communications and discussion groups.

The results of the literature review were used to inform the recommendations made at the conclusion of Phase One.

Component C

- Determine item analysis/internal consistency of SOGS-3M and DSM-IV

Assessment of archival data from the Ministry of Health national problem gambling face-to-face dataset (CLIC database) and from the Gambling Helpline database was conducted to determine item analysis/internal consistency of SOGS-3M and DSM-IV (where possible). The aim was to look at 100[3] records per screen per ethnic group (European/Pakeha, Maori, Pacific, Asian) and also within gender and age groups, where possible. The relevance of these screens to the Problem Gambling Severity Index (PGSI) nine-item screen and to the Victorian Gambling Screen[4] was assessed. This part of the study relied heavily on data being available, accessible and of a standard and quality to enable rigorous evaluation. Where the data were missing or not of rigorous quality, this component was modified in terms of numbers of records accessed and analysed.

This component of the study was used to give an indication of how well the two most widely used problem gambling screens in New Zealand service settings perform with clients from major ethnic groups, as well as with males, females and different age groups. Performance was measured from both a practical data collection and quality level, through to validity measures such as the internal consistency of the screens. It also advanced understanding of similarities and differences between these groups with respect to the nature of their gambling problems. Information on screen performance contributed to the recommendations made regarding the screening instruments trialed.

Component D

- Recommend problem gambling screening/assessment instruments for use within a New Zealand context

Two international experts (counsellor/researcher experienced in various aspects of problem gambling) were consulted and a meeting of national service providers and other key stakeholders was held to reach recommendations on initial assessment categories. The international experts came from countries where gambling treatment and research are established (Canada and USA). Some of the national service providers invited to the meeting were the same stakeholders involved in the earlier components of the research. This was practical and also allowed them to continue being involved in the research process by having the opportunity to refine/comment on initial recommendations and how these would impact on their work within their organisations.

2.2.2 Phase Two

The second phase of the project involved trialling the problem gambling screening/ assessment instrument/s recommended from Phase One. The national telephone helpline and face-to-face counselling services were involved in the trial which included the current Integrated Continuing Care follow-up programme, to ascertain usefulness and effectiveness of the recommended measures. As part of the trial, the instruments' sensitivity to change was

[3] This number was chosen as being sufficient to allow a breakdown of analyses by ethnicity; the number was constrained by available project time and budget for accessing records.
[4] These screening instruments were specified by the funder in the contract for this project.

assessed as this is an important aspect when multiple client assessments are made such as at follow-up interviews in the Integrated Continuing Care programme. At this stage, it is pertinent to note that the counsellors in the various treatment organisations are not conducting formal psychiatric diagnoses with their clients; they are assessing clients for problem gambling and a variety of other potentially comorbid disorders. The information gained is ideally used to improve therapeutic relationships and outcomes by, for example, aiding the development of a treatment plan, or aiding the understanding of the nature and extent of the problem by the client and/or counsellor.

Phase Two involved cognitive testing of the measures for use in the New Zealand context, followed by trials in the relevant service settings. The performance and utility of the proposed new measures were compared with those currently used.

2. RESEARCH METHODOLOGY

2.1 Ethics approval

The Phase Two project proposal was submitted to the Multi-Region Ethics Committee which is a Health Research Council accredited human ethics committee. All participant materials (i.e. information sheet, consent form, interview questionnaires) and relevant documents were submitted to the committee, which considers the ethical implications of proposals for research projects with human participants where health related issues are being researched.

Ethics approval to proceed with Phase Two was obtained on 7 December 2006 (Appendix 1).

During the research the following measures were taken to protect the identity of the participants:

- All participants were allocated a code by the research team to protect their identities
- No personal identifying information has been reported
- All data accessed from the Gambling Helpline database and Ministry of Health National Counselling Statistics CLIC database had client identifying details removed prior to being given to the research team. Confidentiality statements were signed by the researchers relating to these data
- Participants at face-to-face treatment provider organisations were informed that participation in the research was voluntary and that they could withdraw at any time prior to analysis of data

2.2 Pilot testing

Prior to the Phase Two trial, the recommended screening instruments/questions were pilot tested (cognitively tested) to identify any issues with wording and/or language. The pilot test was conducted with a focus group of six counsellors from many of the participating service provider organisations, ensuring a mix of ethnicities and including gender representation. Two other participants were also given the opportunity to comment, via Email.

The wording of the some of the questions to be trialled was slightly refined following the pilot testing focus group. Refinement was purely in terms of language/wording to ensure comprehension by various ethnic groups. No refinement was made to questions from validated screening tools.

2.3 Training

Representatives (as many counsellors and managers as possible) of the participating service provider organisations received a training session at which the background to, and purpose of, the trial and the reason why the questions/screens have been chosen was explained. They then received training in how to administer the questions (i.e. information about which questions comprised validated screens and which, therefore, should be asked without change, and which were leader questions to provide information that could help in the therapeutic process) and how to interpret scores (where relevant), which can then be used to aid in the therapeutic process. Thus, the counsellors received information as to the use and purpose of each question that they will be asking of their clients. This was intended to show the

counsellor the value of each question and the importance of asking specific questions without changing the wording. The training was given by the project researchers. The trained counsellors disseminated the information to their colleagues who are also involved in the trial but who were unable to attend the training sessions. Each service provider organisation had an individual training session with each session lasting between one to two hours. For the two national face-to-face counselling organisations, training was provided in the major regions of Auckland, Wellington and Christchurch.

2.4 Trial of screening instruments

The screening instruments trialled are detailed in Appendices 2 and 3. In recognition of different processes and to ensure minimal burden on the participating organisations and their clients, different questions were trialled by different types of organisations (as detailed within the Appendices). All the counselling organisations which took part in Phase One of the project participated in Phase Two.

As many counsellors as practically possible, within each of the participating services, participated in recruiting new and returning clients for this trial over a three-month[5] period. It was hoped that a representative sample of new Maori, European, Pacific and Asian clients (approximately 250 helpline clients and 250 face-to-face clients[6]) would be recruited in this way to trial the recommended screening instruments in the available time frame. The trial ran alongside the current screening and assessment processes of new clients for two reasons: a) to allow comparison between the current process and the 'new' recommended process, and b) to allow continuity of data collection for the national/organisational databases.

At this stage, it is pertinent to reiterate that the counsellors in the various treatment organisations are not performing formal psychiatric diagnoses with their clients; they are assessing clients for problem gambling and a variety of other potentially comorbid disorders. The information gained is ideally used to improve the therapeutic relationship by, for example, aiding the development of a treatment plan, or aiding the understanding of the nature and extent of the problem by the client and/or counsellor. As part of the recommended screening instruments, we have recommended the use of the Problem Gambling Severity Index (PGSI) or the full Canadian Problem Gambling Index (CPGI) (dependent on organisation - see later in this section). Whilst the CPGI was developed as a general population screen it is currently being assessed in Canada for its utility as a clinical tool. In recommending that the PGSI/CPGI are used in this trial, we anticipated that these instruments would be shown to have utility in the current New Zealand treatment settings for the purpose of identifying problem gamblers and their level of problems as part of a broader screening process. The CPGI and its short form, the PGSI, were chosen as being a short screening and assessment tool that is currently in use internationally.

Helpline

Telephone helpline clients are often in crisis when they contact the service. Helpline counsellors, therefore, usually do not ask their clients screening questions but assess and score answers to questions gained through the clinical interview process which elicits information

[5] This time frame was requested by the funder. For the telephone helpline, the trial period was only nine weeks due to the start of a national problem gambling social marketing campaign which overlapped with the project trial and for which the helpline had to provide additional resources in terms of dealing with ensuing effects from the campaign.

[6] 250 helpline and 250 face-to-face clients is the number that was reasonably expected to be recruited in the time frame given known numbers of clients accessing these services in previous years, the current slightly downward trend in numbers of new presenting clients and given that a substantial proportion of clients may be in crisis and, therefore, be unsuitable as participants in this research.

from the client through the use of motivational interviewing techniques. For this project, it was recommended that questions 1 to 13 (Lie/Bet through to PGSI) detailed in Appendix 2 were used with new and returning gambler clients (as opposed to family members or other callers), with responses ascertained through the interview process. Since this was a trial of these screening questions, if responses to some questions were not obvious from the immediate clinical interview and if it was warranted, the interview could be steered so that responses could be obtained to the remaining questions. If some questions were still unanswered after this process, they were documented as being 'not answered'. Additionally, since this was a trial, if negative responses were received to the first three questions, the remaining questions were also scored, if possible.

Helpline clients were also scored for the suicide question that is currently part of their screening process.

Additionally, the helpline could use alcohol, anxiety and depression screens, at their discretion. If any of these were used, the instrument or model used was documented. It was recommended by the research team (based on feedback from Phase One) that the AUDIT-C was trialled as an alcohol use screen.

With new Integrated Continuing Care clients[7], questions 5 to 16 (PGSI, Control over gambling and Dollars Lost) detailed in Appendix 2 were asked of clients, so that correlations could be made with previous scores on those questions for those clients when they were at the face-to-face counselling service.

'Significant other' clients continued to be assessed in the current manner since results from Phase One of the study indicated that no changes were needed to this assessment. Therefore, this assessment instrument was not trialled.

Face-to-face counselling services

New and returning clients were asked questions 1 to 25 from Appendix 2 (Questions 1 to 16: Lie/Bet through to PGSI, Control over Gambling and Dollars Lost; questions 17 to 25: assessment of comorbid behaviours). Since this is a trial, if negative responses were received to the first three questions, the remaining questions were still asked.

Additionally, organisations could also follow an appropriate cultural model of health and use anxiety and depression screens, at their discretion. If any of these were used, the instrument or model used was documented.

Clients were taken through the questions, consent form and participation information sheets by the counsellor. The counsellor administered the questionnaire or the client was given the questions to self-complete during the counselling session, or to take home and self-complete. The counsellors collated the relevant information and passed it on to the researchers.

It was recommended (Appendix 2) that 'significant' other clients should continue to be asked the Family/whanau checklist (which is currently in use). Therefore, this assessment instrument was not trialled.

Alcohol and drug rehabilitation trust

New admissions to the participating alcohol and drug rehabilitation trust were asked the full CPGI as detailed in Appendix 3. Clients were taken through the questions, consent form and

[7] Integrated Continuing Care is a process whereby clients who so wish receive a telephone call from the helpline at specified intervals after the client has commenced/completed face-to-face counselling. The contact continues for 18 months and is a support mechanism for many clients.

participation information sheets by the counsellor and then the questions were given to the clients to complete as a self-report questionnaire during the usual assessment process.

All participating counsellors

Finally, participating counsellors were given a short questionnaire to complete regarding their satisfaction with the recommended screening and assessment questions. The questionnaire assessed the usefulness of the recommended questions in terms of ease of use, comprehension, impact on the therapeutic process, and future use (see Appendix 4). It also allowed counsellors to comment on whether there was any need to explain or clarify questions to clients; this identified issues with using these screening instruments and questions as a self-report questionnaire.

2.5 Data analysis

All data are quantitative and were analysed using the SPSS version 14.0 and SAS version 9.1 statistical packages. Results of open-ended questions were coded and analysed quantitatively. Analyses were undertaken at item- and scale-level. Item-level analyses included the determination of mean, distribution characteristics and internal consistency of each item, specifically for the gambling-related questions (questions 1 to 16 from Appendix 2 and all questions from Appendix 3) and also, where appropriate, for the comorbid behaviours questions (questions 17 to 25 from Appendix 2). These analyses were conducted for the total sample from each service provider organisation type (i.e. helpline, face-to-face counselling services, and alcohol and drug rehabilitation trust) and separately for European and Maori groups. Sample sizes were too small to allow ethnicity analyses for Pacific and Asian samples. Where sample sizes allowed, these analyses were also conducted with respect to gender. Samples sizes were too small to allow analyses with respect to age.

