



GAMBLING RESEARCH CENTRE

**LITERATURE REVIEW TO INFORM SOCIAL
MARKETING OBJECTIVES AND APPROACHES, AND
BEHAVIOUR CHANGE INDICATORS, TO PREVENT
AND MINIMISE GAMBLING HARM**

FINAL REPORT

November 2005

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ACKNOWLEDGEMENTS

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 1020, New Zealand.

The authors gratefully acknowledge the input of Rebecca Coombes, research officer within the National Institute for Public Health and Mental Health Research, who was responsible for a majority of the literature searches. Appreciation is also given to Professor Robert Donovan (School of Marketing, Curtin Business School, Curtin University of Technology, Australia), Martine Stead (Institute of Social Marketing, University of Stirling, United Kingdom) and Dr John F. Smith (Division of Public Health and Psychosocial Studies, Auckland University of Technology) for their invaluable advice and input into the social marketing section provided by the Health Sponsorship Council (see below). The authors thank the Literature Review Subgroup (Dr Lorna Dyll, Dr Monique Faleafa, John Markland, Professor Jan McMillen and Dr Samson Tse) for their very useful and considered comments on the draft versions of the report. The authors also recognise and appreciate the useful comments made by the Health Sponsorship Council's Public Health Advisory Group on draft versions of the report.

The project was commissioned and funded by the Health Sponsorship Council, New Zealand. The Health Sponsorship Council was also responsible for preparation of two of the sections within this report: a) Social marketing (Section 3.1) and b) Theories and models of behaviour change (Section 3.5).

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EXECUTIVE SUMMARY

Introduction, Background and Methodology

- This report provides an overview of gambling and other bodies of literature relevant to the development of social marketing objectives and approaches to prevent and minimise gambling harm in New Zealand. The Health Sponsorship Council (HSC) commissioned the report and specified eight objectives. Each objective is addressed as a separate section. The report includes conclusions reached from the overall review.
- Lana Perese, Dr Maria Bellringer and Professor Max Abbott conducted the review along with Tane Cassidy and Julie Gillespie of the HSC who wrote the two sections pertaining to social marketing and theories and models of behaviour change. Peer critique was provided by a group of five independent specialists appointed by the HSC.
- An extensive search of library and other electronic databases, personal specialist collections and grey literature was completed. Professional and personal networks were also drawn on to locate pre-publication and unpublished reports. Relevant documentation was accessed and critically reviewed.
- Background and contextual information is provided in Section 1. Section 2 outlines the methodology used. The literature review, Section 3, constitutes the main body of the report. Key points arising from the review follow, grouped under headings derived from the eight HSC objectives.

Literature Review

- Social Marketing

There is no universally agreed definition of social marketing. However, it is generally accepted that it is more than mass media or public education campaigns. While overlapping with public health, social marketing differs in that it involves the strategic use of marketing principles and practices. It also overlaps with commercial marketing but varies in significant ways.

The following definition is considered to be the most satisfactory in the present context:

The application of commercial marketing technologies to the analysis, planning, execution, and evaluation of programmes designed to influence the voluntary or involuntary behaviour of target audiences in order to improve the welfare of individuals and society (Donovan & Henley, 2003).

This definition draws on the Universal Declaration of Human Rights as the baseline definition for the 'common good' and assumes the focus is on modifying social determinants of health as well as on individual behaviour change.

The key principles and practices for social marketing include:

Behaviour change focus

Fundamental concepts

- Consumer orientation
- Exchange concept

Overarching principles

- Consumer value (use of the marketing mix)
- Selectivity and concentration (market segmentation)
- Differential advantage (competition)

Defining features

- Use of market research
- Integrated approach to implementation
- Monitoring and influencing environmental forces

In the New Zealand context it is recommended that application of social marketing embraces the principles of Partnership, Participation and Protection derived from the Treaty of Waitangi and referred to in the Government's He Korowai Oranga (Maori Health Strategy).

While failure is not uncommon, social marketing approaches have been successful in reaching population groups and improving behavioural outcomes across a range of public health areas. A number of New Zealand applications appear to have been successful. However, evidence of efficacy with ethnic minority and lower socio-economic groups is lacking in this country.

- Public health implications of gambling and problem gambling

'Public health implications' encompass a broad view of communities and societies, rather than focusing on individuals. Although a wide array of gambling-related impacts (both positive and negative) is evident and acknowledged, this section places strong emphasis on relevant social factors that are potentially responsive to social marketing interventions.

While various public health approaches have been taken to problem gambling throughout the world, New Zealand is the first jurisdiction to firmly place problem gambling within an explicit public health policy framework. Gambling specific public health programmes are in their infancy and there is scant evaluative research to date. It is too early to determine the most effective public health models and interventions.

Primary prevention approaches target all members of a population or sub-population with the object of preventing the development of a particular problem. Gambling specific examples include public awareness-raising campaigns, service provider awareness programmes, gambling education and game re-design.

Secondary prevention targets high-risk groups including people with sub-clinical problems with the aim of preventing problem onset or progression. Gambling-related examples include gambling industry staff education, host responsibility programmes, exclusion policies and practices and responsible gambling features.

- Risk and protective factors

Exposure to particular forms of gambling, notably electronic gaming machines and other forms of ‘continuous’ gambling (such as casino table games), is associated with the development of problem gambling. Other than exposure to the agent (gambling), a variety of environmental (physical, social and cultural) and individual factors have been shown to increase (risk factors) or decrease (protective factors) the likelihood of problem development.

While there are some common and enduring risk factors, others vary across jurisdictions and within jurisdictions over time. For example males, young adults, unemployed and low income people, Maori and Pacific people were at very high risk for problem gambling in New Zealand in 1991. In 1999, while people of Maori and Pacific ethnicity remained at high risk, gender, employment and income differentials were greatly diminished. People aged 18-24 years, initially the age group at highest risk, was the second lowest in 1999.

Since the great majority of research on risk and protective factors is cross-sectional, cause and effect relationships are not clear. Prospective studies are required to clarify the role and importance of the large number of factors that appear to be involved in the onset and cessation of problem gambling. While this information is ideally required for the design of effective prevention programmes including social marketing approaches, a lack of prospective data should not preclude the commencement of a social marketing approach to gambling based on the available evidence from the gambling, and other related, fields.

- Gambling behaviours and attitudes towards gambling

Since the introduction of new gambling forms during the late 1980s gambling has become a recreational activity for most New Zealanders. During this period adult per capita gambling expenditure has increased markedly. Gaming machines outside casinos have accounted for an increasing percentage of total expenditure.

During the 1990s, while average adult gambling expenditure increased, the proportion of adults who gamble weekly or more often on continuous forms of gambling appears to have reduced markedly. This is the group most at risk for problem gambling. Problem gambling prevalence also appears to have fallen from 1991 to 1999, despite the introduction of casinos, a substantial increase in gaming machine numbers and rise in total gambling expenditure. It is not known what has happened since 1999 although formal help-seeking (national helpline and counselling) has continued to increase.

A variety of theories have been proposed to explain why people gamble and why some subsequently develop problems associated with gambling involvement. These theories have varying degrees of empirical support.

The most frequently mentioned reasons given for gambling by New Zealanders are to win money, socialise, escape, cope with stress, relieve boredom, excitement/challenge, fun, support worthy causes, hobby/habit, curiosity, exercise skill/accumulate knowledge. Reasons vary across gambling forms and socio-demographic and ethnic groups.

- Theories and models of behaviour change

A number of theories and models underpin health promotion practice. These frameworks and constructs assist in understanding health behaviours and behaviour change.

Major approaches examined include individual level frameworks (Stages of Change Model; Health Belief Model; Consumer Information Processing Model; Theory of Reasoned Action and Theory of Planned Behaviour), interpersonal level frameworks (Social Cognitive Theory/Social Learning Theory) and community level frameworks (Diffusion of Innovation Theory; Community Organisation Model).

Cultures vary in the way they perceive health and these differences need to be considered in health promotion and marketing. Maori and Pacific people are at high risk for problem gambling and remain so when other factors associated with problem gambling are controlled statistically. Pacific (Fonofale) and Maori health models (Te Whare Tapa Wha; Te Pae Mahutonga; Te Wheke) are outlined.

None of the foregoing models of health and health promotion appear to have been explicitly applied to evaluated gambling harm reduction programmes. However, many have been applied to other health behaviours including smoking cessation and alcohol/substance misuse. No one theory or model is likely to cover all of the aspects required to inform the development of an effective social marketing approach to reduce gambling harm. However, together they contain elements that could be selected and incorporated into such a framework.

- Indicators of behaviour change

To date only a modest number of gambling-focused social marketing, public awareness and prevention programmes have been evaluated. These programmes have used a variety of indicators of change including increased awareness and knowledge of problem gambling, attitude change and behaviour change (e.g. help-seeking).

Some social marketing and other public health and mass media interventions have been effective in producing increased understanding of gambling and problem gambling, more positive attitudes and help-seeking. The impact of such approaches on the incidence or prevalence of problem gambling is yet to be assessed.

Social marketing approaches have been shown to have positive impacts on smoking and alcohol-related problems, especially when they are multi-modal and carefully designed to engage particular groups. They are more likely to have significant and lasting impact when congruent and combined with a mix of additional educative, policy, legislative and intervention measures.

From the foregoing, given the wide-ranging, inter-related regulatory, industry, public participation and public health initiatives arising from the Gambling Act 2003, it appears to be particularly timely to introduce a social marketing approach to gambling harm reduction.

- Marketing strategies

Some sectors of the gambling industry in New Zealand spend substantial sums of money on the marketing of their gambling products. Apart from mass media and other forms of advertising, marketing includes the sponsorship of sports, cultural and social events. Marketing of gaming machine societies takes a different form generally in the promotion of community benefits that accrue from the distribution of gambling proceeds.

There are indications that some at-risk populations (notably Maori and Pacific populations) are particularly influenced by some gambling marketing. It is also apparent that industry marketing places emphasis on positive aspects of gambling. There is very little in the way of public health approaches to offset industry advertising. This imbalance and its implications would need to be considered in the development of a social marketing approach to gambling harm reduction. However, it is also pertinent to point out that while non-casino electronic gaming machines are not associated with any direct marketing, they are the form of gambling that accounts for more than half of the gambling expenditure in 2004.

- Services for preventing and minimising gambling harm

Relative to most other countries, New Zealand has well-established services including a national helpline and face-to-face counselling that provide assistance to people with gambling problems and others affected by problem gambling. A number of services provide specialist support to Maori, Pacific and Asian people.

While the majority of resources are currently focused on the provision of information and case finding, referral, assessment and counselling, some services incorporate public health perspectives and engage in advocacy and other activities directed towards prevention and harm minimisation.

Under the Gambling Act 2003, New Zealand has legislation and policy in place that mandates enhancement of harm reduction and minimisation. It also has government agencies charged with responsibility for their implementation and a ring-fenced funding mechanism in place to resource them.