The trialled screening tool results were compared with the results of the relevant presently utilised screening tools using measures of agreement such as the spearman correlation and chi-square statistic (χ^2) or fisher's exact test, where applicable. The Bland-Altman limits of agreement (Bland & Altman, 1986) were also proposed, however, with the very limited amount of data available this was deemed to add little value and was not performed.

A limited assessment of the Problem Gambling Severity Index's sensitivity to change (questions 5 to 13 in Appendix 2) was made with respect to results obtained from Integrated Continuing Care clients. This was limited due to the high proportion of clients expected to only make single contact with an organisation and the fact that differing time frames were utilised dependent on the time frame of the follow-up call to the client.

3. RESULTS

The three-month trial of the questionnaires did not give the anticipated number of face-to-face problem gambling participants, with only 53 recruited. Reasons for this low participant rate are discussed later. The number of participants recruited from the telephone helpline (N=385) and alcohol and drug rehabilitation trust (N=29) was significantly greater than expected in the time frame. However, these numbers reduce as statistical rigour and validation come into the analysis process. In addition to these participant responses, a number of feedback forms were also received from the counsellors who administered the questionnaires to the participants. The feedback forms were completed with comments on the use of the questionnaires with specific clients (or types of clients) or about the trial questionnaire in general. Table 1 summarises the numbers of questionnaire and feedback data obtained.

Recruitment of face-to-face participants (problem gambling, and alcohol and drug) in the research was determined by the counsellors, who considered the suitability of their clients for the project (e.g. taking into account clients' mental health). The counsellors were asked to complete a refusal form if clients declined to take part in the research after being asked. Only two refusal forms were completed during the trial. For the telephone helpline, as the methodology used by the counsellors involved clients not directly being asked any of the trial screens/questions, with responses ascertained (where possible) through the conversation/ discourse, refusals were not an issue.

Table 1 - Trial questionnaire participant and feedback form numbers

	Number collected	**Number with complete information[8]**
Participants		
Helpline new and returning clients	262	86
Helpline Integrated Care Clients	123	102
Face-to-face problem gambling	53	31
Alcohol and drug	29	29
Counsellor feedback		
Feedback forms (helpline)	0	n/a
Feedback forms (face-to-face problem gambling)	29	n/a
Feedback forms (alcohol and drug)	26	n/a

[8] Information on helpline and face-to-face participants with regard to demographics and other screening information was obtained through existing databases, where possible, in order to minimise the burden on the counsellors during the trial. Therefore, participants with complete information are those where questionnaire and database information were both available.

3.1 Telephone helpline

Two groups of telephone helpline clients took part in this trial, those who were new or returning and those who were Integrated Continuing Care (ICC) follow-up clients. Neither group was asked the trial questionnaire questions directly; instead the counsellors were encouraged to assess and score answers to questions gained through the clinical interview process. This is the standard practice used by the telephone helpline to obtain screening information from clients, and involves the counsellor eliciting information from the client through the use of motivational interviewing techniques.

Of the total 385 participants, only 188 were able to be matched to the helpline's database. Where matching was not possible, this was because identifiers were not available, participants had inadvertently been given multiple identifiers for the project (e.g. if the client called the helpline on more than one occasion) or if there was not enough information to match the clients. Database matching was required to add information such as demographics and scores from the helpline's current screening process[9]. The number of 385 has been used for analyses where demographic information was not required; however, where analysis with demographic information occurred or comparisons were made with other screening information, the number was reduced to 188.

3.1.1 Demographic information

Table 2 presents the demographics of the 188 participants which were able to be matched with the database. There was an even split between gender with 54% male and 46% female participants. The participant ages ranged from 19 to 66 years with a median age of 39 years; however, age was not reported for 30% of participants. Just over half the participants who identified themselves with an ethnicity did so as European (56%), a quarter identified as Maori (26%) and seven percent each identified as Pacific or Asian. In line with the New Zealand population spread, the three largest regions represented by the participants were Auckland (30%), Wellington (18%) and Canterbury (20%). Outside these three main centres, Bay of Plenty had the highest representation with nine percent of participants. Seventy-six percent of participants identified pub/club gaming machines as their primary mode of gambling and a further 10% identified casino gaming machines.

[9] These data were not collected as part of the trial to reduce multiplication of effort and the burden on the counsellors since the data were concurrently collected for the database.

Table 2 - Helpline demographics

	N	Percentage
Gender		
Male	101	54%
Female	87	46%
Ethnicity		
European	75	56%
Maori	35	26%
Pacific	10	7%
Asian	9	7%
Other or multiple	6	4%
Not recorded	53	-
Region		
Northland	5	3%
Auckland	56	30%
Waikato	9	5%
Coromandel/Thames Valley	1	1%
Central North Island	3	2%
Bay of Plenty	17	9%
Gisborne/Hawkes Bay	4	2%
Manuawatu/Wairarapa	5	3%
Taranaki	1	1%
Wellington	33	18%
Marlborough/Nelson	5	3%
West Coast	1	1%
Canterbury	37	20%
South Canterbury	4	2%
Otago	5	3%
Southland	2	1%
Primary Gambling Mode		
Casino gaming machines	14	10%
Casino tables	6	4%
Pub/club gaming machines	105	76%
Internet	1	1%
Sports betting	3	2%
Track betting	10	7%
Not recorded	49	-

3.1.2 Screening instrument trial

Participants from the telephone helpline fell into one of two groups: new and returning clients or Integrated Continuing Care clients (ICC). For the purpose of this trial each group had different questionnaires due to the different reasons for contact with the helpline - ICC clients are clients that are followed-up by the helpline after they have received face-to-face counselling. See Appendix 2 for details regarding the questions trialled with each group of participants.

New and returning clients (n=262) - Lie/Bet and 'ever/current problem with gambling' questions

All new and returning clients were asked the Lie/Bet and ever had/currently have problem gambling screening questions. Table 3 examines the response rates for each of these questions. Approximately 80% of the participants reported answers to either of the ever/current problem questions, whereas only 60-70% of the participants responded to either of the Lie/Bet questions. The data missing from the new and returning participants was where topics had not been covered during the motivational interviewing process and do not indicate that the participant had declined to respond to a direct question.

Table 3 - Helpline response to Lie/Bet and 'ever/current problem with gambling'

	Answered		Not asked or discussed		Not Answered	
	N	(%)	N	(%)	N	(%)
Ever had a problem with gambling?	219	(84%)	31	(12%)	12	(5%)
Currently have a problem with gambling?	205	(78%)	35	(13%)	22	(8%)
Ever felt the need to bet more and more money?	180	(69%)	66	(25%)	16	(6%)
Ever had to lie to people about how much you gambled?	158	(60%)	82	(31%)	22	(8%)

Examining the responses of the participants who answered these questions (Table 4), there were five participants who indicated they had never had a problem with gambling. Only one of these responded negatively to both Lie/Bet questions and both questions relating to perception of problem gambling. Of the other four, one of these had answered yes to both Lie/Bet questions, one had responded affirmatively to the need to bet more and more money, and the other two were regular callers to the helpline. If a positive response to one of these four questions is taken as an identifier of a problem gambler, only the last two participants of the four would not have been identified as such.

Table 4 - Helpline summary of Lie/Bet and 'ever/current problem with gambling'

	Yes		No	
	N	(%)	N	(%)
Ever had a problem with gambling?	214	(98%)	5	(2%)
Currently have a problem with gambling?	183	(89%)	22	(11%)
Ever felt the need to bet more and more money?	154	(86%)	26	(14%)
Ever had to lie to people about how much you gambled?	115	(73%)	43	(27%)

Examination of the combination of responses to the whole set of these questions (Table 5) showed that only 144 out of the total 262 relevant participants (55%) had responses to all four questions. When looking at the participants who had responded to the four questions, it can be seen that only one participant responded negatively to all four with 99% of participants responding positively to at least one question. The majority of participants (66%) responded positively to both Lie/Bet questions and also to ever having a problem with gambling as well as currently having a problem with gambling.

Table 5 - Helpline individual responses to Lie/Bet and 'ever/current problem with gambling'

Ever had a problem	Currently have a problem	Bet more	Ever Lie	Number	Percentage
No	No	No	No	1	1%
			Yes	-	-
		Yes	No	-	-
			Yes	1	1%
	Yes	No	No	-	-
			Yes	-	-
		Yes	No	-	-
			Yes	-	-
Yes	No	No	No	3	2%
			Yes	1	1%
		Yes	No	3	2%
			Yes	3	2%
	Yes	No	No	10	-
			Yes	6	4%
		Yes	No	21	15%
			Yes	95	66%
Total				144	-

Note: data with missing values or questions not asked (n=118) have been eliminated from this table

ICC clients (n=123) - Control over Gambling, Dollars Lost and self-harm questions

ICC clients are telephoned by helpline counsellors at set intervals following completion of face-to-face counselling. The time frame utilised for the trial PGSI questions varied depending on when the call was made with the questions reframed to cover the period since the last call. For example, at the one-month call the time frame covered the past month, at the three-month call the time frame covered the previous two months. The distribution of participants across this time scale was relatively even. Forty-seven percent were from the three months or less follow-up call and 49% were from the six months or over follow-up call (see Table 6).

Table 6 - Time frame distribution of ICC participants

	N	Percentage
1 month call	19	15%
3 month call	39	32%
6 month call	31	25%
12 month call	15	12%
18 month call	15	12%
Time period not reported	4	3%

ICC participants were generally seen to have complete (50%) or some control (42%) over their gambling. This is to be expected given that these participants have completed face-to-face counselling. Only one person indicated thoughts of self-harm; however, this is considered to be an important question given the potential for serious consequences from self-harm (e.g. suicide). Only in a very small minority of cases were responses ascertained around comorbid disorders such as depression and, to a lesser extent, anxiety. Alcohol misuse/ dependency did not appear to be ascertained amongst the participants in the trial.

The Dollars Lost question was discussed by the helpline counsellors with most of the ICC participants, with the majority (72%) reporting zero dollars lost in the previous month (Table 7). The question relating to household income, incorporated to give some perspective

to the amount lost on gambling, did not occur during the course of the telephone helpline conversations with participants and, therefore, was unable to be reported. No reason for this omission was given by the counsellors but is possibly due to the difficulty in ascertaining total household income during a process whereby direct questions are not usually asked of the client.

Table 7 - Summary of Control over Gambling, self-harm and Dollars Lost questions (ICC)

	N	Percentage
Control over gambling		
Complete control	57	50%
Some control	48	42%
Little control	7	6%
No control	1	1%
Not asked or discussed	6	-
Missing	4	-
Have you had thoughts of suicide/self harm?		
Yes	1	2%
No	47	98%
Not asked or discussed	55	-
Missing	20	-
Dollars Lost		
$0	66	72%
$1 - $200	19	20%
$201 - $ 1,000	5	5%
$1,001 - $ 2,000	1	1%
$2001+	1	1%
Not asked or discussed	23	-
Missing	8	-

3.1.3 PGSI results: New and returning plus ICC participants

The nine PGSI questions were included in the questionnaires for both groups of helpline participants (new and returning and ICC) (n=385). In this section all analyses have been conducted with the combined ICC and new/returning client data, to ensure maximisation of available data for analysis. When the counsellors completed the questionnaire forms for each participant, they had the option to mark if a topic area/question was not discussed in the conversation and an option to mark if the topic/question was discussed but the client did not respond or refused to respond. This allowed for differentiation of the missing data. Table 8 displays response rates for each question.

Overall, there were similar low rates for all questions in the not answered category. As discussed in the methodology section, the questions were not directly asked of participants with responses ascertained from the discussion with clients, as occurs in the current screening process. The three PGSI items that had the highest number of non-response due to the topic not being discussed (over 40%) were question 4 (Borrowed money or sold anything to get money to gamble?), question 6 (People criticised your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?) and question 8 (Gambling caused you any health problems, including stress or anxiety?).

Table 8 - Helpline PGSI responses

PGSI items	Answered		Not asked or discussed		Not answered	
	N	%	N	%	N	%
1. Bet more than you could really afford to lose?	306	(79%)	72	(19%)	7	(2%)
2. Needed to gamble with larger amounts of money to get the same feeling of excitement?	265	(69%)	117	(30%)	3	(1%)
3. Gone back another day to try to win back the money you lost?	267	(69%)	115	(30%)	3	(1%)
4. Borrowed money or sold anything to get money to gamble?	207	(54%)	174	(45%)	4	(1%)
5. Felt that you might have a problem with gambling?	307	(80%)	74	(19%)	4	(1%)
6. People criticised your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?	223	(58%)	159	(41%)	3	(1%)
7. Felt guilty about the way you gamble, or what happens when you gamble?	291	(76%)	88	(23%)	6	(2%)
8. Gambling caused you any health problems, including stress or anxiety?	217	(56%)	163	(42%)	5	(1%)
9. Your gambling caused any financial problems for you or your household?	276	(72%)	104	(27%)	5	(1%)

Table 9 overleaf examines the participants' responses[10] to each item, where there was a response. The items where a low percentage of participants responded 'never' (i.e. were most relevant to participants), were question 5 (Felt that you might have a problem with gambling?) (13%) and question 7 (Felt guilty about the way you gamble, or what happens when you gamble?) (19%). The item with the highest response of 'never' was question 4 (Borrowed money or sold anything to get money to gamble?) with 57% of participants responding 'never' to this question during their discussion with the counsellor.

[10] Responses were obtained through the process of motivational interview and not via directing asking of the participant.

Table 9 - Helpline distribution of responses to PGSI questions

PGSI items	Mean Score	Never (0)		Sometimes (1)		Most of the time (2)		Almost always (3)	
		N	%	N	%	N	%	N	%
1. Bet more than you could really afford to lose?	1.32	89	(29%)	85	(28%)	78	(25%)	54	(18%)
2. Needed to gamble with larger amounts of money to get the same feeling of excitement?	1.18	99	(37%)	60	(23%)	64	(24%)	42	(16%)
3. Gone back another day to try to win back the money you lost?	1.19	93	(35%)	69	(26%)	67	(25%)	38	(14%)
4. Borrowed money or sold anything to get money to gamble?	0.76	118	(57%)	44	(21%)	21	(10%)	24	(12%)
5. Felt that you might have a problem with gambling?	1.60	41	(13%)	103	(34%)	100	(33%)	63	(21%)
6. People criticised your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?	1.06	77	(35%)	81	(36%)	40	(18%)	25	(11%)
7. Felt guilty about the way you gamble, or what happens when you gamble?	1.47	56	(19%)	98	(34%)	81	(28%)	56	(19%)
8. Gambling caused you any health problems, including stress or anxiety?	1.24	66	(30%)	66	(30%)	51	(24%)	34	(16%)
9. Your gambling caused any financial problems for you or your household?	1.30	84	(30%)	84	(30%)	50	(18%)	58	(21%)

Each PGSI item is scored from 0 to 3 depending on the response for that question and then all the scores are summed to calculate the overall PGSI score. The PGSI overall score ranges in value from 0 to 27, which is then categorised into: non-problem gambler (score = 0), low risk gambler (score = 1 to 2), moderate risk gambler (score = 3 to 7) and problem gambler (score = 8 to 27). As the PGSI was not administered as a set of questions directed at the participants but instead was answered during the course of the telephone interview, some of the nine questions were not covered or answered by all participants, and may potentially raise issues about the magnitude of response for each question if they are not directly asked of the participant. The counsellors marked if the missing data was because the topic was not discussed or if the question was not answered or refused; the two are conceptually different and were detailed previously in Table 8.

To accurately score the PGSI ordinarily requires a full complement of items. In order to evaluate the effect of the incomplete information from the PGSI items, data were examined using participants both with a full complement of items and those without. Analyses from participants without a full complement of items had missing data assumed as zero. This comparison may be useful since within the counselling process, screens are not always able to be completed. It also increased the numbers from 123 to 350 for further analysis. Both data sets were then categorised according to the usual scoring criteria for the PGSI. It is interesting to note that there was a seven percent reduction in those that fell into the non-

problem gambler category when the additional 262 participants were included assuming missing answers as zero.

Table 10 - Helpline distribution of scores for PGSI

	PGSI score	Full complement of items		Assuming missing are zero	
		N	%	N	%
Non-problem gambler	0	29	23.6%	58	16.6%
Low risk gambler	1	7	5.7%	19	5.4%
	2	4	3.3%	15	4.3%
		11	8.9%	34	9.7%
Moderate risk gambler	3	3	2.4%	16	4.6%
	4	3	2.4%	19	5.4%
	5	2	1.6%	22	6.3%
	6	4	3.3%	20	5.7%
	7	-		16	4.6%
		12	9.8%	93	26.6%
Problem gambler	8	3	2.4%	11	3.1%
	9	2	1.6%	14	4.0%
	10	2	1.6%	17	4.9%
	11	8	6.5%	13	3.7%
	12	1	0.8%	12	3.4%
	13	4	3.3%	13	3.7%
	14	4	3.3%	13	3.7%
	15	8	6.5%	13	3.7%
	16	2	1.6%	9	2.6%
	17	3	2.4%	9	2.6%
	18	2	1.6%	3	0.9%
	19	5	4.1%	7	2.0%
	20	1	0.8%	1	0.3%
	21	1	0.8%	3	0.9%
	22	4	3.3%	5	1.4%
	23	2	1.6%	2	0.6%
	24	2	1.6%	3	0.9%
	25	4	3.3%	4	1.1%
	26	2	1.6%	2	0.6%
	27	11	8.9%	11	3.1%
		71	57.7%	165	47.1%
	Missing	262	-	35	-

The PGSI is being used internationally and thus allows comparison of data between countries. An important aspect of this trial was to look at the New Zealand context and see if this screen would be useful and robust in this country. Analyses of the PGSI results with Cronbach's alpha[11] were undertaken on only those participants that had a full complement of item responses, and indicated that the values all exceed 0.9, demonstrating a very high level of internal consistency. There were no Cronbach's alpha values greater than the total which means all questions were a useful part of the screen; no question lacked value within our participant sample (Table 11).

[11] The Cronbach's alpha test was used to assess internal consistency. A Cronbach's alpha of 0.7 is generally viewed as an acceptable level of internal consistency. With the Cronbach's alpha test, the reliability of any individual item is reduced if its value is above the overall value.

Table 11 - Cronbach's alpha for PGSI questions (helpline)

PGSI items	Cronbach's alpha[#]
1. Bet more than you could really afford to lose?	0.96
2. Needed to gamble with larger amounts of money to get the same feeling of excitement?	0.96
3. Gone back another day to try to win back the money you lost?	0.96
4. Borrowed money or sold anything to get money to gamble?	0.97
5. Felt that you might have a problem with gambling?	0.96
6. People criticised your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?	0.97
7. Felt guilty about the way you gamble, or what happens when you gamble?	0.96
8. Gambling caused you any health problems, including stress or anxiety?	0.96
9. Your gambling caused any financial problems for you or your household?	0.96
Overall	0.97

[#] This analysis was only performed on participants with the full complement of item responses

3.1.4 Comparison of PGSI problem gambler categories with other data

Control over Gambling data were collected from ICC participants. When comparing the perception of level of control with the PGSI problem gambler categories, the analyses showed there was a statistically significant association and that the more control the participant felt, the lower their PGSI score and problem gambler category (Fishers exact test, p-value<0.0001). This analysis also included participants that did not have a full complement of items (i.e. assumed missing item responses were zero) (Table 12).

Table 12 - PGSI compared with Control over Gambling (ICC)

Control over Gambling	PGSI category			
	Non-gambler	Low risk gambler	Moderate risk gambler	Problem gambler
Complete control	44	8	4	1
Some control	5	13	24	6
Little control	-	-	2	5
No control	-	-	-	1

When a comparison was made between the two groups of telephone helpline participants (new and returning clients versus ICC clients), it was seen that ICC clients skewed to the lower end of the PGSI scores whilst new and returning clients skewed to the higher end of the PGSI scores. This is to be expected given that new/returning clients are calling the helpline because they have a problem with gambling whilst ICC clients are called by the helpline as a follow-up to face-to-face counselling. This comparison used the data assuming missing items as zeros (Table 13). There was less missing data for the ICC participants, thus this difference was not related to assuming zero where the items were not complete.

Table 13 - PGSI scores and categories for new/returning and ICC

	PGSI score	New/returning		ICC	
		N	%	N	%
Non-problem gambler	0	4	1.7%	54	44.6%
Low risk gambler	1	6	2.6%	13	10.7%
	2	7	3.1%	8	6.6%
		13	5.7%	21	17.4%
Moderate risk gambler	3	9	3.9%	7	5.8%
	4	10	4.4%	9	7.4%
	5	16	7.0%	6	5.0%
	6	12	5.2%	8	6.6%
	7	14	6.1%	2	1.7%
		61	26.6%	32	26.4%
Problem gambler	8	9	3.9%	2	1.7%
	9	11	4.8%	3	2.5%
	10	15	6.6%	2	1.7%
	11	9	3.9%	4	3.3%
	12	10	4.4%	2	1.7%
	13	13	5.7%	-	
	14	13	5.7%	-	
	15	12	5.2%	1	0.8%
	16	9	3.9%	-	
	17	9	3.9%	-	
	18	3	1.3%	-	
	19	7	3.1%	-	
	20	1	0.4%	-	
	21	3	1.3%	-	
	22	5	2.2%	-	
	23	2	0.9%	-	
	24	3	1.3%	-	
	25	4	1.7%	-	
	26	2	0.9%	-	
	27	11	4.8%	-	
		151	65.9%	14	11.6%
	Missing	33	-	2	-

Examining the distribution of participants responding 'never' to each item and the Cronbach's alpha separately for new/returning participants and ICC participants, it can be seen that the 'never' response for ICC participants was more frequent than for new/returning clients. This is to be expected given that ICC participants have already received counselling and are more likely to be on the road to recovery. For ICC participants, question 4 (Borrowed money or sold anything to get money to gamble?) has a Cronbach's alpha greater than the overall Cronbach's alpha; therefore, the reliability of this item within the screen is reduced. However, given the small sample size and the small difference between the overall and item Cronbach's alpha, this finding should be viewed with caution (Table 14). Only 'never' responses have been reported here due to the very small sample sizes for other responses; this analysis has been carried out on only those participants that had a full complement of item responses.