The University of Auckland and Auckland University of Technology both have specialist gambling research centres with public health emphases and the capacity to inform and evaluate prevention and other interventions. Other universities including Otago and Massey have relevant expertise in related fields.

Conclusions

- It would be appropriate to develop a social marketing approach to gambling but to be effective it will need to be theory driven, evidence-based, multi-modal and incorporate the essential elements of social marketing outlined in this report.
- It is recommended that the approach embraces the principles of Partnership, Participation and Protection derived from the Treaty of Waitangi.
- It is considered timely to initiate a comprehensive, well-resourced social marketing programme in New Zealand, in the context of the roll out and enforcement of the requirements of the Gambling Act 2003.

1 BACKGROUND

In 2004, the Health Sponsorship Council (HSC) was commissioned by the Ministry of Health to consider a national public health and social marketing approach to problem gambling. This is part of the Ministry's strategic plan for preventing and minimising gambling harm.

1.1 Terms of reference

The Health Sponsorship Council contracted the Gambling Research Centre to conduct a literature review with the aim of informing the likely effectiveness of social marketing objectives and approaches (where and if appropriate) and behaviour change indicators to prevent and minimise gambling harm. Eight objectives were specified by the Health Sponsorship Council. These are detailed below and formed the basis for the eight sections of the literature review discussed in Chapter 3.

Objectives

- Describe the public health implications of gambling and problem gambling (i.e. who is affected and how they are affected)
- Describe gambling behaviours and attitudes/perceptions towards gambling (i.e. views of the general population, problem gamblers and people associated with problem gamblers) and information gaps
- Identify risk and protective factors for gambling harm at individual, community, and environmental (policy and institutional) levels (e.g. socio-economic position, inequalities, ethnicity, indigenous populations, age, gender, location) and information gaps
- Identify information that would inform the development of behaviour change indicators (benchmarks) for measuring the impact of public health and social marketing approaches to prevent and minimise gambling harm
- Perform a high level analysis of the competition particularly amongst target audiences (e.g. marketing strategies)
- Identify the context of services and coordination of them for preventing and minimising gambling harm in New Zealand
- Define social marketing and briefly describe similar social marketing and public health approaches applied to other areas and their effectiveness for different population groups (This section was written by the HSC)
- Identify relevant behaviour change theories that could be applied to social marketing approaches to prevent and minimise gambling harm (This section was written by the HSC)

The Health Sponsorship Council also established a Literature Review Subgroup to peer review this body of work. The Review Subgroup comprises:

- Dr Lorna Dyall (University of Auckland)
- Dr Monique Faleafa (University of Auckland)
- John Markland (Department of Internal Affairs)
- Professor Jan McMillen (Australian National University)
- Dr Samson Tse (University of Auckland)

The Literature Review Subgroup peer reviewed two draft versions of the full report, providing useful feedback at meetings with the Reviewing Team and the Health Sponsorship Council. The feedback has been considered and incorporated into the final version of the report, where possible.

1.2 Reviewing team

Lana Perese is a Research Fellow in the Gambling Research Centre within the National Institute for Public Health and Mental Health Research at Auckland University of Technology. She is of Samoan ethnicity and has been involved in a number of research projects on and for Pacific peoples in New Zealand, focusing on the areas of gambling, addictions, health and justice. She is also a Ph.D. candidate at the University of Auckland with a research focus on contemporary Samoan gambling.

Dr Maria Bellringer is a Senior Research Fellow and is Coordinator of both the Gambling Research Centre and the National Institute for Public Health and Mental Health Research at Auckland University of Technology. She has worked in the gambling field for the past three and a half years and is also a peer reviewer for *eCOMMUNITY: International Journal of Mental Health and Addiction*. Previously, Dr Bellringer lived in England and was an experienced toxicologist as well as a counsellor for young people.

Professor Max Abbott is Pro-Vice Chancellor for Community Engagement, Dean of the Faculty of Health and Environmental Sciences, Director of the Gambling Research Centre and Co-Director of the National Institute for Public Health and Mental Health Research at Auckland University of Technology. He is also a Board member and Chair of Waitemata District Health Board's Hospital Advisory Committee. He is a past chairman of the Compulsive Gambling Society and past President of the World Federation for Mental Health. In 1991 he conducted the first New Zealand national problem gambling prevalence survey. Since then he has retained a significant involvement in problem gambling research, alongside research on migrant adaptation and health and other areas within public health and mental health. Most of his research is applied and related to other professional and community involvement.

1.3 Review methodology

The methodology utilised for review of available literature is discussed in detail in Chapter 2. The literature accessed included that which is available (electronically and/or in hard copy) through the AUT library electronic databases, through specialist

electronic libraries and through personal collections. The latter included grey literature such as unpublished works written by colleagues around the world.

All accessed literature was reviewed in depth by Lana Perese with review and input by both Dr Maria Bellringer and Professor Max Abbott. The recommendations are those of all three reviewers. The organisation and management of the project including preparation of the report was in the main the responsibility of Dr Bellringer.

1.4 Review meetings

On 31 March 2005, the Reviewing Team met with members of the Health Sponsorship Council and members of the Literature Review Subgroup who were able to be present, to discuss the terms of reference and to clarify the expectations of the Health Sponsorship Council. At the meeting, it was stressed that there should be a focus on a New Zealand context utilising national information (including grey literature and unpublished works) where possible, with less of a focus on international perspectives. As previous reviews have extensively covered problem gambling in a public health framework and in terms of risk and protective factors for developing problem gambling, this review was to give an overview only and to concentrate on issues that could be relevant to a social marketing context in New Zealand. The Treaty of Waitangi and other cultural aspects pertaining to the New Zealand context were to be of high importance.

Throughout the project, the Reviewing Team communicated regularly to ensure that the project was on track.

2 METHODOLOGY

The literature reviews were conducted in four concurrent phases, which consisted of:

- a) Electronic bibliographic indexes accessed via on-line database searches
- b) Specialist libraries accessed via web-based searches and searches through personal collections
- c) Grey literature accessed via personal collections and through professional and informal networks
- d) Professional and informal networks contacted via personal communications and discussion groups

2.1 Electronic bibliographic indexes

A search of the following on-line databases accessible through the AUT library system was conducted to locate potentially relevant literature:

- Academic Search Premier
- Blackwell-Synergy
- Business Source Premier
- Cochrane Library
- CSA Social Services Abstracts
- EBSCO MegaFile Premier
- ProQuest 5000 International
- PsycARTICLES
- PsycINFO
- ScienceDirect

Academic Search Premier is the world's largest academic multi-disciplinary database, providing full text for nearly 4,000 scholarly publications, including full text for more than 3,100 peer-reviewed journals. Coverage spans virtually every area of academic study and offers information dating as far back as 1975. Subject areas include: social sciences, humanities, education, computer sciences, engineering, physics, chemistry, language and linguistics, arts and literature, medical sciences, ethnic studies and more.

Blackwell-Synergy delivers the full text of over 620 prestigious journals within physical sciences, life sciences, medicine, social sciences and humanities.

Business Source Premier is the world's largest full text business database providing full text for more than 2,800 scholarly business journals, including full text for more than 900 peer-reviewed business publications. Coverage includes virtually all subject areas related to business. This database provides full text (PDF) for more than 300 of the top scholarly journals dating as far back as 1922.

Cochrane Library consists of a regularly updated collection of evidence-based medicine databases, including The Cochrane Database of Systematic Reviews: evidence-based systematic reviews prepared by the Cochrane Collaboration which provide high quality information to people providing and receiving care and those responsible for research, teaching, funding and administration at all levels.

CSA Social Services Abstracts provides bibliographic coverage of current research focused on social work, human services, and related areas including social welfare, social policy and community development. The database abstracts and indexes over 1,406 serials publications and includes abstracts of journal articles and dissertations, and citations to book reviews.

EBSCO MegaFile Premier is a suite of 24 databases covering a wide variety of subjects. It includes MEDLINE which is the world's most comprehensive source of life sciences and biomedical bibliographic information. More than 7,000 of the 11,000 titles in the suite are available in full text including 3,200 peer-reviewed journals.

ProQuest 5000 International indexes over 5,500 journals across several disciplines and with full text for over 3,000. It is one of the world's most comprehensive collections of digital information. Millions of complete articles are available online in various formats.

PsycARTICLES is a collection of 42 highly regarded full text journals from the American Psychological Association.

PsycINFO is an electronic bibliographic database that provides abstracts and citations to the scholarly literature in the behavioural sciences and mental health. The database includes material of relevance to psychologists and professionals in related fields such as psychiatry, management, business, education, social science, neuroscience, law, medicine and social work. The PsycINFO database contains almost two million references to psychological literature from the 1800s–present, from journal articles, books, book chapters, technical reports and dissertations.

ScienceDirect is a collection of over 1,700 journals from Elsevier Science, Academic Press and Harcourt Health Sciences covering a wide range of disciplines.

The searches were performed from April to June 2005 utilising the following keywords. Truncated words are indicated either by an asterisk (*) or a question mark (?), which means that all words starting with the truncation (the letters before the asterisk/question mark) were automatically searched for within each database.

- (Gambling or gaming) and (intervention or treatment or counsel*)
- (Gambling or gaming) and (educat* or community or health)
- Gambling or gaming
- (Gambling or gaming) and (risk factor or predictor or indicator) (2002 onwards)
- (Addict?) and (treatment or intervention)
- (Gambling or gaming) and (treatment or prevention or public health or services) (1990 onwards)
- (Gambling or gaming) and (marketing or advertising)

Each literature search on each database accessed varying numbers of articles, sometimes numbering several hundred. There were varying degrees of overlap between the databases. A full list of titles and/or abstracts was obtained from each search. For titles or abstracts that appeared to be relevant to this project, full text publications were accessed electronically and viewed.

2.2 Specialist libraries

Various gambling-related organisations and government departments have websites which include searchable databases and/or libraries, or which detail gambling-related publications and reports. From April to June 2005, various websites were searched for literature relevant to the project. Any material that appeared to be relevant was downloaded and reviewed. The major websites accessed included:

- ALAC (<http://www.alcohol.org.nz>)
- Community Alcohol and Drug Services (<http://www.cads.org.nz>)
- Centre for Gambling Studies (<http://www.health.auckland.ac.nz/population-health/gambling-studies>)
- Gambling Helpline (<http://www.gamblingproblem.co.nz/home/index.htm>)
- GamblingWatch (<http://www.gamblingwatch.org.nz>)
- NZ Lotteries (<http://www.nzlotteries.co.nz>)
- Sky City (<http://www.skycity.co.nz>)

The Reviewing Team also had access to substantial personal libraries on gambling and related subjects. These collections contain many reports that have not been published in mainstream literature plus publications that are difficult to obtain. They also include pre-publication reports and articles from a variety of sources. Where relevant, these materials were utilised for this project.

2.3 Grey literature

Grey literature, being unpublished works not widely available to the general public, was accessed by two means. Firstly, through the personal library collections detailed previously in Section 2.2 and secondly, via professional and informal networks, detailed in Section 2.4 below.