Table 14 - Cronbach's Alpha for new/returning and ICC separately

PGSI items	New/returning (n=73)		ICC (n=50)	
	Never %	Cronbach's alpha	Never %	Cronbach's alpha
1. Bet more than you could really afford to lose?	7%	0.91	82%	0.81
2. Needed to gamble with larger amounts of money to get the same feeling of excitement?	8%	0.91	94%	0.84
3. Gone back another day to try to win back the money you lost?	8%	0.92	90%	0.81
4. Borrowed money or sold anything to get money to gamble?	29%	0.92	98%	0.87
5. Felt that you might have a problem with gambling?	5%	0.92	58%	0.84
6. People criticised your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?	23%	0.92	84%	0.84
7. Felt guilty about the way you gamble, or what happens when you gamble?	5%	0.92	70%	0.80
8. Gambling caused you any health problems, including stress or anxiety?	12%	0.92	84%	0.84
9. Your gambling caused any financial problems for you or your household?	7%	0.92	90%	0.84
Overall		0.93		0.85

3.1.5 Match to helpline database

Of the 385 participants, 188 could be matched to the helpline database (168 participants were not given an identifier, some participants had multiple identification numbers [usually participants who called the helpline on more than one occasion in the trial period] or there was not enough information about the participant to match with the database). The participant information retrieved from the database included demographic information and results from the other screens used by the counsellors. The analyses using these matched data are constrained due to the limited number in the dataset.

Gender

Examining the gender differences for the PGSI (Table 15), questions 4, 5 and 6 of the PGSI 'never' responses showed possible differences between males and females with a greater percentage of females responding 'never' to those items. Due to the small sample sizes (only 26 female participants in the analysis) this finding should be treated with caution. For all other questions, responses were similar for males and females. There were no Cronbach's alpha values greater than the total which means all questions were a useful part of the screen; no question lacked value within our participant sample. Only 'never' responses have been reported here due to the very small sample sizes for other responses; this analysis has been carried out on only those participants that had a full complement of item responses.

Table 15 - PGSI Cronbach's Alpha for gender (helpline)

PGSI items	Male (n=44)		Female (n=26)	
	Never %	Cronbach's alpha	Never %	Cronbach's alpha
1. Bet more than you could really afford to lose?	55%	0.97	54%	0.96
2. Needed to gamble with larger amounts of money to get the same feeling of excitement?	61%	0.97	65%	0.96
3. Gone back another day to try to win back the money you lost?	61%	0.97	65%	0.96
4. Borrowed money or sold anything to get money to gamble?	68%	0.98	77%	0.97
5. Felt that you might have a problem with gambling?	32%	0.98	46%	0.96
6. People criticised your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?	57%	0.97	69%	0.97
7. Felt guilty about the way you gamble, or what happens when you gamble?	45%	0.97	50%	0.96
8. Gambling caused you any health problems, including stress or anxiety?	59%	0.97	54%	0.96
9. Your gambling caused any financial problems for you or your household?	59%	0.97	62%	0.96
Overall	-	0.98	-	0.97

Ethnicity

Cronbach's alpha analyses of the 'never' responses to PGSI items by ethnicity could only be conducted on the European and Maori samples due to the very small sample sizes for Pacific and Asian participants. Even so, for the European and Maori groups the numbers are still low with 23 European and 15 Maori participants both with ethnicity reported and full complement of item responses for PGSI. The percentage of Maori that responded 'never' to the questions was generally much lower than the Europeans (Table 16) indicating that Maori actually scored higher on the PGSI items. Question 4 (Borrowed money or sold anything to get money to gamble?) for Europeans and Maori participants, and question 6 (People criticised your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?) for Maori participants had a Cronbach's alpha greater than the overall Cronbach's alpha; therefore, the reliability of these items within the screen is reduced. Again, given the small sample size and very small difference between Cronbach's alphas, these findings should be viewed with caution. Only 'never' responses were reported here due to the very small sample sizes for other responses; this analysis has been carried out on only those participants that had a full complement of item responses.

Table 16 - PGSI Cronbach's alpha for European and Maori gender (helpline)

PGSI items	European (n=23)		Maori (n=15)	
	Never %	Cronbach's alpha	Never %	Cronbach's alpha
1. Bet more than you could really afford to lose?	57%	0.97	27%	0.94
2. Needed to gamble with larger amounts of money to get the same feeling of excitement?	70%	0.97	33%	0.94
3. Gone back another day to try to win back the money you lost?	70%	0.97	33%	0.95
4. Borrowed money or sold anything to get money to gamble?	74%	0.98	67%	0.96
5. Felt that you might have a problem with gambling?	26%	0.97	27%	0.94
6. People criticised your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?	61%	0.97	53%	0.96
7. Felt guilty about the way you gamble, or what happens when you gamble?	43%	0.97	27%	0.94
8. Gambling caused you any health problems, including stress or anxiety?	65%	0.97	33%	0.94
9. Your gambling caused any financial problems for you or your household?	65%	0.97	40%	0.94
Overall		0.97		0.95

As there is a difference between the two types of participants taking part in the trial (new/ returning and ICC), the ethnic mix was checked to ensure there was not an underlying bias from these groups. There were no statistically significant differences with 39% of the European participants being new/returning and 53% of the Maori participants being new/returning ($\chi^2(1)=0.74$, p-value=0.39). Thus the differences observed as detailed above are likely to be ethnicity-based rather than participant-group based.

Correlation of PGSI with SOGS-3M and DSM-IV scores

The SOGS-3M results for each participant (where available) that were detailed in the helpline's database and identified as being collected at a similar time as the trial was conducted were used for correlation analyses with the PGSI scores. In order to compare validity both of the PGSI results for participants with the full complement of item responses (PGSI) and using all the participants' data where zero was used for missing data (PGSIa), both measures were compared with SOGS-3M scores (Table 17). Although sample sizes were low, the analysis of correlation (using Spearman's correlation) between the SOGS-3M and PGSI/PGSIa scores from the trial questionnaire showed there to be a strong statistically significant correlation. This was true across gender as well as European and Maori ethnicity.

Unfortunately, there were not enough records to reliably analyse correlation or comparison of the PGSI scores with DSM-IV gambling criteria data stored within the helpline's database for each participant.

Table 17 - Correlation of PGSI with SOGS-3M scores (helpline)

	Spearman correlation	p-value
Overall		
PGSI (n=29)	0.81	<0.0001*
PGSIa (n=51)	0.78	<0.0001*
Male		
PGSI (n=19)	0.80	<0.0001*
PGSIa (n=28)	0.78	<0.0001*
Female		
PGSI (n=10)	0.84	0.002*
PGSIa (n=23)	0.76	<0.0001*
European		
PGSI (n=9)	0.44	0.24
PGSIa (n=15)	0.83	0.0001*
Maori		
PGSI (n=5)	0.89	0.04*
PGSIa (n=7)	0.93	0.002*

*statistically different from 0
PGSI = using participants that had a full complement of item responses
PGSIa = using all participants assuming missing items as zero

3.2 Face-to-face problem gambling counselling services

The face-to-face trial questionnaire was administered to participants by their counsellors or self-completed by participants at either the first or second interview (counselling session), following completion of the consent process with the participant. In addition to the trial questionnaire for participants (clients of the counselling services), counsellors were given the opportunity to comment on the trial questionnaire, in particular for opinions on the comparison to currently used and mandated screens, for issues or concerns including translations, or for the need to reword questions to aid understanding by the client.

Of the 53 completed face-to-face questionnaires from participants, only 43 were able to be matched to the national database (CLIC). Where matching was not possible, this was because identification numbers given to participants by the counsellors did not match the identification numbers in the database, client information had not yet been forward to the national CLIC database, or because time frames for counselling did not match between the data in the database and that collected for the trial. Database matching was required to add information such as demographics and scores from the current screening processes[12]. The number of 53 has been used for analyses where demographic information was not required; however, where analyses with demographic information occurred, the number was reduced to 43. Since the sample size is very small, only broad inferences can be made from the results and no robust conclusions can be drawn.

3.2.1 Demographic information

More males than females took part in the trial of screening instruments with 63% of the participants being male and 37% being female (Table 18). Just over half of the participants who identified themselves with an ethnicity did so as European (58%), just under a quarter identified as Maori (23%) and five percent each identified as Pacific or Asian. It should be noted that almost all of the participants were recruited via the two national service providers and no participants were recruited from the Maori service[13]. The age range was 22 to 77 years with a median of 37 years old. Results are presented in Table 18.

[12] These data were not collected as part of the trial to reduce multiplication of effort and the burden on the counsellors since the data were concurrently collected for the database.

[13] Maori, Pacific and Asian specific problem gambling services were active participants in the first phase of the project and were highly committed to recruiting participants for the second, trial, phase. However, this proved to be unworkable due to the demands on these small services from other concurrent research projects and the large amount of paperwork per client (the standard mandated screening battery plus the trial questionnaires) which had to be juggled with working with clients within the appropriate cultural framework.

Table 18 - Face-to-face demographics

	N	Percentage
Gender		
Male	27	63%
Female	16	37%
Ethnicity		
European	25	58%
Maori	10	23%
Asian	2	5%
Pacific Island	2	5%
Other	3	7%
Not Specified	1	2%
Total	43	-

3.2.2 Section A (Questions 1-4)

The first four questions to be trialled included the Lie/Bet two item screen and two questions asking the participant whether they felt they had a problem with gambling ('ever' and 'currently'). The results indicate that the majority of participants responded affirmatively to the Lie/Bet questions and to the lifetime and current problems with gambling questions (Table 19). When looking at the combination of responses to the questions (Table 20), it can be seen that only one participant responded negatively to all four questions and 98% of participants responded positively to at least one question. The majority of participants (65%) responded positively to both Lie/Bet questions and also to ever having a problem with gambling as well as currently having a problem with gambling.

Table 19 - Face-to-face summary of Lie/Bet and 'ever/current problem with gambling'

	Yes N (%)	No N (%)
Ever felt the need to bet more and more money	47 (90%)	5 (10%)
Ever had to lie to people about how much you gambled	45 (87%)	7 (13%)
Ever have had a problem with gambling	50 (96%)	2 (4%)
Currently have a problem with gambling	44 (85%)	7 (13%)

Table 20 - Face-to-face individual responses to Lie/Bet and 'ever/current problem with gambling'

Ever had a problem	Currently have a problem	Bet more	Ever Lie	Number	Percent
No	No	No	No	1	2%
			Yes	-	-
		Yes	No	-	-
			Yes	-	-
	Yes	No	No	-	-
			Yes	-	-
		Yes	No	-	-
			Yes	1	2%
Yes	No	No	No	-	-
			Yes	-	-
		Yes	No	1	2%
			Yes	6	12%
	Yes	No	No	-	-
			Yes	4	8%
		Yes	No	5	10%
			Yes	34	65%
Total				52	-

3.2.3 Section A (Questions 5-13): PGSI

The percentage of face-to-face participants completing the PSGI was much higher than occurred in the trial with helpline participants, with 52/53 responding to all nine questions. The only participant who did not complete the screen, missed question 6 (People criticised your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?).

Forty percent of participants responded 'never' to question 4 (Borrowed money or sold anything to get money to gamble?) (Table 21). This is of interest as in Phase One of this project it was noted that questions relating to borrowing money or selling property were often not answered by clients.

Table 21 - Face-to-face PGSI responses

PGSI items	Mean score	Never (0)		Sometimes (1)		Most of the time (2)		Almost always (3)	
		N	%	N	%	N	%	N	%
1. Bet more than you could really afford to lose?	1.79	6	11%	10	19%	26	49%	11	21%
2. Needed to gamble with larger amounts of money to get the same feeling of excitement?	1.25	11	21%	24	45%	12	23%	6	11%
3. Gone back another day to try to win back the money you lost?	1.53	5	9%	25	47%	13	25%	10	19%
4. Borrowed money or sold anything to get money to gamble?	0.83	21	40%	22	42%	8	15%	2	4%
5. Felt that you might have a problem with gambling?	2.04	1	2%	14	26%	20	38%	18	34%
6. People criticised your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?*	1.08	12	23%	28	54%	8	15%	4	8%
7. Felt guilty about the way you gamble, or what happens when you gamble?	2.04	3	6%	12	23%	18	34%	20	38%
8. Gambling caused you any health problems, including stress or anxiety?	1.60	4	8%	23	43%	16	30%	10	19%
9. Your gambling caused any financial problems for you or your household?	1.43	11	21%	19	36%	12	23%	11	21%

* One participant did not answer this question

Each PGSI item is scored from 0 to 3 depending on the response for that question and then all the scores are summed to calculate the overall PGSI score. The PGSI overall score ranges in value from 0 to 27, which is then categorised into: non-problem gambler (score = 0), low risk gambler (score = 1 to 2), moderate risk gambler (score = 3 to 7) and problem gambler (score = 8 to 27). The face-to-face participants were distributed across PGSI scores and categories towards the higher end of the scale. There were no 'non-problem gamblers' and 88% were categorised as 'problem gamblers' (Table 22 overleaf).

Table 22 - Distribution of scores for PGSI

	PGSI score	N	%
Non-problem gambler	0	-	
Low risk gambler	1	2	4%
	2	-	
		2	4%
Moderate risk gambler	3	1	2%
	4	1	2%
	5	-	
	6	1	2%
	7	1	2%
		4	8%
Problem gambler	8	1	2%
	9	2	4%
	10	5	10%
	11	3	6%
	12	6	12%
	13	3	6%
	14	5	10%
	15	5	10%
	16	4	8%
	17	-	
	18	2	4%
	19	1	2%
	20	3	6%
	21	-	
	22	2	4%
	23	3	6%
	24	-	
	25	-	
	26	1	2%
	27	-	
		46	88%
	Missing	1	-

Analyses of the PGSI results with Cronbach's alpha, presented in Table 23, demonstrate that the values all exceed 0.8, demonstrating a high level of internal consistency. The only item which had a value greater than the overall Cronbach's alpha was question 6 (People criticised your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?) indicating that the reliability of this item within the screen is reduced. However, given the very small sample size and the small difference in alphas this finding should be viewed with caution.

Table 23 - Face-to-face Cronbach's alpha for PGSI items

PGSI items	Cronbach's alpha
1. Bet more than you could really afford to lose?	0.82
2. Needed to gamble with larger amounts of money to get the same feeling of excitement?	0.83
3. Gone back another day to try to win back the money you lost?	0.83
4. Borrowed money or sold anything to get money to gamble?	0.85
5. Felt that you might have a problem with gambling?	0.83
6. People criticised your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?	0.88
7. Felt guilty about the way you gamble, or what happens when you gamble?	0.83
8. Gambling caused you any health problems, including stress or anxiety?	0.83
9. Your gambling caused any financial problems for you or your household?	0.83
Overall	0.85

3.2.4 Section A (Questions 14-16)

Questions 14 to 16 included a Control over Gambling question (over the past month), a question relating to Dollars Lost gambling (over the past month) and a question relating to total household income.

All participants answered the Control over Gambling question with responses across the range (Table 24).

Table 24 - Face-to-face Control over Gambling

	N	Percentage
I have had complete control over my gambling	13	25%
I have had some control over my gambling	15	28%
I have had little control over my gambling	16	30%
I have had no control over my gambling	9	17%
Total	53	-

There were three participants that did not respond to the Dollars Lost question. A majority of participants lost between $501- $5000 on gambling in the previous month (Table 25).

Table 25 - Face-to-face Dollars Lost

	N	Percentage
0	2	4%
$1 - $100	4	8%
$101 - $500	9	17%
$501 - $1,000	13	25%
$1,001 - $5,000	20	38%
$5,001 - $10,000	2	4%
Missing	3	-
Total	53	-

To put the Dollars Lost into perspective, participants were also asked about their household income. Table 26 presents a comparison of Dollars Lost with household income demonstrating a statistically significant association (Fishers exact test, p-value=0.03). Note

the highest and lowest categories were combined in order to ensure enough numbers in each cell and more robust statistics.

Table 26 - Face-to-face total household income versus Dollars Lost

	Total household income							
Dollars Lost	**Less than $30,000**		**$30,001 - $50,000**		**$50,001 - $200,000**		**Total**	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**
$0 - $500	7	(47%)	5	(33%)	3	(20%)	15	(100%)
$501 - $1,000	6	(46%)	4	(31%)	3	(23%)	13	(100%)
$1,001 - $10,000	2	(9%)	7	(32%)	13	(59%)	22	(100%)
Total	15	(30%)	16	(32%)	19	(38%)	50	(100%)

3.2.5 Match to CLIC database

Correlation of PGSI with DSM-IV and SOGS-3M scores

DSM-IV

Only five participants could be matched with a DSM-IV gambling criteria result within the CLIC database that related to the time period of the trial. Analysis of such a small sample would not give meaningful results and, therefore, was not performed.

SOGS-3M

Twenty-four of the 28 participants (86%) were able to be matched with SOGS-3M scores within the CLIC database. SOGS-3M scores were categorised as 'problem gambler' if scoring three or more and the PGSI was categorised into: non-problem gambler (score = 0), low risk gambler (score = 1 to 2), moderate risk gambler (score = 3 to 7) and problem gambler (score = 8 to 27). Three participants were categorised as 'moderate risk' in the PGSI and one as 'low risk' that were still categorised by the SOGS-3M as problem gamblers. None of the matched participants were categorised as 'no risk' on the PGSI, and only one was not a problem gambler on the SOGS-3M. That individual was categorised as 'moderate risk' on the PGSI. Data are presented in Table 27.

Table 27 - Face-to-face PGSI compared with SOGS-3M

	PGSI category		
SOGS-3M score	Low risk gambler	Moderate risk gambler	Problem gambler
SOGS-3M (0-2)	-	1	-
SOGS-3M (3+)	1	3	24
Total	1	4	24

Comparison of PGSI problem gambler categories with other data
When the PGSI scores and categories were compared with the Control over Gambling results, it was noted that with increasing score and category in the PGSI, participants felt they had less control over their gambling (Table 28).

Table 28 - Face-to-face PGSI compared with Control over Gambling

Control over Gambling	**PGSI category**	
	Low/moderate risk gambler[#]	Problem gambler
Complete control	2	0
Some control	2	5
Little control	1	13
No control	0	6

Only one participant was low risk in this comparison analysis

The sample size of face-to-face participants was not sufficient to reliably test separate ethnicity and gender differences in the PGSI. Therefore, these analyses were not performed.

3.2.6 Section B (Questions 17-24)

Section B of the trial questionnaire included various health-related questions including the three item AUDIT-C for alcohol misuse/dependence and leader questions relating to drug use, depression, suicidality and family/whanau concern. Results showed variation in the responses to these questions dependent on individual participants, indicating that the questions should work as flags for more in-depth screening of individual clients in the required areas, if appropriate.

Alcohol misuse/dependence (AUDIT-C)
The AUDIT-C is the three-item short form of the AUDIT for assessing alcohol misuse/ dependence. It is scored on a five-point scale (0 to 4) for each question with a maximum score of 12. In males a score of four or more is generally considered positive; in females the score is three for a positive response. A positive score means the person is at increased risk for hazardous drinking or active alcohol abuse or dependence.

Table 29 shows the total AUDIT-C score for the face-to-face participants. Approximately 60% of participants scored three or more (females) or four or more (males) indicating a high level of comorbid hazardous drinking behaviour.

Table 29 - Face-to-face total Audit-C score

AUDIT-C score	Male		Female		Unknown		Total	
	N	%	N	%	N	%	N	%
0	1	3%	3	19%	3	38%	7	13%
1	2	7%	3	19%	-		5	9%
2	2	7%	1	6%	1	13%	4	8%
3	7	24%	3	19%	1	13%	11	21%
4	2	7%	1	6%	1	13%	4	8%
5	6	21%	1	6%	1	13%	8	15%
6	2	7%	3	19%	-		5	9%
7	1	3%	-		1	13%	2	4%
8	5	17%	-		-		5	9%
9	1	3%	1	6%	-		2	4%
10	-		-		-		-	-
11	-		-		-		-	-
12	-		-		-		-	-
Positive Score	17	59%	9	56%	-		-	
Total	29		16		8		53	

Other health-related leader questions

Use of prescription/other drugs

Sixteen percent of participants had felt the need to cut down on their use of prescription or other drugs (Table 30).

Table 30 - Face-to-face prescription/other drugs use

Drug use	N	Percentage
No	42	84%
Yes	8	16%
Missing	3	-
Total	53	-

Depression

Sixty-four percent of participants had felt more down, depressed or hopeless than usual and a similar percentage had also lost interest or pleasure in doing things totalling 74% across both questions (Table 31). This indicates that approximately three-quarters of the participants may have had comorbid depression (which could be followed up with standardised depression screens, if appropriate), though due to the very small sample size the results should be treated with caution.

Table 31 - Face-to-face down/depressed/hopeless

Depressed	Lost interest	N	Percentage
No	No	14	27%
	Yes	5	10%
Yes	No	5	10%
	Yes	28	54%
Missing	Missing	1	-
Total	**Total**	53	-

Self-harm

Just under half of the participants (40%) had thoughts of self-harm or suicide with six percent having made a plan or actually tried to harm themselves (Table 32).

Table 32 - Face-to-face thoughts of self-harm/suicide

Self harm/suicide	N	Percentage
No thoughts in the last 12 months	28	52.8%
Just thoughts	21	39.6%
Not only thoughts, have also had a plan	2	3.8%
Tried to harm myself in the last 12 months	1	1.9%
Missing	1	-
Total	53	-

Family/whanau concern

Seventy percent of the participants reported that someone in their family/whanau had expressed worry about the participant's health or wellbeing (including spiritual health) (Table 33).

Table 33 - Face-to-face worry from family/whanau

Family concern	N	Percentage
No	15	30%
Yes	35	70%
Missing	3	-
Total	53	-

3.2.7 Counsellor feedback

Unfortunately, no feedback forms were completed by helpline counsellors. No explanation was given as to why the counsellors did not complete feedback forms but the researchers were verbally informed that the counsellors had no issues with the trial screening process. No further feedback was given.

Forty counsellor feedback forms were collected from face-to-face counsellors. Counsellors were encouraged to fill in a feedback form at any time they had concerns or thoughts about the trial questionnaire in relation to the different types of participants that they saw (e.g. different ethnicities and cultures, or whether the client was in or newly released from prison) and at a minimum to complete one feedback form at the end of the trial. Thus, the results from the feedback forms are indicative of the positive and negative aspects of the trial screening process (questionnaire) with different types of participants and data should be considered with this in mind. For this reason, no tables of data have been presented. Again, the very small sample size precludes any firm conclusions being drawn.

Some of the missing data occurred because the feedback forms were completed during the trial rather than at the end. This process was encouraged so that issues were documented as they arose rather than expecting the counsellors to accurately recall their thoughts about different types of participants at the end of the three-month trial. The researchers considered it important to garner information about issues such as understanding of questions by non-English speakers or low educational level participants (e.g. whether questions needed to be reworded or rephrased by counsellors for the participants to comprehend) and the types of participants for which this needed to be done.