2.4 Professional and informal networks

Each member of the Reviewing Team has a wide network of professional colleagues within the gambling field. This includes researchers, treatment/service providers, public health specialists, government officials and gambling industry personnel. Where appropriate, the Reviewing Team contacted (generally by telephone or Email) specific people who were considered possibly to have information that would be useful to the project. Some grey literature and information regarding newly published material was obtained in this manner.

Additionally, a 'request for help' was posted to the international Email discussion group for problem gambling professionals *GamblingIssuesInternational*. This forum has nearly 400 members from 17 countries, represented by researchers, clinicians, educators, policy makers and others. It is moderated by CAMH, the Centre for Addiction and Mental Health, Ontario, Canada. The posting to the discussion group resulted in one response leading to unpublished literature relating to a problem gambling social marketing approach with young people.

3 LITERATURE REVIEW

This chapter details the review of literature, covering the eight areas indicated within the terms of reference. The review starts with overarching definitions of social marketing and discusses the effectiveness of social marketing and public health approaches in areas other than gambling (Section 3.1). This leads into the public health implications of gambling and problem gambling (Section 3.2) and is followed by a section on risk and protective factors for gambling harm at individual, community and environmental levels together with a comment on where there are information gaps in the knowledge base (Section 3.3). A description of gambling behaviours and attitudes/perceptions towards gambling is detailed in Section 3.4). Relevant behaviour change theories that could be applied to social marketing approaches to prevent and minimise gambling harm are identified in Section 3.5. This leads into a section detailing the identification of information that could inform the development of behaviour change indicators (benchmarks) for measuring the impact of public health and social marketing approaches to prevent and minimise gambling harm (Section 3.6). This chapter concludes with an overview of the competition particularly amongst target audiences (e.g. industry marketing strategies) (Section 3.7) followed by identification of the context of services and coordination of them for preventing and minimising gambling harm in New Zealand (Section 3.8).

3.1 Social Marketing

In this section the concept of social marketing in the context of informing the current literature review to prevent and minimise gambling related harm, is examined. In particular, this section seeks to:

- Define social marketing
- Discuss key principles and practices of social marketing
- Describe how the discipline differs from commercial marketing and other public health efforts
- Briefly describe social marketing efforts (in the context of public health) applied to other areas and their effectiveness for different population groups
- Discuss the implications for the application of social marketing to prevent and minimise gambling-related harm within the New Zealand context

3.1.1 *Defining social marketing*

The origin of social marketing stems from the discipline of commercial marketing, with Wiebe in 1952 posing the question ‘Why can’t brotherhood be sold like soap?’ Wiebe reached the conclusion that society’s aspirations could benefit from applying commercial marketing techniques (Wiebe, 1952).

Since its inception in 1971, the term social marketing has been redefined and subject to debate and discussion amongst academics and practitioners (Andreasen, 2002; MacFadyen et al, 1999; Smith, 1997; Walsh et al., 1993). However, the common element to all definitions of social marketing is the application of the marketing mix (product, price, promotion and placement) to achieve socially desirable goals. Moreover, most definitions discuss an element of design and control of programmes.

For the purpose of this report we use Donovan & Henley's (2003) adapted version of Andreasen's (1995) definition of social marketing:

“The application of commercial marketing technologies to the analysis, planning, execution and evaluation of programmes designed to influence the voluntary or involuntary behaviour of target audiences in order to improve the welfare of individuals and society”.

Donovan & Henley further extend this definition by proposing that the United Nations Universal Declaration of Human Rights be used as the baseline definition for the 'common good'.

Donovan (2005a) proposes that social marketing operates on the following levels:

- “Identifies and targets *individuals* to change their behaviour via information and persuasion
- Identifies and targets *environmental* factors that minimise harm
- Identifies and targets *those in power* to make structural changes that: remove barriers, give individuals the capacity and resources for change and facilitate the adoption of desired behaviours
- Seeks changes in structures in society that inhibit attaining human rights”

A key distinction separating Donovan & Henley's (2003) definition of social marketing from most other definitions is the notion of supporting *involuntary behaviour changes* amongst target audiences. Donovan & Henley suggest that an influence on upstream decisions that impact on involuntary audience behaviours is appropriate and a legitimate use of social marketing. For example, a social marketing approach with the objective of individuals consuming less saturated fat may do so by persuading food manufacturers to substitute saturated fat products with polyunsaturated fats. Whilst the behaviour of the manufacturer is voluntary, the impact on the end users' consumption of saturated fat intake is involuntary. Likewise Donovan & Henley argue that as part of a social marketing approach, legislators can be lobbied to voluntarily enforce such substitutions (which assumes involuntarily behaviour changes amongst food manufacturers and target audiences).

Donovan (2005b) notes that commercial marketers' use of sponsorship to obtain exclusive merchandising rights at sporting events results, for example, in only the brewer sponsor's beer being available at say football league sporting events; i.e. involuntary behaviour change on the part of beer drinkers who wish to consume beer at the event.

3.1.2 Key principles and practices of social marketing

Behaviour change focus

A defining characteristic of social marketing includes the notion of a behaviour change focus. Andreasen (2002) advocates for behaviour change as the bottom line in any social marketing design and evaluation of interventions. An emphasis on behaviour change implies that the strategic integration of all elements of the marketing mix will facilitate an exchange process taking place. While communication elements may induce favourable positive attitudes towards a behaviour, the environment must provide

opportunities for the adoption of the behaviour with minimal barriers (Donovan, 2005b).

Donovan & Owen (1994) propose the following concepts, principles and features of marketing which apply to the social marketing concept:

Fundamental concepts

- Consumer orientation
- Exchange concept

Overarching principles

- Consumer value (use of the marketing mix)
- Selectivity and concentration (market segmentation)
- Differential advantage (competition)

Defining features

- Use of market research
- Integrated approach to implementation
- Monitoring and influencing environmental forces

Consumer orientation approach

Consumer orientation forms the basis for many of the other marketing concepts and distinguishes social marketing from other frameworks which are used to achieve social change and social benefits. For example, Weininger (2003) argues that the consumer orientation approach is different from the approach that many public health practitioners take in assuming they know what is best for the public.

Utilising the marketing conceptual framework requires an understanding of the people (consumers or target audiences) whose behaviours are the focus of social marketing efforts (Grier & Bryant, 2005). Consumer orientation implies that the consumer is central to, and an active participant in, the social marketing process (MacFadyen, Stead & Hastings, 1999). Therefore, social marketers must be aware of, and responsive to, consumer needs and aspirations (Lefebvre & Flora, 1988).

Application of the exchange concept

Described as a core concept of marketing, exchange refers to the transmission of value between two or more parties. Each party must benefit, or at least perceive to be no worse off, by the exchange (Kotler & Andreasen, 1987). Therefore, the challenge that social marketers face is to maximise the perceived benefits and minimise the perceived costs faced by the target audiences (Andreasen, 2002).

Donovan & Henley (2003) suggest the exchange concept offers these key lessons for social marketers:

- Offer benefits that the target audience values
- Recognise the resources (e.g. time, money, physical discomfort) that consumers must outlay for the promised benefits
- Acknowledge that all exchange participants, including intermediaries, must receive valued benefits in return for their efforts

Use of the marketing mix

The 'four Ps' of the 'marketing mix, include product, price, place, and promotion.

Product

In commercial marketing, product considerations include the actual product or service as well as the brand name, reputation, packaging and so on. In social marketing, the product is the behaviour or health idea that the campaign planners would like the targeted individuals (i.e. 'consumers') to adopt. This product can be an action (e.g. exercising more often) or tangible item, programme or service (e.g. condom, help line). The product must be positioned, presented and/or modified in such a way as to maximise benefits and minimise costs. For instance, physical activity could be represented as a form of relaxation, not exercise.

Evidence should be used to promote the benefits of the 'product'. For example, women who understand the benefits of early detection of cell changes in the cervix will be more likely to have regular smear tests. Portraying positives is particularly important for those products or actions that may be threatening or challenging. Quitting smoking or losing weight is not much fun - but it can have huge health, social and financial benefits. The benefits which are most salient and motivating to the consumer need to be emphasised.

Price

In commercial marketing, price refers to the dollars outlaid for the product or service. However, it also includes other costs associated with 'buying' the product, such as transport time and foregone opportunities. In social marketing, costs can involve sacrifices related to psychological wellbeing (e.g. increased anxiety), sociality (e.g. possibility of ostracism), economics (e.g. financial sacrifice) or time (e.g. inconvenience). An understanding of the price can be used to promote benefits for the consumer (e.g. the inconvenience of preparing a healthy meal can be rewarded with enjoyment and fun through the learning of new recipes and by involving family members, or through increased savings from not buying takeaways). In problem gambling, examples of the costs to the consumer of reducing or ceasing gambling may include sacrificing the opportunity and excitement of winning money and enjoying a safe, social environment and considerable psychological discomfort as they attempt to control their gambling urge.

Place

In commercial marketing, place refers to the distribution channels used to make the product available to target audiences. 'Place' includes locations or channels that provide opportunities to try and practise the behaviour or to experience the service/product (Stead, 2005). When the product is a physical item, it must be easily obtainable by consumers. When it is an idea, it must be 'socially available' - supported within the consumer's social sphere. The placement of activities for specific ethnic groups is more likely to be received in areas where these groups congregate (e.g. products might be better received in marae settings for Maori and in churches for some Pacific populations).

Promotion

Promotion encompasses all the marketers' efforts to ensure that the target audience is aware of the product and its benefit, its price and where it is available. The promotional mix includes publicity, public relations, advertising, sales promotions and sponsorship. These promotional efforts are designed to cultivate positive attitudes and intentions regarding the product that pave the way for behaviour change. It is anticipated that a range of promotional activities (e.g. community development projects, multimedia information dissemination backed up with training and provider support, developing promotional strategies that enable supportive and responsive gaming policies and environments) are likely to be needed to prevent and minimise gambling harm.

People

Baker (1996, as cited by Donovan and Henley, 2003) identifies a fifth P - *People* - in the marketing mix to reflect services marketing. Many social marketing products are services delivered by health and other professionals (e.g. immunisation, quit smoking courses, nurses, General Practitioners, welfare workers, bureaucrats). The consumer's experience is dependent on the interaction between the 'customer' and the 'salesperson'. As in a commercial situation, staff should be polite, attentive, friendly, knowledgeable and well-trained to deliver the service, thus ensuring a satisfying experience and hence 'repeat purchase' or favourable word-of-mouth advertising (Donovan, 2005b).

Market (customer) segmentation

Market segmentation is a cornerstone of commercial marketing. Marketers divide the total population of interest into lifestyle, demographic or attitudinal segments, then select and concentrate on those segments that the company is best suited to service. Using the principle of segmentation, social marketers tailor marketing strategies (including the products, prices, promotions and placements) that are most responsive to the needs of the different target audiences (Andreasen, 2002; Bryant & Grier, 2005; Donovan & Henley, 2003; Lefebvre & Flora, 1988; MacFadyen et al., 1999; Walsh et al., 1993).