Generally, counsellors appeared to be satisfied with the trial questionnaire and felt it was an improvement over the currently used screens. For example, it was easier to complete than the currently used forms or the format was useful "….nice to have one combined form to cover

all areas of gambling behaviour" (currently four forms are used). They also felt that it was a practical tool aiding the therapeutic process. For example, the trial questionnaire allowed for discussion with the participant about their previous problem gambling and their current perspective, or "the questionnaire provided a concise framework of information that could be used further in the counselling relationship". However, since a counsellor could complete more than one form based on the type of participant that they saw, the results could be biased.

One nine occasions, some aspects of the questionnaire needed to be reworded or rephrased to enable client comprehension. Questions that had to be explained were question 15 (Dollars Lost), question 17 (AUDIT-C first question), question 18 (AUDIT-C second question), question 20 (drug use), and question 24 (family/whanau concern). This implies that the problem gambling screening questions did not pose a problem, although it was reported that one client who had not recently gambled, had difficultly in recollection. One counsellor reported that they had to regularly explain to their clients that each question referred to a specific time period. Another counsellor for whose client English was a second language, had to explain the questions.

To reword or rephrase questions, counsellors:

- Broke the question down
- Deconstructed the question, looking for meaning
- Explained the question in a holistic wellbeing approach
- Improvised using sentences and explanations in the client's language

It was also noted that some counsellor's participants struggled with the length of the trial questionnaire that needed to be completed additional to the forms required in the currently used process. This could indicate an issue with the screening process if clients are expected to self-complete screens, which appeared to be the case just under half of the time. On the other hand, one respondent noted that their client was able to complete the questionnaire in a very short time frame and did not need any clarification around any of the questions.

On 13 occasions, other screens or cultural frameworks were also used by the counsellors with the clients. These included: SOGS-3M, DSM-IV diagnosis, full AUDIT, depression screen (screen used not documented), mental health assessment (screen used not documented), Maori and Pacific (Matalafi) cultural frameworks (Maori framework not specified).

Two counsellors indicated that they would have liked more training in how to use the trial questionnaire.

Other comments revolved around counsellors' personal preferences in terms of their counselling techniques and uncertainty around which session was the best in which to introduce the questionnaire to the client (first or second).

The questionnaire was translated by counsellors into Samoan and Niuean for use on the trial.

3.3 Alcohol and drug rehabilitation trust

The full Canadian Problem Gambling Index (CPGI) was completed by clients at an alcohol and drug rehabilitation trust, following completion of the consent process explained by the client's counsellor. In addition to the trial questionnaire (CPGI) for participants, counsellors were given the opportunity to comment on the questionnaire, in particular for opinions on the comparison to the currently used problem gambling screen (an in-house developed screen which incorporated the SOGS and various health and comorbid behaviour questions), for issues or concerns including translations, or for the need to reword questions to aid understanding by the client.

There was a total of 28 participants from the alcohol and drug rehabilitation trust. Since the sample size is small, only broad inferences can be made from the results and no robust conclusions can be drawn.

3.3.1 Demographic information

More males than females took part in the trial of the CPGI with 59% of the participants being male and 41% being female. Two-thirds of the participants who identified themselves with an ethnicity did so as European (68%), one-fifth identified as Maori (21%) and 7% identified as Pacific. The age range was 20 to 59 years with a median of 37 years old. Results are presented in Table 34.

Table 34 - A&D demographics

	N	**Percentage**
Gender		
Male	16	59%
Female	11	41%
Missing	1	-
Ethnicity		
European	19	68%
Maori	6	21%
Pacific	2	7%
Other	1	4%
Total	28	-

3.3.2 CPGI trial

The CPGI incorporates the nine PGSI questions. Sixty-one percent of the participants scored zero on the PGSI questions, thus falling into the category of 'non problem gambler'. Eighteen percent were considered to be problem gamblers comorbid with their alcohol and/or drug problems and the remaining 18% were at risk of having comorbid problem gambling (Table 35).

Table 35 - A&D PGSI responses

	PGSI score	N	Percentage
Non-problem gambler	0	17	61%
Low risk gambler	1	2	7%
	2	1	4%
		3	11%
Moderate risk gambler	3	1	4%
	4	-	
	5	-	
	6	1	4%
	7	-	
		2	7%
Problem gambler	8	1	4%
	9	1	4%
	10	-	
	11	-	
	12	-	
	13	1	4%
	14	2	7%
	15	-	
	16	-	
	17	-	
	18	-	
	19	-	
	20	-	
	21	-	
	22	-	
	23	-	
	24	-	
	25	-	
	26	1	4%
	27	-	
		5	18%
Total		28	

3.3.3 Counsellor feedback

Twenty-six counsellor feedback forms were received. As with the face-to-face problem gambling counsellors (see page 44), the alcohol and drug counsellors were encouraged to fill in a feedback form at any time they had concerns or thoughts about the trial questionnaire in relation to the different types of participants that they saw. Thus, again the results from the feedback forms are indicative of the positive and negative aspects of the trial screening process (CPGI) with different types of participants and data should be considered with this in mind. For this reason, no tables of data have been presented and the very small sample size precludes any firm conclusions being drawn.

Half the received feedback forms indicated satisfaction with use of the CPGI stating an improvement over the currently used problem gambling screen; only one counsellor was unsatisfied with it. Two-thirds of the received responses indicated that the CPGI was a practical tool in aiding the therapeutic process at least some of the time.

On two occasions, some aspects of the CPGI needed to be reworded or rephrased to enable client comprehension.

Of interest is that 60% of counsellors who responded felt that the CPGI was useful with all clients despite the fact that analysis of the PGSI questions showed only 25% of clients were categorised as 'moderate risk gambler' or 'problem gambler'.

Other comments were that the CPGI "increased awareness of the client to their gambling issue" and that the use of the screen highlighted other unrelated issues such as "corner cutting/lazy tendencies". On the negative side, comments revolved around the unnecessary paperwork required with clients who did not have an issue with gambling, that "the clients gambling issues were prior to the 12 month time frame" (this may be unique to the alcohol and drug residential setting) or that the client believed the questionnaire had some "grey areas" (however, no further explanation was offered).

4. DISCUSSION AND RECOMMENDATIONS

In the New Zealand context, problem gambling treatment providers are funded by the Ministry of Health. As part of this funding, each service is required to collect standardised data about their clients (demographics as well as various gambling and other screen scores), which is entered into a national database, the results of which are published annually by the Ministry.

This project initially came about due to anecdotal concerns that the screening process and data collected were too lengthy, not all necessary and in some cases unbeneficial to the therapeutic process. This lead to some issues with data collection and entering (discussed in the Discussion section of the Phase One report for this project), which inevitably impacted on the accuracy of reported data.

Thus, the primary objectives of this project were to:

1. Review the assessment and screening instruments currently used in New Zealand and internationally for the assessment of problem gamblers at the clinical level including by the telephone helpline
2. Following the review, to recommend a full set of screening and assessment instruments to be used in the clinical treatment of problem gamblers; selected instruments were to be able to be used to monitor client progress in follow-up assessments currently undertaken at various set intervals
3. To pilot the recommended screening and assessment instruments in order to test the application of these screens in the New Zealand setting

The research was divided into two phases. There was a particular focus on the screening instruments currently mandated for use by Ministry of Health funded problem gambling service providers, namely the South Oaks Gambling Screen - Three Month time frame (SOGS-3M), DSM-IV gambling criteria, Dollars Lost assessment and Control over Gambling assessment. Other screening tools used by the service providers were also considered. Additionally, the family/whanau checklist for use with 'significant others' was reviewed.

Phase One

The first phase of the research involved three initial objectives:

- Review of screening and assessment instruments currently used by Ministry of Health funded problem gambling service providers
- Ascertain what problem gambling service providers wanted to achieve by screening and assessing clients
- Ascertain how problem gambling service providers used current screening and assessment data and whether the screens/assessments delivered the required information (including in terms of cultural/ethnic variations and requirements)

These objectives were achieved through in-depth interviews and focus groups with counsellors from problem gambling counselling services (including telephone helpline, face-to-face services and Maori, Pacific and Asian specific services) and from an alcohol and drug rehabilitation trust.

Additional objectives were to:

- Review national and international literature pertaining to problem gambling screening and assessment instruments
- Determine item analysis/internal consistency of SOGS-3M and DSM-IV gambling criteria as used within the New Zealand treatment context

Information garnered from the five objectives was used to inform the recommendation of problem gambling screening/assessment instruments for use within a New Zealand context.

These objectives were achieved and have been reported separately in the Phase One report for this project (Bellringer, Abbott, Volberg, Garrett & Coombes, 2007).

Phase Two

The second phase of the project involved the trial of the recommended screening/assessment instruments to ascertain effectiveness and usefulness. Prior to finalisation of the questionnaire/s to be trialled, a stakeholder meeting was held with representatives of the relevant organisations to ensure that what was trialled matched the counsellors' needs for screening and assessing clients, as well as the funder's need to maintain a database regarding the gambling help-seeking population. The questionnaires were cognitively tested prior to use and counsellors were trained in the use of the instrument/s.

Phase Two details are presented in this report.

Due to project time constraints, there was a limitation in the number of potential participants available for this project, particularly from the problem gambling face-to-face counselling services. The trial of the screening/assessment instruments recommended from Phase One was limited to a three-month period at the start of 2007. The start of the year is traditionally a period when fewer people access face-to-face counselling services in comparison to later in a calendar year. Additionally, there was a substantial reduction in people presenting for treatment, in comparison with previous years. Furthermore, during this period, there were calls on the participating organisations to provide clients for at least two other research projects. Since it was often not practicable for clients to participate in more than one research project concurrently, further limitations were placed on the numbers of potential participants available to take part in this project. Sample sizes were further reduced when data were attempted to be matched with the relevant databases to obtain demographic and other related information. These issues have constrained the conclusions that can be drawn from the trial, with only broad level inferences possible.

Helpline

Although a large sample was achieved from helpline participants, interpretation of results is limited by the methodology utilised in data collection. Participants were not directly asked the questions (including the screens such as the PGSI). Responses were obtained via the motivational conversations between counsellor and client. For these and other reasons, there is a substantial amount of missing data. This particular counselling approach suits the helpline situation whereby many people are phoning in crisis and to be asked a number of direct questions regarding their gambling could adversely impact on rapport being established. However, this leads to issues with implementation of any problem gambling screen since missing data will invalidate its use. In addition, multiple responses (as opposed to dichotomous responses) such as required for the PGSI is more difficult in this type of counselling situation. Nevertheless, a very high level of internal consistency was noted with the PGSI in the helpline context with no items lacking value. Analyses of distribution scores for the PGSI when there was a full complement of items and when missing items were assumed to be zero showed that even when the screen was not completed, the categorisations were still fairly robust. When questions were missed it was seen that the participant might move from the problem gambler category to the moderate risk category, but they did not move to low risk or non-problem gambler categories. Thus, the PGSI appears to be of some use in categorising gamblers in the helpline context even when not all items are completed.