Social marketers use formative research to gain an insight into, and an understanding of, the current behaviours, attitudes, perceptions, values, wants, needs and aspirations of consumers. Research is used to pre-test interventions against specific segments and to establish baseline data in order to monitor results. Segmentation of the target audience ensures maximum efficiency and effectiveness in the use of scarce resources (Andreasen, 2002).

Competition

Competition in commercial marketing mainly refers to competition between marketers who provide products that meet a common underlying need (e.g. the different fast food companies). However, competition also exists between different product categories and, ultimately, for the consumer's discretionary spending (e.g. renovate the house versus buy a new car). Competition in social marketing can be viewed as those behaviours and related benefits that target audiences may prefer, over the behaviours social marketers seek to promote (Social Marketing National Excellence Collaborative, 2003). Overcoming existing behavioural habits is one of the major competitors and

challenges that social marketers face (MacFadyen, Stead & Hastings, 1999). Novelli (1996) suggests that some social marketers may choose not to engage in any intervention where the competition is formidable. These considerations highlight the need for good assessment and strategies to overcome/manage the competition.

In addition, MacFadyen and colleagues (1999) refer to competition from two other major sources, these being:

- Organisations such as health promoters, educators and government agencies, which seek to promote their own material and messages
- Commercial marketers, which encourage unhealthy or unsocial behaviours such as the tobacco and alcohol industries

Social marketers and indeed public health practitioners may be in competition with each other to reach similar or related target audiences, particularly lower socio-economic and specific ethnic groups. This may in turn lead to a market 'saturated' with messages, which makes it even more difficult to reach the target audiences. It also implies that social marketers and other public health practitioners need to work more collaboratively to consider the competition and how to ensure that their efforts are more effective at reaching their audiences.

Research and evaluation

As in commercial marketing, research is important for identifying and understanding consumer needs, wants, attitudes, perceptions and behaviours; testing interventions (including new products); advertising and promotion; consumer satisfaction and opportunities for development and ultimately for informing the most appropriate marketing mix.

Donovan & Henley (2003) describe a research framework for social marketing interventions based on Coyle et al's (1987) four key questions:

- Formative Research - What strategies and materials would work best?
- Efficacy Research - Could the campaign actually make a difference if implemented under ideal conditions?
- Process Evaluation - Was the campaign implemented as planned?
- Outcome Evaluation - What impact, if any, did the campaign have?

Like any public health initiative, evaluation and monitoring are essential elements to social marketing. Social marketers advocate for evaluation and monitoring considerations at the beginning of the planning process. Evaluations are used to determine the effectiveness and sustainability of campaigns. Evaluations also provide useful information about potential successes and limitations associated with, and future applications of, social marketing interventions. Ongoing monitoring allows social marketers to revise interventions and measure progress and outcomes. All social marketing planners should include appropriate and adequately resourced evaluation(s) and monitoring mechanisms.

An integrated planning process

The application of the marketing mix requires an integrated planning process to ensure maximum use and effectiveness of resources (Donovan & Henley, 2003). Social marketing is often a complex long-term approach that requires leadership, coordination,

strategic analysis and support, often with an overarching plan. This requires persistence and long-term perspectives rather than one off campaigns (MacFadyen et al, 1999; Walsh et al, 1993). A review of previous social marketing efforts associated with health promotion suggests that a strategic process and an overarching marketing plan are often lacking (Hill, 2001). Long-term integrated planning is essential for major and complex public health issues.

The environment and ongoing monitoring

Social marketing must factor in the potential opportunities and risks associated with the environment. The types of environmental influences that impact on social marketing include (as identified by Donovan & Henley, 2003):

- Political-legal (e.g. Government policy, legislation and strategies such as the Gambling Act 2003, the Ministry of Health's national strategy for preventing and minimising gambling related harm)
- Economic (e.g. revenue generated by gambling in New Zealand, costs of problem gambling in New Zealand)
- Technological (e.g. advances in gambling opportunities such as through the internet or via cell phone)
- Social and cultural (e.g. consumer demand for casinos, public acceptance of types of gambling)
- Demographic trends (e.g. ageing populations, changing ethnic mixes)

Donovan & Henley (2003) acknowledge that the environment may need to be influenced concurrently or prior to any social marketing effort.

3.1.3 Differences between social marketing and commercial marketing

The selling of healthier behaviours and the selling of commercial products and services have much in common. However, there are also many differences between social and commercial marketing Donovan (2005b) identifies that the key difference between social marketing and other branches of marketing as the underlying motivation. He argues that “the social marketer’s goal relates to the wellbeing of the *community*, whereas for all others, the marketer’s goal relates to the wellbeing of the marketer (e.g. sales and profits, members and donations, political representation)”. Donovan also suggests that we do not *use* social marketing, rather we use marketing. “The fact that the goal is community wellbeing makes it *social* marketing”.

Social marketing is often more complex than commercial and not-for-profit marketing. The issues are likely to be far more complex (e.g. reducing harmful gambling or smoking behaviours versus purchasing products such as a can of coke or a bike). The number and nature of relationships can be far more complex (e.g. buying shelf space in a supermarket compared to negotiating with politicians, Government agencies, General Practitioners and service providers to fund and deliver specific services; trying to get industry to restrict products that can contribute to harmful behaviours, particularly where it adversely affects their bottom line) and the competition can be particularly challenging (e.g. trying to manage global multi-billion dollar industries), a requirement for increased consumer involvement and effort (having to turn up to regular appointments), overcoming ingrained behaviours and values (e.g. antismoking, maternalistic values) (Donovan, 2005b; McDermott et al, 2005).

Social marketers strive to change the unhealthy behaviours of a large percentage of the target audience. Product marketers are usually delighted with small increases in market share.

It may take months or years for the health benefits offered in social marketing campaigns to result. Indeed, many of the benefits sold are preventative in nature, resulting in the absence of an event (e.g. the non-development of cardiovascular disease). Product marketers offer benefits that are realised immediately or soon after purchase of the product.

Social marketers usually attempt to achieve their goals with small budgets. In-kind services, volunteerism and donations of other resources may add to the available resources but the social marketer can seldom match the resources available to product marketers. As a corollary, product-marketing campaigns tend to be supported by more extensive formative and summative research and more professional and extensive communications with the consumer.

Social marketing is part of, but has a unique orientation in, public health

Public health is concerned with preventing disease, prolonging life and promoting health through the organised efforts of society (Ministry of Health, 2000). Public health approaches are often broader in design and approach than social marketing. The Ottawa Charter for Health Promotion (World Health Organisation, 1986) provides a framework for health promotion actions, including building healthy public policy, creating supportive environments, strengthening community action, developing personal skills and re-orienting health services. Social marketing is seen as a useful tool to influence these health promotion actions.

Social marketing, similarly to public health approaches, draws on disciplines such as psychology, sociology, communication and economics (Donovan, 2005a). Social marketing is also concerned with promoting similar goals and strategies to those of public health approaches. However, social marketing distinguishes itself from other public health efforts through its emphasis on the “strategic integration of the elements in marketing’s conceptual framework” (Grier & Bryant, 2005). As described previously, social marketing involves the application of a consumer orientation, using exchange, audience segmentation, the marketing mix and understanding of the competition. These considerations are not systematically applied within the general public health context.

3.1.4 The evidence for social marketing

This sub-section briefly canvasses a range of social marketing applications to public health issues. The review focuses on interventions utilising identified principles of social marketing consistent with those identified previously. This sub-section is not intended as a systematic review of all social marketing efforts as it is difficult to compare social marketing across different public health areas. Rather the sub-section provides a few examples of successful social marketing campaigns from selected readings. More detailed examples of public health efforts applied to problem gambling are identified in Section 3.2.3 of this report.

There is a dearth of information on the application of social marketing to the area of preventing and minimising gambling related harm. The authors found one paper by Byrne and colleagues (2004) examining 'social marketing' campaigns on the prevention of youth problem gambling. We would argue that the review fails to meet the criteria for social marketing we identify in this paper and should be classed as a review of social advertising (media campaign) efforts. The Queensland Responsible Gambling Strategy (2002) includes some aspects of marketing to raise community awareness and knowledge about gambling (refer to Section 3.2 on Public health interventions). Unfortunately the results of the efforts are unavailable.

There are a number of studies demonstrating the success of social marketing approaches with population groups and across other social, environmental and public health areas.

The Social Marketing National Excellence Collaborative (SMNEC) (2003) suggests that social marketing can be used to enhance the effectiveness of efforts to protect and improve public health. The SMNEC undertook a review of case studies to demonstrate how key concepts of social marketing were applied. The case studies were assessed against audience segmentation, formative research, behaviour change, the marketing mix and its integration into design, competition and evaluation. Results of the reviews suggest that social marketing efforts were successful in achieving behavioural goals across HIV, food illness prevention, food safety amongst ethnic audiences, air quality interventions and sexual abuse intervention areas.

In a review of U.S. case studies, Grier & Bryant (2005) highlight the success of social marketing campaigns such as the VERB™ programme (encouraging physical activity amongst young people), the Truth Campaign (reducing smoking among teenagers), the Road Crew Project (reducing alcohol-related car crashes) and the WIC campaign (increasing enrolments and improved customer and employee satisfaction with a special Supplemental Nutrition Program for Women, Infants and Children (WIC)). The reviews draw on elements of the notion of exchange, audience segmentation, competition, the marketing mix, consumer orientation, the importance of research and continuous monitoring and revision.

The Social Marketing Institute (2005) describes a number of success stories relating to social marketing including stomach ulcer control, seat belt usage, youth smoking prevention, infant mortality, diabetes, breastfeeding, affordable health care and HIV/AIDS. The Social Marketing Institute draws on elements of:

- Action as the objective
- Target audience as the focus
- Exchange
- Audience segmentation
- Use of the marketing mix
- Analysis of the competition
- Monitoring and being flexible

Donovan & Henley (2003) highlight the successes of immunisation, travel and domestic violence social marketing campaigns. All of these interventions draw upon the elements of formative research, motivations, barriers, target audience segmentation,

strategy development, implementation of the marketing mix and evaluation. The Immunise Australia Programme (1991) successfully raised immunisation rates amongst young Australian children using sound formative research in strategy development, communication design and refinement (Carroll & Van Veen, 2002). TravelSmart® (2002) was developed to reduce and/or replace car trips with walking, cycling and public transport. The focus of TravelSmart® was a personal selling strategy, which tailored advice to target households. This is quite different from a mass media approach (James, 2002). The Freedom from Fear Campaign (1999) achieved a significant change to the way traditional domestic violence campaigns were approached. The campaign successfully targeted potential domestic violence perpetrators to seek voluntary assistance via help lines and counselling services (Donovan et al, 1999).