The use of the Lie/Bet two-item screen in conjunction with questions regarding participants' perceptions of whether they have a problem with gambling (ever and current time frames)

lead to only three (of 262) participants being identified as not having a gambling problem. Given that gamblers tend to contact the helpline in crisis because they feel they have a problem, it could be that these four short questions with dichotomous (Yes/No) responses are all that is required in this context, even though there was a substantial amount of missing data for individual questions within the population sample. Currently, the helpline uses an unvalidated question form of the DSM-IV but as detailed above and in the Phase One report, the issues with this again are that responses are not always obtained to the items because the questions do not arise in the conversation between counsellor and client. Whilst results from the screen, therefore, give some indication of a client's gambling status, they cannot be used as a definitive screening score or compared with other data, which currently occurs in the annual Ministry publication of statistics.

Including questions on Control over Gambling and Dollars Lost for follow-up helpline clients (ICC clients) is useful in that it allows a comparison with results for those questions from when the client was in face-to-face counselling. However, as found from this trial, helpline counsellors do not appear to be able to ascertain total household income from participants, so dollars lost gambling cannot be put into context of available disposable income. This may not be of importance given that household income can be ascertained when the client is receiving face-to-face counselling.

Keeping a question on suicidality is paramount in the helpline context given that many clients ring in crisis. However, the use of questions/screening for comorbid behaviours only occurred with a very small number of participants and may not be useful in the helpline context; depression was the main comorbidity investigated.

The time frame of use for the PGSI with ICC participants was varied to match the time elapsed since the previous follow-up call by the helpline to the client. This did not seem to impact on the utility of the screen although indications were that the question relating to borrowing money had reduced reliability. However, due to the small sample size and proportion of missing data, these findings must be viewed with caution.

Unfortunately, no feedback forms were completed by helpline counsellors so the acceptability and ease of use/completion of the trialled questionnaire cannot be compared with the current process used by helpline counsellors. No reason was given as to why no feedback forms were completed although verbal feedback was that 'there were no issues' with the trialled questionnaire. This lack of information, however, has implications in terms of making recommendations for use of screens in the helpline context since any screening process must have buy-in from the users otherwise it will not be conducted well or at all.

Face-to-face counselling services

Since a relatively small number of participants from face-to-face counselling services were involved in the project (N=53) the results presented may not be representative of the New Zealand problem gambling client population as a whole. Additionally, very few participants were recruited from the ethnic-specific services with no participants from a Maori service. However, it should be noted that for the two largest organisations, participants were recruited from throughout the country to try to minimise location bias in the responses. Counsellor feedback was also received in relation to trialling the screening/assessment instruments and the results from this feedback together with the data from the client participants has enabled some interpretation of the results obtained, in terms of the functionality, utility and therapeutic appropriateness of the trialled instruments.

Whilst only broad level implications can be ascertained from the results of data from face-to-face participants, it appears that the Lie/Bet questions together with the questions regarding participants' perceptions of whether they have a gambling problem (ever and current) could

be a good indicator as to whether a client should be screened further or whether a counsellor assessment should be conducted. The PGSI appeared to perform well and have good correlation with SOGS-3M scores, although again, these results should be viewed with caution.

In relation to screening for comorbid disorders, use of the AUDIT-C appeared to perform well and given that the counsellors like to screen for alcohol misuse/dependence (as ascertained in Phase One) and also given that the counsellors wanted the number of screens and items that they use to be reduced (also ascertained in Phase One), it would seem appropriate for the AUDIT-C to be the standard instrument of choice with further screening conducted if considered appropriate by the counsellor. The use of leader questions for other comorbid disorders (e.g. depression, drug use, suicide) with follow-up comprehensive screening if considered necessary by the counsellors seemed to work, and minimised the number of screens having to be used with all clients. Given the high levels of comorbidity both with alcohol misuse/dependence and for depression, it is important that these measures (the AUDIT-C and leader questions for depression) are maintained within the screening process.

Relating Dollars Lost in the previous month to total household income showed a significant correlation and, thus, it is important to have the latter included in the standard battery of questions to enable Dollars Lost by any one problem gambling client to be put into perspective. Currently, within the mandated standard screening battery, this is not the case, and leads to Dollar Lost values that in themselves have limited meaning.

Counsellor feedback on the applicability and utility of the trialled screening instruments was a critical part of the trial since it provided information on the use of the questionnaire with the different types of clients that seek counselling for gambling problems. It was clear from counsellor feedback that the screens should be translated into languages other than English for migrant participants and that the wording of some of the health-related leader questions would need to be reconsidered. Counsellors felt that the trial questionnaire was an improvement over currently used instruments and was a practical tool to aid in the therapeutic process. A drawback is that the trial instrument was not able to be tested in ethnic-specific problem gambling treatment services, thus, its relevance and utility within specific cultural settings has yet to be ascertained.

It was also noted that some counsellors requested further training in the use of the trial questionnaire and that almost half of the participants (where reported) had been expected to self-complete the questionnaire which seemed to lead to problems with comprehension.

Alcohol and drug rehabilitation trust

The full CPGI was trialled with participants from an alcohol and drug rehabilitation trust which routinely uses an in-house developed gambling screen incorporating the SOGS as well as various health and comorbid behaviour questions. In general, counsellors felt that the CPGI was useful with clients, that it was a practical tool to aid in the therapeutic process (at least some of the time), and half of the feedback indicated it was an improvement over the currently used screen.

Screening tools

A recent study investigating the replication and generalisability of the PGSI has raised some concerns including that a two-factor model is the best fit (behaviours and consequences) rather than a one-factor model (PGSI score), that there may be gender differences with stronger estimates for women than men and that the PGSI may measure different constructs between the genders, and that even large samples do not ensure an adequate fit of the PGSI model (Maitland & Adams, 2007). This in itself should not preclude consideration of the use of the PGSI within the New Zealand clinical context since there are concerns and flaws with

all screening tools. The advantages that the PGSI has over the other screening instruments in the current context have been detailed in the Phase One report for this project and briefly include: SOGS-3M - shorter and reduces questions relating to borrowing money which have been problematic in the New Zealand clinical context, DSM-IV gambling criteria - to perform this clinical diagnosis accurately requires training (in many cases it appears that the diagnosis is performed by asking the criteria as questions or asking the client to self-complete those questions), New Zealand developed EIGHT screen - this is a lifetime measure that is unlikely to be used internationally, precluding meaningful comparisons with other jurisdictions, additionally as a lifetime measure it will not be suitable to assessing change over time. Thus, there appears to be merit in continuing to consider the PGSI as the instrument of choice within the New Zealand context, at this stage.

Conclusion

Modest sample sizes due to a low number of participants (face-to-face counselling services) or due to a significant proportion of missing data (telephone helpline) have precluded the possibility for firm conclusions to be drawn regarding the effectiveness or utility of the trialled questionnaire (including specific gambling screens). However, there are strong indications are that the trialled questionnaire has potential and advantages over the currently mandated screening instruments.

Recommendations

Recommendations have been made (in no particular order) based on the assumption that more robust data need to be gathered to allow informed decisions regarding whether to change (on a national basis) the screening process of problem gambling clients (and thereby the data gathered and annually reported) or whether to maintain the status quo (which is seriously flawed, as detailed in the report for Phase One of this study).

- *The screening instruments trialled in this project should probably be evaluated further.* Indicative results are that the trialled instruments were well received by counsellors (face-to-face, and alcohol and drug) and an improvement on currently used screens. There would be merit in conducting further trials with larger sample sizes so that the utility and reliability of the problem gambling screens can be more fully assessed.
- *The trial needs to extend to ethnic-specific services*. This will identify any cultural issues with the screening instruments and also how easily they can be incorporated into cultural models of health. They will also allow analyses of data by ethnicity which is important when assessing the effectiveness of treatment provision. Translation issues will also be identified.
- *The PGSI needs to be robustly assessed in the clinical population*. New Zealand lacks robust information on the general psychometrics of the PGSI (and other measures of problem/pathological gambling) within the clinical problem gambling population. The New Zealand 2006/07 national health survey is using the PGSI. It would make sense, therefore, that the PGSI should also be used in a large scale clinical population survey to enable some comparisons to be made.
- *The trial of the PGSI should be concurrent with a validated screen of similar length*. Given the recent issues highlighted regarding use of the PGSI (Maitland & Adams, 2007), it should be trialled alongside another validated problem gambling screen. In this regard, the version of the DSM measure used in Phase Two of the 1999 New Zealand Gaming Survey and two British prevalence studies is recommended because, internationally, DSM-based measures are the screens of choice in clinical situations (if a formal DSM-IV clinical diagnosis is not made).
- *Treatment providers should participate fully in any subsequent trial of screening instruments*. This is imperative for the collection of robust and valid data. This can only be achieved if significant hurdles are removed. These include:

- The need for a reasonable time frame in which to conduct the trial to allow time for a sufficient number of potential participants to access the services and be invited to participate in the trial. A minimum of six-months is recommended.
- Reduction of the paperwork burden on counsellors/participants. Having to complete the full set of currently mandated screens plus the trial questionnaire was not ideal and was an issue for some participants, as well as impacting negatively on the therapeutic process. This was particularly an issue for the smaller ethnic-specific services. It is recommended that in the trial period that at least some of the current process is not performed, for example there is no deed to duplicate Dollars Lost or Control over Gambling questions, which have been modified in the trial instrument.
- All participants should be asked to respond to all questions, where practicable, to reduce the proportion of screens with missing items, which invalidates interpretation of results from those participants.
- Any trial should not overlap with other research projects that require significant numbers of participants from the same treatment providers.

- *Whether a standardised screening instrument should be used for all service provider organisations should be considered.* It may be that the telephone helpline requires shorter screening instruments with dichotomous responses in comparison with face-to-face services, given the inherently different nature of their clients (crisis clients as opposed to those seeking psychotherapy). Consideration needs to be given to whether the whole instrument is trialled in the helpline situation (with questions asked if responses are not forthcoming in the motivational conversation, otherwise results will be indicative and not definitive, i.e. if responses to items are missing) or whether the problem gambling screen is limited to the Lie/Bet and two questions on participant perception as to whether they have a problem with gambling. In the ICC context, the total household income questions could be removed from the helpline questionnaire since this is not easily ascertained in conversation and details regarding dollars lost can be related back to household income detailed from the data collected from the client at the face-to-face organisation.
- *The time frame for follow-*up *ICC clients should be standardised.* A three-month time frame is recommended so that data can be compared across clients. Use of a shorter time frame or varying time frames, as occurred in this study, lead to inability to compare data and assess the effectiveness and sensitivity of the instrument in measuring change over time. This will need to be further trialled to ascertain the effectiveness and sensitivity.
- *Some of the health-related questions should be reworded.* There appeared to be some issues with the wording of some of the health-related leader questions in the face-to-face context. These should be further cognitively tested and amended. As they are leader questions rather than formal screens, this will not be an issue.
- *Counsellors need to receive standardised and formal training in the use and interpretation of screens.* This will improve the quality of data collected, impacting positively on the reliability of annually presented results. Results from Phase One of the project indicated that training in use of current screening was lacking and counsellors sometimes completed screens with their clients "to receive funding" rather than to aid the therapeutic process.
- *Counsellors should complete the screens/questionnaires with their clients.* This would reduce issues with participants self-completing the forms and having issues with understanding and comprehension.

5. REFERENCES

Bellringer, M., Abbott, M., Volberg, R., Garrett, N. & Coombes, R. (2007). *Problem gambling assessment and screening instruments: Phase One final report*. Report prepared for the Ministry of Health. Auckland: Gambling Research Centre, Auckland University of Technology.

Bland, J.M. & Altman, D.G. (1986). Statistical methods for assessing agreement between two methods of clinical measurement. *Lancet, i*, 307-310.