Social marketing applied in New Zealand

In New Zealand, social marketing approaches have been applied to issues such as sun safety (SunSmart campaign), road safety (Land Transport Safety Authority campaigns), mental health (Like Minds Like Mine campaign) and the environment (Auckland Regional Council's *The Big Clean Up*). Many of these campaigns have applied different aspects of the social marketing principles described previously (e.g. audience segmentation, research, consumer orientation) but most pay more attention to the promotional aspects of the marketing mix. There have been few evaluations on how well social marketing works for audiences such as Maori (Ellis, 2004), Pacific, lower socio-economic and other ethnic populations in New Zealand. However, the premise of a consumer-orientated approach in social marketing will address the cultural values, needs and aspirations of these populations.

The Ministry of Health's (2005d) 'Like Minds Like Mine' project was developed from a report recommending the development of a health communications project to reduce the stigma of mental illness and the discrimination experienced by people with mental illness. Therefore, the 'Like Minds Like Mine' project focused on changing society's attitudes and behaviour towards mental illness in New Zealand.

The Like Minds Like Mine project utilises a consumer focus, an exchange concept, audience segmentation, an analysis of the competition and the environment, an integrated approach to implementing the marketing mix, and evaluation. The project had four key national components: public relations, advertising, development of national policy and curriculum guidelines, and an evaluation component. In addition, the project involved 26 health promotion providers undertaking various regional promotional and training activities with their local communities, community groups and organisations, marae, businesses and their local media.

The Ministry of Health used an independent agency to assess the impact of the project on public attitudes towards people with experience of mental illness. To date, results are promising and identify that considerable numbers of people with mental illness have reported reduced stigma and discrimination associated with mental illness, over the last three years.

The review of previous efforts across a range of social and public health issues (as described in this section) suggests that the application of social marketing principles

and approaches to the problem gambling area has the potential to influence behaviour change. Like any public health effort, the success of any social marketing intervention will be determined through careful planning and application of key social marketing principles.

3.1.5 Limitations and arguments for the use of social marketing

The introduction of social marketing as a relatively new discipline has been met with its share of criticism and debate. The lack of definitional clarity and consensus is seen as a hindrance to the evolution of the discipline (McDermott et al, 2005). Social marketing is often misconstrued as social advertising or health education, or seen as mass media campaigns. Grier & Bryant (2005) maintain that the disproportionate attention to promotional activities detracts from the fundamental requirement of an integrated marketing mix. Consequently, there is a greater potential for social marketing to be misused and/or undervalued in its application. McDermott et al (2005) argue that future authors of social marketing interventions must always seek to clearly define their approach and principles of application.

The application of social marketing requires competent and experienced practitioners. Pirani & Reizes (2005) suggest effective social marketing has been inhibited by a lack of understanding of, inadequate training for, and poor utilisation of core components of social marketing. Smith (1997) suggests there is too much “advertising”, too much “reliance on focus groups” and too little “science” in social marketing. He identifies four fundamental competencies for social marketing including exchange theory, competition, segmentation by lifestyle and marketing.

Critics have challenged the notion of applying marketing concepts to social issues. Marketing, as a concept, may be seen by some as fundamentally opposed to the ethos of public health (Walsh et al, 1993). Donovan & Henley (2003) and Smith (1998) report that some critics argue that marketing has an individual focus that predominantly disregards the wider determinants such as social, economic and environmental factors of individual health behaviour. Other critics reportedly contend that the individual approach equates to a ‘blame the victim’ mentality (Hastings, MacFadyen & Anderson, 2000). However, there is a growing acceptance of applying social marketing to influence upstream activities (e.g. policy and regulation) and to address the wider determinants of health (Donovan & Henley, 2003; Grier & Bryant, 2005; Lefebvre & Flora, 1988; MacFadyen et al, 2003).

In order to dispel the perceived association of propaganda and manipulation with social marketing, Grier & Bryant (2005) suggest social marketing campaigns need to:

- “Focus less on communication to inform people about public health products
- Place greater emphasis on developing affordable, accessible products that allow people to solve their problems and realize the aspirations that matter most in their lives and to modify the environment to make it easier and more enticing to adopt the healthy behaviour”

Grier & Bryant propose that those using social marketing tools and principles should think about ways to involve consumers/communities as partners in the planning and implementation process. Furthermore, Grier & Bryant suggest that the ideal is to have

consumer orientation principle (viewing consumers at the centre of everything you do, involving them as true partners) as the central tenet for public health organisations.

3.1.6 Application of social marketing to the New Zealand context

This sub-section of the report identifies the context for a social marketing approach to preventing and minimising gambling-related harm in New Zealand.

The Treaty of Waitangi is seen as the founding document of New Zealand acknowledging the unique relationship that Maori (through iwi/hapu) have with the Crown. Social marketing applied to the New Zealand context should consider the three principles derived from the Treaty of Waitangi and referred to in the Government's Maori Health Strategy, He Korowai Oranga (Ministry of Health, 2002) including:

- Partnership - working together with iwi, hapu, whanau and Maori communities to develop strategies for Maori health gain and appropriate health and disability services
- Participation - involving Maori at all levels of the sector in decision-making, planning, development and delivery of health and disability services
- Protection - working to ensure that Maori have at least the same level of health as non-Maori and safeguarding Maori cultural concepts, values and practices

The Health Promotion Forum (2002) applies the following guiding principles to each Treaty clause:

- a) Maori participate in the development, implementation and as end users of an intervention
- b) The intervention contributes to Maori health aspirations
- c) The intervention contributes to Maori health outcomes

An analysis of the supportive elements, and the competition, to prevent and minimise gambling-related harm in New Zealand are considered later in the current report. These considerations will be discussed in more detail in the formulation of the social marketing plan. The New Zealand Gambling Act 2003, as well as Government's national strategy and funding plan for preventing and minimising gambling-related harm (Ministry of Health, 2004, 2005a) will provide the base for a social marketing approach in this area. It is expected that existing providers of gambling-related services will be engaged and training opportunities supported.

In line with Donovan's suggested levels of operation, a national social marketing approach to prevent and minimise gambling-related harm in New Zealand should:

- Identify individuals (and groups) who are most at-risk of gambling-related harm and develop approaches that inform and persuade behaviour changes to prevent gambling-related harm
- Identify environmental factors that prevent and minimise gambling-related harm
- Identify decision makers and work with them to make structural changes that support and facilitate the adoption of alternative healthy recreational behaviours

The successes and learning from public health approaches to addressing harms associated with alcohol and tobacco use are worthwhile considering for future social marketing efforts associated with gambling in New Zealand.

The public health approach to reducing alcohol-related harm in New Zealand (Alcohol Advisory Council of New Zealand and the Ministry of Health, 2001) includes attention to three areas:

- Supply control - restricting availability (access and affordability) of alcohol products through regulation and enforcement
- Demand reduction - reducing consumption and increasing responsible drinking through public education and provision of information
- Problem limitation - reducing alcohol-related problems through improved treatment services and proactive initiatives (e.g. specific activities to reduce drinking and driving)

The New Zealand national alcohol strategy argues for a comprehensive approach with key inter-sectoral coordinated activities to tackle alcohol-related harm.

Warner (2005) describes the public health approach to tobacco control in three phases: public education and exhortations to quit, non-smokers rights movement (banning smoking in some areas) and comprehensive state control programmes (e.g. taxes, media campaigns, clean indoor air ordinances (legislation), telephone support hotlines, other initiatives). He suggests that the success of the antismoking campaign relied on sustained, thoughtful, well-resourced and multidimensional efforts. A similar trend in tobacco control activities has occurred in New Zealand. A major lesson from alcohol and tobacco control efforts in New Zealand is that any proposed gambling harm prevention initiatives must always seek to reduce the potential further inequalities amongst populations most at risk.

3.1.7 Conclusion

Social marketing is much more than mass media or public education campaigns. Although they have similar goals, the key distinction between social marketing and public health efforts is the strategic application and integration of a marketing conceptual framework.

Whilst the concept of social marketing (i.e. the application of the marketing mix to social issues) is generally accepted, there is no universally accepted description for how the principles of social marketing are applied. For the purpose of this report the following definition of social marketing has been adopted:

“The application of commercial marketing technologies to the analysis, planning, execution, and evaluation of programmes designed to influence the voluntary or involuntary behaviour of target audiences in order to improve the welfare of individuals and society” (Donovan & Henley, 2003).

This definition assumes that:

- The United Nations Universal Declaration of Human Rights be used as the baseline definition for the ‘common good’
- Social marketing should focus not only on individual behaviour change but also on achieving changes in the social determinants of health and wellbeing

The key principles and practices for social marketing include:

A Behaviour change focus

Fundamental concepts

- Consumer orientation
- Exchange concept

Overarching principles

- Consumer value (use of the marketing mix)
- Selectivity and concentration (market segmentation)
- Differential advantage (competition)

Defining features

- Use of market research
- Integrated approach to implementation
- Monitoring and influencing environmental forces

We recommend that social marketing applied to the New Zealand context considers the three principles derived from the Treaty of Waitangi and referred to in the Government's Maori Health Strategy, He Korowai Oranga including:

- Partnership
- Participation
- Protection

Previous social marketing efforts have been successful in reaching population groups and improving behavioural outcomes across a range of public health intervention areas. The authors of this review found few evaluations of the effectiveness of social marketing interventions specifically targeting lower socio-economic or ethnic groups in New Zealand. Despite this, it appears that social marketing has the potential to be used in the prevention and minimisation of gambling-related harm in New Zealand. However, adequate attention and resources must be paid to the key social marketing principles and practices detailed above and take on board the successes and lessons from past public health approaches.

3.2 Public health implications of gambling and problem gambling

The term 'public health implications' is used to encompass the broader view of communities and societies, as opposed to focusing on the problem gambler. Therefore, although the large general array of gambling-related impacts is acknowledged, this section focuses on community and societal issues that could be modifiable through the use of social marketing (i.e. modifiable community and social risk factors).

This section begins with an exploration of some benefits and costs that are associated with a range of gambling-related impacts and their public health implications. Some are specific gambling industry-related impacts which may also affect people in other industries. Some apply directly to those who consume gambling products and the people with whom they interact whilst others operate at the community-wide level.

National and international literature on the benefits associated with gambling will be discussed in the following sub-sections along with relevant reports specific to the New Zealand context. A plethora of international and national studies have identified ambivalent attitudes toward the benefits and costs of gambling impacts. On one side of the coin, gambling is viewed positively as a source of funding for community groups and a means to increase economic development and employment. On the other, the potential for problem gambling is perceived as a major cost.

This section also reviews national and international approaches to problem gambling education and awareness raising and what is known of the effectiveness of these approaches.

3.2.1 Benefits

The Australian Institute for Gambling Research (AIGR) (1998) highlights some of the gambling-related benefits associated with the introduction of casinos to New Zealand. These include financial assistance from casinos for community organisations, increased employment opportunities and tourism. This was believed to contribute to the overall level of community cohesion. Abbott (2001b) identifies job creation and increased income and expenditure as being associated with gambling and the expansion of gambling. In addition and more recently, Adams et al (2004) report the perceptions of participants from seven Territorial Authorities in the Auckland region, New Zealand, that gambling venues provide a form of entertainment and improve business prospects. The National Research Council, U.S. (1999) notes that gambling venues can lead to increased tax revenues, income for employees, recreational opportunities and rising property values.