Maitland, S.B. & Adams, G.R. (2007). *Replication and generalizability of the Problem Gambling Severity Index: Are results consistent and comparable across studies? Final report*. Ontario: Ontario Problem Gambling Research Centre.

APPENDIX 1
Ethical approval

Health and Disability Ethics Committees

Multi-Region Ethics Committee
Ministry of Health
Level 2, 1–3 The Terrace
PO Box 5013
Wellington
Phone (04) 470 0655
(04) 470 0646
Fax (04) 496 2191

7 December 2006

Dr. Maria Bellringer
Auckland University of Technology
Faculty of Health & Environmental Sciences
Private Bag 92006
Auckland 1142

cc: Prof Max Abbott

Dear Max

Problem Gambling Assessment and Screening Instruments Project

Lead Investigator: Prof. Max Abbott
Co-investigators: Dr. Maria Bellringer, Dr. John Stansfield, Major Lynette Hutson, Ms Monica Stockdale, Mr Bruce Levi, Mr Stuart Anderson
Approved sites: Auckland University of Technology, Problem Gambling Foundation of NZ, Salvation Army Addiction & Supportive Accommodation Services, Te Rangihaeata Oranga, Community Alcohol & Drugs Service, Higher Ground Rehabilitation Trust

MEC/06/10/128

The above study has been given ethical approval by the **Multi-region** Ethics Committee.

Approved Documents
- Client questionnaire A
- Canadian Problem Gambling Index
- Counsellor feedback questionnaire
- Participant Information sheet and Consent form dated 26 September 2006

Accreditation
The Committee involved in the approval of this study is accredited by the Health Research Council and is constituted and operates in accordance with the Operational Standard for Ethics Committees, April 2006.

Final Report
The study is approved until **30 November 2007**. A final report is required at the end of the study. Please refer to our website, *http://www.newhealth.govt.nz/ethicscommittees* for a form to assist with this. If the study will not be completed as advised, please forward a progress report and an application for extension of ethical approval one month before the above date.

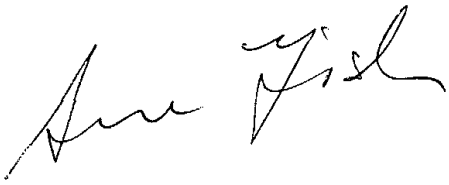
Amendments
It is also a condition of approval that the Committee is advised of any adverse events, if the study does not commence, or the study is altered in any way, including all documentation eg advertisements, letters to prospective participants.

Please quote the above ethics committee reference number in all correspondence.

APPENDIX 1 - Continued

It should be noted that Ethics Committee approval does not imply any resource commitment or administrative facilitation by any healthcare provider within whose facility the research is to be carried out. Where applicable, authority for this must be obtained separately from the appropriate manager within the organisation.

Yours sincerely



Sue Fish
Joint Administrator, Multi-region Ethics Committee
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APPENDIX 2
Recommended tools: problem gambling treatment providers

Section A

Gambling screens

Face-to-face counselling and helpline

Lie/Bet screen

1. Have you ever felt the need to bet more and more money?
2. Have you ever had to lie to people about how much you gambled?

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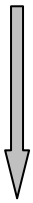
3. Do you feel you have ever had a problem with gambling? (Only ask if not obvious)
4. If the answer to Q3 is yes, ask: And do you feel you currently have a problem with gambling?



If yes to any of questions 1 to 4, proceed to Q5.
If no, to either questions 1 and 2 or question 3, counsellor assessment as deemed necessary

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PGSI

Questions 5 to 13 responses: Never / Sometimes/ Most of the time / Almost always

5. Thinking about the past 12 months, how often have you bet more than you could really afford to lose?
6. Thinking about the past 12 months, how often have you needed to gamble with larger amounts of money to get the same feeling of excitement?
7. Thinking about the past 12 months, how often have you gone back another day to try to win back the money you lost?
8. Thinking about the past 12 months, how often have you borrowed money or sold anything to get money to gamble?
9. Thinking about the past 12 months, how often have you felt that you might have a problem with gambling?
10. Thinking about the past 12 months, how often have people criticised your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?
11. Thinking about the past 12 months, how often have you felt guilty about the way you gamble, or what happens when you gamble?
12. Thinking about the past 12 months, how often has your gambling caused you any health problems, including stress or anxiety?
13. Thinking about the past 12 months, how often has your gambling caused any financial problems for you or your household?

Face-to-face counselling and helpline Integrated care Clients only

Control over Gambling

14. During the past month:
    I have had complete control over my gambling
    Or
    I have had some control over my gambling
    Or
    I have had little control over my gambling
    Or
    I have had no control over my gambling

Dollars Lost

15. In the last month when you were gambling, roughly what amount of money did you spend on gambling? This is the total amount of money in dollars that you used on your gambling activity/ies (i.e. money you took to gamble with PLUS any additional money you obtained and gambled with such as from cash machines, EFTPOS etc). Ignore any money you won during your gambling sessions.

Dollars spent on gambling: $.....

---

16. Approximate total household annual income:

□ <$20,000 □ $20, 000 - $30,000 □ $31, 000 - $50,000
□ $51, 000 - $100,000 □ $101, 000 - $200,000 □ $201,000 - $500,000
□ $501,000+

Section B

Comorbidity questions

Face-to-face counselling

AUDIT-C

One standard drink is: 30ml straight spirits (two nips/shots, one double), 330ml can of beer or 100ml glass of wine

17. How often did you have a drink containing alcohol in the past year?
    (Never / Monthly or less / Two to four times a month / Two to three times per week / Four or more times a week)
18. How many drinks did you have on a typical day when you were drinking in the past year?
    (1 or 2 / 3 or 4 / 5 or 6 / 7 to 9 / 10 or more)
19. How often did you have six or more drinks on one occasion in the past year?
    (Never / Less than monthly / Monthly / Weekly / Daily or almost daily)

Drug use

20. In the past 12 months, have you ever felt the need to cut down on your use of prescription or other drugs?

Depression

21. In the past 12 months, have you often felt down, depressed or hopeless?
22. In the past 12 months, have you often had little interest or pleasure in doing things?

Face-to-face counselling

Suicidality

23. Within the last 12 months: Thoughts of self-harm or suicide
    (No thoughts in the last 12 months / Just thoughts / Not only thoughts, I have also had a plan / I have tried to harm myself in the past 12 months)

Family/whanau concern

24. In the past 12 months, has anyone in your family/whanau worried about your health or wellbeing (including spiritual health)

25. Current suicide question

Helpline

Other screens

1. Appropriate cultural models of health should be used as required, e.g. Te Whare Tapa Wha, Maori model of health; Fonofale Pacific model of health.

Maori, Pacific, Asian services

2. Current family/whanau checklist with significant other clients.

Face-to-face counselling

3. Anxiety and depression screens as required by individual organisations.

Face-to-face counselling and helpline

4. Problem Gambling Severity Index, Dollars Lost and Control over Gambling

Integrated Continuing Care clients

APPENDIX 3
Recommended tools: alcohol and drug rehabilitation trust

CPGI

Gambling involvement

1. Have you bet or spent money on (list of gambling activities)?
2. How often did you bet or spend money on (list activity: daily, weekly, monthly, yearly)?
3. When spending money on (list activity), how many minutes/hours do you normally spend each time?
4. How much money, not including winnings, did you spend on (list activity) in a typical month?
5. What is the largest amount of money you ever spent on (list activity) in any one day?

Problem gambling correlates

Questions 6 to 13 responses: Never / Sometimes/ Most of the time / Almost always

6. Thinking about the past 12 months, how often have you bet more than you could really afford to lose?
7. Thinking about the past 12 months, how often have you bet or spent more money than you wanted to on gambling?
8. Thinking about the past 12 months, how often have you needed to gamble with larger amounts of money to get the same feeling of excitement?
9. Thinking about the past 12 months, how often have you gone back another day to try to win back the money you lost?
10. Thinking about the past 12 months, how often have you borrowed money or sold anything to get money to gamble?
11. Thinking about the past 12 months, how often have you lied to family members or other to hide your gambling?
12. Thinking about the past 12 months, how often have you felt that you might have a problem with gambling?
13. Thinking about the past 12 months, how often have you felt you would like to stop betting money or gambling, but didn't think you could?

Adverse consequences

14. Thinking about the past 12 months, how often have people criticised your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?
15. Thinking about the past 12 months, how often have you felt guilty about the way you gamble, or what happens when you gamble?
16. Thinking about the past 12 months, how often has your gambling caused you any health problems, including stress or anxiety?
17. Thinking about the past 12 months, how often has your gambling caused any financial problems for you or your household?

Problem gambling correlates

18. After losing many times in a row, you are more likely to win
    (Strongly agree / Agree / Disagree / Strongly disagree)
19. You could win more if you use a certain system or strategy
    (Strongly agree / Agree / Disagree / Strongly disagree)
20. Do you remember a big WIN when you first started gambling?
21. Do you remember a big LOSS when you first started gambling?
22. Has anyone in your family EVER had a gambling problem?
23. Has anyone in your family EVER had an alcohol or drug problem?
24. In the past 12 months, have you used alcohol or drugs whilst gambling?
25. In the past 12 months, have you gambled while drunk or high?
26. In the past 12 months, have you felt you might have an alcohol or drug problem?
27. In the past 12 months, if something painful happened in your life, did you have the urge to gamble?
28. In the past 12 months, if something painful happened in your life, did you have the urge to have a drink?
29. In the past 12 months, if something painful happened in your life, did you have the urge to have use drugs or medication?
30. In the past 12 months, have you been under a doctor's care because of physical or emotional problems brought on by stress?
31. In the past 12 months, was there ever a time when you felt depressed for two weeks or more in a row?
32. In the past 12 months, have you ever seriously thought about committing suicide as a result of your gambling?
33. In the past 12 months, have you ever attempted suicide as a result of your gambling?

APPENDIX 4
Counsellor feedback form

Thank you for taking the time to complete this questionnaire. It should not take you more than five minutes to answer these questions. Please answer each question as honestly as you can.

Remember that completion of this questionnaire is voluntary and you can stop at any time.

However, completion of the questionnaire will help us to find out what you thought of the screens that we have been trialling. We will use this information to help us decide what to recommend to the Ministry of Health regarding screening instruments for use with problem gamblers.

Date this form was completed: _____

1. Overall, how would you compare the client questionnaire to the currently used screens? (Circle one number)

Much improved		Not sure		Much worse
1	2	3	4	5

2. Overall, were you satisfied with the client questionnaire? (Circle one number)

Very satisfied		Not sure		Very unsatisfied
1	2	3	4	5

3. Was the layout of the client questionnaire practical within your therapeutic process?
   Yes □ No □

4. Did the client questionnaire aid in the therapeutic process, such as prompting discussion?
   Yes □ Some of the time □ No □
   Additional comments: _____

5. Did the client questionnaire require any further explanation or re-wording for clients to understand the questions?
   Yes □ No □
   If YES, Which questions/words? _____
   And what did you use instead/How did you explain?_____

6. Did you need to translate the client questionnaire?
   Yes □ No □
   If yes, please specify the language_____

7. Did you use other screens or a cultural frame work (model of health) as well as the client questionnaire?
   Yes □ No □
   If yes, please specify the screens and/or the frame work (model of health)_____

8. Was the client questionnaire useful with all clients?
   Yes □ No □
   If NO, which types of clients was it not useful for? (Please specify)_____

9. Would you have liked any additional training about the client questionnaire?
   Yes □ No □
   If so, in what areas? _____

10. Would you like to make any other comments about the client questionnaire?