Abbott (2001b) illustrates gamblers' and problem gamblers' perceptions of the social involvement that is associated with gambling. On this premise, gambling is considered to be a form of fun and relaxation. In line with this view, the Australian Productivity Commission (Productivity Commission, 1999) reports that gambling is also commonly perceived as a reprieve from stress and worry, a form of relaxation and an enjoyable past-time.

Individual gambling activities have also been identified as entertainment and socialising opportunities. For example, Perese (2000) identifies housie (bingo) not only as a significant fundraising mechanism for Samoan community organisations and groups in New Zealand but also as an enjoyable form of entertainment, particularly for women, that is conducted in a safe environment such as the church. Morrison (2004) also notes that due to the circumstances of many Maori women, gambling is commonly considered a positive experience and, for some, a friend. The negative aspects of this behaviour are often ignored or denied.

Wong & Tse (2003) note that gambling has been a part of the social fabric of Chinese society for thousands of years. Many gambling activities are considered to be a normal way to socialise with friends and relatives. In particular, for recent Chinese migrants to New Zealand, gambling activities provide a great deal of opportunity for social gatherings, meeting new friends and enjoyment.

In addition, tangible benefits to the New Zealand community are expressed in terms of grants given to community groups and organisations. These funds come via the various gaming machine societies, clubs and charitable organisations which operate the electronic gaming machines. Under the Gambling Act 2003, a minimum of 37.12% of GST exclusive gross proceeds from the machines must be distributed to the community and/or for their own authorised purposes (Department of Internal Affairs, 2003a).

3.2.2 Costs

A report by the Australian Productivity Commission (productivity Commission, 1999) highlights a plethora of social costs associated with problem gambling. These encompass personal impacts such as depression, anxiety, suicide and ill-health as well as impacts on families, friends, employers, work colleagues and the wider community. Comparable with this, Rankine & Haigh (2003) indicate that the social impacts of gambling in Manukau City, New Zealand include high rates of stress-related health problems, suicide attempts, erosion of savings, neglect of children, relationship break-up, debt, eviction or housing mortgagee sales, crime and health system costs.

These costs will be discussed in the following sections along with several reports specific to the New Zealand context.

Employment

A plethora of literature highlights the adverse impacts of problem gambling on employment. The Australian Productivity Commission (Productivity Commission, 1999) identifies reduced levels of concentration, work quality, time spent working, and levels of cooperation and trust with colleagues. Job changes or loss due to gambling were also found to be more frequent among problem gamblers in counselling. In addition, studies in New Zealand indicate absenteeism, unemployment and loss of employment as negative gambling-related impacts. These impacts are generally noted across all ethnic groups (Abbott, 2001b; Guttonbeil-Po'uhila, Hand, Htay & Tu'itahi, 2004; Perese & Faleafa, 2000; Rankine & Haigh, 2003). In the New Zealand national prevalence surveys, Abbott (2001a) identifies that 16% of participants indicated that gambling is something talked about at work, seven percent had sometimes gone gambling with people from work and two percent indicated that thinking about gambling was a way of coping with a boring job.

Finances

Much literature identifies the impact of problem gambling on finances. The Australian Productivity Commission (Productivity Commission, 1999) suggests that this includes accumulated debts, spent savings and indisposable income, sold assets including homes, bankruptcy and borrowed money from loan sharks. Between 1990 and 1996 the Victorian Commission for Gambling Regulation (Australia) identified that increased gambling expenditure as well as expenditure on other retail goods and services significantly contributed to a decline in national and household savings (www.vcgr.vic.gov.au). Rankine & Haigh (2003) claim that in New Zealand these social impacts are likely to be greatest in lower socio-economic areas, many of which are predominantly populated with Maori and Pacific peoples. Some social impacts that are consistently experienced by these populations include pawned goods, selling of family property, loss of assets and loss of housing and residence (Guttenbeil-Po'u'hila et al., 2004; Perese & Faleafa, 2000; Rankine & Haigh, 2003; Robertson et al., 2004). Rankine & Haigh (2003) also highlight mortgagee sales and debts of between \$7,000 and \$75,000 (NZD) for the participants in their report who gambled. In a sample of Salvation Army clients from Auckland and Christchurch, New Zealand, Hutson & Sullivan (2004) also highlight an association between poverty and problem gambling. Fourteen percent of these clients were identified as problem gamblers, which was significantly higher than general population prevalence (1.35%) (Hutson & Sullivan, 2004).

Crime

The Australian Productivity Commission (Productivity Commission, 1999) notes that once legal sources of gambling funds are exhausted, problem gamblers are prone to resort to illegal activities to obtain money. It is estimated that one in ten problem gamblers and two-thirds of those receiving counselling for gambling-related issues have committed a crime because of their gambling.

In 1998, the AIGR reports that New Zealand casinos have not had a significant impact on crime. However, a community survey conducted for that study found an ambiguous public response to this and many remained undecided on this issue (Australian Institute for Gambling Research, 1998).

A number of studies have sought to explore a link between gambling and crime and suggest that they may be related in a number of ways (Abbott & McKenna, 2000; Abbott, McKenna & Giles, 2000; Australian Institute for Gambling Research, 1998; Department of Internal Affairs, 2001a; Department of Internal Affairs Policy Unit, 1996; Drabsch, 2003; Markland, 1996; Productivity Commission, 1999).

In New Zealand, a high prevalence rate amongst prison inmates suggests a link between pathological gambling and criminal offending (Abbott, McKenna, & Giles, 2000). A large proportion of male inmates who reported gambling prior to imprisonment (96%) were assessed as either lifetime or current problem gamblers (31% and 23% respectively). Furthermore, 15% were identified as having committed a crime to obtain money to gamble or to pay gambling debts. Burglary was the most frequent crime, followed by theft, fraud and robbery. It is important to note at this point that these findings do not imply that gambling behaviour alone instigates criminal activity

particularly since a large proportion of problem gamblers in the prison population were identified as having committed criminal offences prior to onset of their problem gambling. In addition, although a minority of problem gamblers had developed gambling problems prior to the initiation of their offending, only about six percent of recently sentenced male inmates are in prison primarily or exclusively for gambling-related crimes. This suggests that while relatively few male prisoners began their criminal careers in association with or in response to problem gambling, gambling appears to have played an important part in the subsequent offending of many men who became problem gamblers (Abbott, McKenna, & Giles, 2000).

Abbott, McKenna & Giles (2000) also highlight links between particular demographic characteristics of 'probable problem' gamblers and those at risk of criminal offending. These include Maori and Pacific Island ethnicity, young males with minimal education and young males who are unemployed. In particular, although Maori represent only ten percent of the New Zealand population, this group accounts for over half of the male prison population and about two-thirds of the female prison population. Despite this, Abbott, McKenna & Giles (2000) suggest that Maori prison populations are no more likely to be problem gamblers than non-Maori since the percentage of Maori problem gamblers was similar to the percentage of non-Maori problem gamblers in the prison samples. However, according to Dyall (2004c) there is a need to understand the relationship between gambling normalisation and other issues which influence Maori criminal offending and high prison populations as this suggests that gambling increases Maori risk of imprisonment.

Abbott & McKenna (2000) also explored links between gambling and criminal offences among women prisoners in New Zealand. It was found that 26% of the female prisoner gambling population reported having committed a crime to finance their gambling habits. Fraud was frequently committed, followed by burglary, shoplifting, drug trafficking, theft and robbery. In contrast with recently sentenced male inmates, 19% of the women reported gambling-related convictions.

In addition, there have been a number of media reports in New Zealand on crimes that are associated with problem gambling behaviour. For example, amongst the Samoan population criminal activities include leaving children unattended in casino car parks and homes, and gambling-related homicides (Brown, 2002; Wall, 2001).

In a consultation paper for the Gaming Review, the New Zealand Department of Internal Affairs (2001a) highlights criminal behaviour that is directly related to gambling. This includes unlicensed gambling activities, the commitment of theft or fraud to obtain gambling funds, offences by gambling operators, cheating and underage gambling. Other offences that are indirectly related include money laundering through a betting account or casino, family violence and child neglect (for example children left unattended in a casino or hotel car park).

Drabsch (2003) suggests that a person may gamble with the proceeds of crime or commit crime to finance their gambling. Organised crime groups may conduct illegal gambling ventures or become involved in legal gambling by using it for money laundering purposes or by acting as loan sharks. Rankine & Haigh (2003) suggest that

criminal activities associated with problem gambling include running illegal gambling shops, fraud, misappropriation and stealing from partners and family.

Relationships

Many of the negative impacts of excessive gambling are not confined to problem gamblers themselves but involve the imposition of costs on family members, employers and other unrelated people (for example, through larceny and theft). For example, one in three clients attending the Salvation Army services in Auckland and Christchurch, New Zealand, usually for a food parcel, were identified as being affected by their own or another's gambling (Hutson & Sullivan, 2004). The Australian Productivity Commission (Productivity Commission, 1999) provides evidence to suggest that between five to ten other people can be directly affected to varying degrees by the behaviour of a serious problem gambler. This study also found that the impacts of problem gambling on familial relationships with partners often led to deception, arguments, separation, inter-domestic violence and divorce. Impacts on relationships with children resulted in many being exposed to neglect, abuse (physical and psychological) and poverty. Other difficulties problem gamblers experienced in their interpersonal relationships were not having enough time for family, the break-up of relationships and family arguments over money (Productivity Commission, 1999).

Consistent with the above, Rankine & Haigh (2003) highlight domestic violence, physical and emotional abuse of children, loss of trust and arguments between partners/spouses. For Maori in New Zealand, Dyal & Hand (cited in Rankine & Haigh, 2003) suggest that these costs contribute to the erosion of social capital, Maori cultural and family values. It is reported that, for Maori female gamblers, these impacts on the family, inclusive of the loss of time and money contribute to the loss of *mana* (status) and *wairua* (spiritual well-being). In support of this, Morrison (2004) claims that Maori women are experiencing significant negative effects from their increased participation in gambling.

Perese & Faleafa (2000) also confirm many of these features amongst a Samoan population in Auckland, New Zealand. They identify emotional problems for family members that lead to a loss of trust, separation, divorce, suicide attempts, less time spent with partners and compromised communication, honesty and trust. These authors also highlight that the most abhorred consequence of gambling for many is isolation from one's family and/or community, divorce and separation. In line with Korn & Shaffer (1999), Perese & Faleafa (2000) also identify domestic violence and familial dysfunction (inclusive of spousal abuse) as negative gambling-related impacts within their Samoan population. Problem gambling is noted to affect the well-being and quality of life for Samoan individuals, families and communities. For many, the loss of money to gambling often results in increased financial pressure and an inability for some families to contribute to *fa'alavelave* (traditional customary obligation). This may cause arguments between partners and can often lead to severe physical and emotionally abusive consequences (Perese & Faleafa, 2000). On a broader scale, an inability to contribute to *fa'alavelave* may also impact on the interconnected community dependent on such commitments and the individual who may feel a sense of shame or isolation (Faleafa, 2000).

Perese & Faleafa (2000) also note that the children of problem gamblers experience negative gambling-related impacts. Many lack the adequate provision of basic necessities such as food and clothing, whilst others are subject to physical abuse and neglect due to parental involvement in gambling. This is a concerning finding in view of the intergenerational impacts of gambling reported in several studies that identify the children of problem gamblers as susceptible to behavioural and mood problems, low school attendance and grades and at greater risk of undertaking health-threatening behaviours (smoking, drinking and drug use) (Jacobs et al., 1989).

The risk of intergenerational effects is well noted in the literature. For example, this is substantiated in the Australian Productivity Commission's (Productivity Commission, 1999) report by the increased likelihood for problem gamblers in counselling to have a father with gambling problems. Abbott (2001a) reports that 83% of lifetime problem gamblers in the 1999 New Zealand National Prevalence Survey and 76% in the 1991 survey claim that someone in their lives currently or previously had a gambling problem. In line with these views is the claim that families play a major influence on the exposure of young people to gambling and the development of children's attitudes toward this behaviour (Abbott, 2001a; Drabsch, 2003).

Tran (1999) notes that gambling and violence amongst recent Vietnamese migrants to Victoria, Australia exacerbate and negatively impact on the settlement process for families. In addition, Wong & Tse (2003) note that for recent Asian migrants to New Zealand, gambling may negatively impact on building new relationships with other people because with particular gambling activities one does not need to speak or have command of spoken language to communicate. Therefore, it is important to acknowledge that migration from one's country of origin is not always a straightforward process. Some experience various levels of difficulty and gambling may be used as a form of coping with the problems encountered.

Perese & Faleafa (2000), Wong & Tse (2003), Guttenbeil-Po'u'hila et al (2004) and Morrison (2004) consistently identify the need to develop promotion, prevention and treatment programmes aimed at targeting and reducing the prevalence of gambling-related harms amongst Maori, Pacific and Asian populations. They maintain that these must be premised on further explorations of the cultural perceptions and understandings of each ethnic group.

3.2.3 National and international public health approaches to problem gambling

This sub-section reviews national and international approaches to problem gambling education and awareness raising and what is known of the effectiveness of these approaches.

In the recent past, the definition of problem gambling as a public health issue has become increasingly accepted (Chetwynd, 1997; Korn, Gibbins & Azmier, 2003; Korn & Shaffer, 1999; Volberg, 1994). Within a public health framework, distinctions are made between the agent (gambling exposure), the host (individual factors) and the environment (physical, social and cultural setting) as a means of identifying and influencing the differential aspects of each that are involved in the onset and development of problem gambling. This framework, initially utilised for infectious and physical health problems, now encompasses non-infectious diseases and mental

disorders, inclusive of substance use disorders and problem gambling (Abbott, Volberg, Bellringer & Reith, 2004).

From a public health perspective, problem and/or 'at-risk' gamblers represent individuals who display fewer negative gambling-related problems than those that fulfil the diagnostic criteria for pathological gambling. This group of people is considered to be as important as pathological gamblers because it constitutes a greater proportion of the population than pathological gamblers (Abbott et al., 2004; Abbott, Williams & Volberg, 1999). In consideration of problem gambling lying on a continuum with differential levels of severity (Productivity Commission, 1999), problem and/or 'at-risk' gamblers are also of great interest because of the possible development of increased problematic gambling severity over time. In addition, it is likely that the gambling practices of this group of people are more easily influenced by changes in social attitudes and public awareness (Castellani, 2000; Korn & Shaffer, 1999). Although a social marketing approach would focus on reaching a wide audience, it must also acknowledge the broad range of target groups within this population and disseminate effective, research-informed messages relative to respective groups.

There are a number of public health approaches to gambling around the world particularly throughout Australia, Canada and New Zealand. However, they remain in their infancy and thus it is too early to determine the most effective methods. This review will examine some of the range of activities now being implemented.

Public health interventions - national perspective

Government policy plays a very important part in any national level public health approach. If the Government commits to a public health approach to gambling or any other health issue, it is committing to a long-term approach that will affect the whole population. This makes Government policy an appropriate target for any large-scale social marketing approach. The New Zealand Government has committed to a public health approach in regard to gambling, exemplified by the Ministry of Health which has developed a strategic plan for preventing and minimising gambling harm. Their strategy was guided by the Ottawa Charter for Health Promotion (discussed subsequently) along with other strategies in the New Zealand health and disability sector. The strategic plan provides a high level framework within a public health context and includes a variety of objectives from primary prevention and population approaches to selected intervention services for individuals, their families and significant others; it is also an evidence-based approach with a commitment to workforce development. The goal of the strategic plan is "to assist Government, communities and families/whanau to work together to prevent the harm caused by problem gambling and to reduce health inequalities associated with harmful gambling" (Ministry of Health, 2005a).

In regard to Maori, the signing of Te Tiriti o Waitangi (the Treaty of Waitangi) in 1840 established an ongoing social contract between Maori and all citizens of New Zealand (the Crown). This is perceived by many Maori to constitute ongoing rights and obligations that should be met both by Maori and the Crown (Dyall, 2004b). However, as Dyall & Morrison (2002) point out, it was not until recently that a relationship between Te Tiriti o Waitangi and gambling was acknowledged. This has implications for gambling policy, licensing, regulation and the allocation of financial benefits that

come from gamblers' losses. In addition, Dyal (2004b) claims that in accordance with Te Tiriti o Waitangi, Maori have the right to sit alongside the Crown to determine the role, place and size that gambling should play in New Zealand society. As tangata whenua (indigenous people), Maori should be involved in all levels of policy-making and should benefit financially (Dyal, 2004b).

Prior to the Ministry of Health's publication of their strategic plan was a joint venture between the Problem Gambling Foundation of New Zealand and Hapai te Hauora Tapui Ltd (see Section 3.8 for details regarding these organisations) to create a handbook on public health and gambling for health promotion workers in the field. The document called 'Te Ngira - Gambling and Public Health: A Workplan' (Raeburn & Herd, 2004) aims to establish a broad framework for public health/ health promotion practice on a national basis. The framework is unique in that it was developed and interpreted through four cultural 'strands' representing Maori, Pacific, New Zealand Europeans and Asians.

Public health interventions - international perspective

Given the paucity of research on public health interventions in the gambling area it is useful to look at alcohol and drug research to provide an insight into the effectiveness of public health approaches. Shaffer, Vander-Bilt & Hall (1999) show that the social costs associated with alcohol and drugs in the general population are predominantly influenced by members of society with low- and intermediate-level symptoms, rather than those with the most severe symptoms. These authors suggest that public health developments are more likely to be influenced by prevention, such as small improvements within the majority of the population (i.e. low- and intermediate-levels), rather than large improvements amongst those with severe symptoms. In line with this, Brown & Raeburn (2001) state that effective health promotion and prevention strategies aimed to increase the resilience of communities will better equip individuals to behave more responsibly in respect of gambling and better enable them to resist or avoid the potential hazards of problem gambling. They state their view using the Ottawa Charter for Health Promotion (World Health Organisation, 1986) framework which has as its core definition "Health promotion is the process of enabling people to increase control over, and to improve, their health". The Ottawa Charter sets out five action streams to enable the definition to be put into practice: Build healthy public policy; Create supportive environments; Strengthen community action; Develop personal skills; Reorient services. These action streams would also provide a pertinent framework upon which to base a social marketing campaign around gambling, since the ultimate aim is to 'enable people to increase control over, and improve, their health'. In this context, health relates to healthy gambling or a reduction in problem gambling.

Prevention is commonly distinguished by primary, secondary and tertiary activities. *Primary prevention* targets all members of a population and includes activities that are aimed at preventing the onset of a specific condition, for example immunisation and health protecting education, the use of seat belts and bicycle helmets. It is widely acknowledged as a cost-effective form of health care (Ministry of Health, 2005a). A broad social marketing approach to problem gambling might focus on particular aspects of responsible gambling. *Secondary prevention* is targeted at specific members of an at-risk group. It focuses on the identification of, and assistance for, people with identifiable risks for a particular condition that have not yet been clinically diagnosed

with it. Examples of this include screening tests for physical conditions such as diabetes, hypertension and breast and prostate cancer. Early identification and detection is of critical importance since it can often influence the course of an illness to minimise suffering and maximise well-being. Social marketing strategies for at-risk gambling target populations might focus on effective strategies specific to each group that are related to minimising gambling-related harms. It could also encourage the use of gambling screens by gambling- and non-gambling-specific service providers and practitioners to enable increased access to probable problem gamblers. *Tertiary prevention* is directed at individuals who display signs of the problem or symptoms or disease. The focus is on preventing re-occurrence of the problem, minimising disease-related complications and restoring individuals to the highest possible level of functioning (Abbott et al., 2004).

In a review on public health and gambling, Blaszczynski (2001) examines harm minimisation strategies that characterise internationally mandated, voluntary and recommended initiatives. *Primary prevention* strategies proposed to protect participants from developing gambling problems include public and player education about characteristics and potential hazards of the games; signage promoting responsible gambling, displaying detailed information on the odds and probabilities of winning on machines; responsible advertising and promotional activities; limits on prize structures, size of jackpots or signs indicating that a jackpot must be won within a specified timeframe; and warnings of the hazards of excessive gambling. *Secondary prevention* which aims to limit the potential for problems to arise and contain the impact of gambling once the behaviour has begun includes policies and procedures to deal with problem gamblers. This encompasses staff awareness and training, self-exclusion programmes, modifications to the gambling environment such as the removal of automatic teller machines, improving access to treatment services through advertising and publication of printed material and displays of duration and expenditure on gaming machines. *Tertiary prevention* intended to reduce the severity of existing problem and prevention relapses includes provision of counselling services, effective referral processes to treatment and close liaison with service providers particularly with respect to self-exclusion from venues.

In 2002, the Queensland Government, Australia developed 'The Queensland Responsible Gambling Strategy - a partnership approach'. The strategy is based on a public health approach, viewing problem gambling as a complex issue requiring multiple solutions. The strategy focuses on six priority action areas which range from enhancing responsible gambling policies via research to increasing community awareness and knowledge to intervention and treatment service provision to promotion of partnerships between the community, gambling industry and government (www.responsiblegambling.qld.gov.au).

In 2003, Hing (2003) examined the awareness of, perceived adequacy and perceived effectiveness of, the responsible gambling strategies implemented in Sydney clubs (Australia) through a ClubSafe programme. This programme was developed by the New South Wales club industry association in response to the Registered Clubs Amendment (Responsible Gambling) Act 2000. Specific measures that were evaluated included: responsible advertising and promotion outside the venue, signage and information inside the venue, the gambling environment (e.g. clocks, lighting),

restriction of access to cash and self-exclusion. The findings identified that the ClubSafe programme had influenced 19% of respondents to spend less money on gambling activities. Some spent less time at gambling venues and others reduced the length of their gambling sessions (18% and 17% respectively). However, it was also noted that problem gamblers were less likely than non-problem gamblers to have changed their behaviour. In conclusion, Hing (2003) suggests that compliance with the clubs' responsible gambling programme for some club owners was minimal and that more could be done both by gambling venues and government, particularly with respect to the design of gaming machines in order to improve the effectiveness of responsible gambling practices.

Despite consistent international approaches to gambling prevention, there remains a paucity of evaluative research on the effectiveness of specific interventions to inform policy (Blaszczynski, 2001). This lack of evaluative efforts is primarily influenced by the recent development of many programmes and the bias attributed to existing evaluations, particularly when programme designers are also the evaluators rather than independent bodies conducting the evaluations. However, there is an increasing amount of literature and useful guides on ways to conduct prevention programme evaluations (for example see, Abbott et al., 2004; Dickson, Derevensky, & Gupta, 2002; Wynne, 2002). In addition, a number of criteria for conducting credible evaluations of prevention programmes have been developed by the (U.S.) Center for Substance Abuse Prevention. These include evidence-based findings, utilising adequate sample design and effective psychometric evaluation measures, appropriate methods of data gathering and analysis and the need to address possible alternative hypotheses relative to programme effects, integrity and utility (Brounstein, Zweig, & Gardner, 1999).

Primary prevention

Awareness-raising

In New Zealand and some other parts of the world, the publication of problem gambling surveys, reports on help-seeking and counselling and high profile instances of sports people and others developing problems resulted in extensive media coverage of risks associated with some forms of gambling.

Initial awareness-raising approaches concerning risks associated with gambling included signage in gambling venues or on gambling products (e.g. lottery tickets, racing forms). Subsequently, activities and presentations within schools and communities were provided in conjunction with the provision of information tables at health forums, informational workshops for businesses, social services, Employment Assistance Programme organisations and law enforcement agencies. National conferences were also developed which led to regional conferences particularly in New Zealand and throughout the U.S., Canada and Australia in response to increasing numbers of counsellors and gambling industry professionals seeking specialised credentials.

Recently, awareness campaigns have become more focused on increasing public awareness of the parameters of responsible gambling and the availability of 'hope and help' for problem gamblers and their families.

For example, in 1998 the American Gaming Association (AGA) introduced 'Responsible Gaming Education Week'. During this time employees within casinos and gambling equipment manufacturing companies are exposed to awareness-raising activities relative to responsible gambling practices, underage gambling and problem gambling. Companies are also able to introduce training tools and resources on these topics for new employees. The week provides opportunities to focus public attention on the importance of responsible gambling, for employers to share resources and for staff to share ideas relative to responsible gambling practices (Abbott et al., 2004). The 2004 Responsible Gaming Education Week (2-6 August) focused on increasing awareness around AGA's Code of Conduct for Responsible Gaming. Poster displays and table tents were set up within casinos and employees wore buttons, stickers and ribbons to promote the slogan of the week "The 'Code' word is *responsible gaming*". Information brochures promoting adherence to the code were distributed amongst customers and employees. The week also included a range of educational activities and employee training (Responsible Gaming Quarterly, July, 2004).

In October 2002, collaborative efforts by gambling industry providers and health departments in Nova Scotia culminated in a similar week-long event held in Canada. This was the first phase in a three year strategic plan to promote responsible gambling. The week included a series of workshops targeting players and gambling employees, advertisements in major newspapers, posters at gambling venues and a contest. In addition, brochures were distributed to players via video lottery terminal (VLT) retailers, lottery retailers and casino employees. The organisers noted reports from the local problem gambling helpline on increasing numbers of callers seeking information or assistance for gambling problems. The decision for many to call was commonly influenced by information that had been distributed during the week-long campaign (Responsible Gaming Quarterly, Winter, 2003). Phase Two focused on educating players about randomness and odds. Activities encompassed workshops for employees, displays in shopping malls and advertisements in newspapers and cable television guides (<http://www.gamingcorp.ns.ca/responsible/>).

In 2003, the first National Problem Gambling Awareness Week (NPGAW) in the U.S. was organised by the (U.S.) National Council on Problem Gambling and the (U.S.) Association of State Problem Gambling Service Providers. The NPGAW utilised the structure and partnerships of the 33 state affiliate chapters within the National Council. In total 52 organisations participated in events in 24 states. The week primarily focused on the families of problem gamblers and primary health care professionals with the objectives of:

- Educating the general public and medical professionals about the warning signs of problem gambling
- Raising awareness about local and national help services that are available

Aside from education weeks, in 2004 the National Council, in collaboration with the Association of State Problem Gambling Service Providers, the Oregon Department of Human Services and the Oregon Lottery also developed and distributed a free tool kit. The materials included posters, brochures, sample editorials, press releases, proclamations, a 20-second video Public Service Announcement (PSA) and radio PSA scripts. The kit, which is available via the following website: <http://www.npgaw.org>,

was distributed in events held in over 30 states, with nine states also receiving airtime on television (Abbott et al., 2004).

From April to June 2005, the Queensland Government launched the Responsible Gambling Community Awareness Campaign; the first responsible gambling campaign implemented by any State government in Australia. It involves implementation of general responsible gambling messages as well as 'Where to get help' information for problem gamblers. Thus, Queensland now has messages which apply to all gamblers. The key message of the campaign is 'Don't let gambling control you' with the tagline 'Gamble responsibly'. These messages are reflected in a series of advertisements targeting regular mainstream population gamblers (aged 18-34 years). The campaign materials also appear in all licensed venues, newspapers, buses, taxis, bus shelters, radio and cinema. Additionally, there are also specialist messages developed for Universities. The aim of the campaign is to reaffirm and reinforce the responsible gambling behaviours that most gamblers already utilise. The campaign resulted from a two-year research process (www.responsiblegambling.qld.gov.au).

Service providers and awareness-raising

Funded strategies in some countries also include awareness-raising efforts by staff of health and social service agencies or contracted non-governmental agencies.

For example, in Victoria, Australia, 13 Community Education and Gaming Facility Liaison Officers (CEGFLOs) are responsible for local community education and liaison with gambling industry venues and personnel (Jackson, Thomas, Thomason, & Ho, 2002). In Queensland, Australia as part of the Responsible Gambling Strategy, all gambling help services are able to use a proportion of their funding for community education to be conducted in their locality (www.responsiblegambling.qld.gov.au).

In South Africa, the National Responsible Gambling Social Services coordinates efforts between government agencies and departments to raise awareness of problem gambling at public events, such as health and school fairs (Abbott et al., 2004).

In the U.S., 33 affiliates of the National Council on Problem Gambling are responsible for awareness training. Many of these non-governmental groups disseminate information about problem gambling to community-based organisations, adolescent, senior and women's groups, neighbourhood associations, fraternal organisations, community mental health and addictions agencies, and professional and business associations (Abbott et al., 2004).

In 2003, the Problem Gambling Foundation of New Zealand appointed a multi-cultural public health team to work collaboratively with communities to raise awareness and promote health responses to gambling. This team provides presentations to community groups, businesses and schools to empower people to make informed decisions about gambling in their communities. This also includes developing and distributing tools and resources in English and ethnic-specific languages to educate, inform and assist in awareness-raising and the development of local policies around gambling (Problem Gambling Foundation, 2004; Raeburn et al., 2004).

Evaluation of public awareness campaigns

Although increasing in number, there remains a paucity of evaluative studies of the effectiveness of public awareness campaigns. One of the earliest evaluations was based on whether a brochure on problem gambling provided new information and knowledge to the general population (Ladouceur et al., 2000). A random sample of 115 people was divided into an experimental and a control group (i.e. those that received the brochure and those that did not). It was found that the experimental group was more accurate than the control group in reporting new gambling information. Evaluations of long-term effects were recommended.

A community education campaign initially developed in 1995 by the Victoria Department of Human Services is most likely the largest and longest running problem gambling awareness programme in Australia. When it began, the campaign consisted of state-wide media and print components in conjunction with 13 Community Education and Gaming Liaison Officers (CEGFLOs). It was conducted in three phases and included a five-week multi-language radio, newspaper and billboard advertisement phase in 1995, a 14-week television advertisement phase in 1996 and a 30-week radio and television advertisement phase between 1997 and 1998 (Jackson et al., 2002).

An evaluation of this campaign was conducted by Jackson, Thomas, Thomason & Ho (2002). The authors identified that as a result of the campaign, community awareness of support services for problem gamblers had increased along with the number of callers to the gambling helpline. In addition the number of new clients to the BreakEven treatment service had also increased. There was more collaboration between help services and the staff at gambling venues, many of whom attended training/information sessions about problem gambling. The majority of gambling venues also displayed problem gambling resources and materials. It was concluded that the 'branding' of problem gambling services in Victoria was a success.

Again in Victoria, during 2001, the Government announced that \$6 million (AUD) would be allocated to a new advertising and communications campaign to reduce problem gambling. This campaign consisted of highlighting risks associated with gambling, providing information for self-assessing problem gambling behaviours and providing information about treatment, counselling and support services. After the first phase which targeted middle-aged married men and women and cost \$1.8 million, it was reported that calls to the problem gambling helpline increased by 70% and face-to-face clients increased by 118%. The second wave of the campaign targeted at older and younger people via press/radio advertisements was broadcast in Arabic, Italian, Greek, Vietnamese, Turkish, Spanish, Cantonese and Mandarin. Brochures, education kits and self-help information were produced in these languages (Victoria Department of Human Services, 2001). The Department's 2002-2003 Annual Report stated that an evaluation of the campaign had been funded and was in progress, however, the results of this publication remain unavailable at this time (Victoria Department of Human Services, 2003).

Najavits, Grymala, & George (2003) conducted a pre- to post- state-wide survey of 800 randomly selected Indiana, U.S. adult residents to evaluate the impact of a \$200,000 (USD) state-wide advertising campaign designed to increase awareness of problem gambling. Although overall results indicated little impact of the advertising

campaign, it is important to note that there was a low rate of exposure to it (8%). In spite of this, billboards and slogans appeared to be the method with strongest impact. The researchers concluded that future advertising campaigns may benefit from more targeted messages, as well as the use of television advertisements.

At The Symposium in Toronto, Canada (2004), Olynik presented the results of a study designed to track responsible gambling advertising. She focused in particular on the effectiveness and impact of the second phase of the Manitoba Lotteries Corporation responsible gambling advertising campaign. This consisted of a relatively 'hard hitting' television and radio effort aimed at males aged 18 to 24 years. The results of this survey with 630 Manitoban adults showed that television advertisements were more effective in message recall and that new advertisements targeting a younger audience were more influential on young people's ability to identify signs of problem gambling.

Game education

In 1998, Safe@Play, a comprehensive educational module about how slot machines work, was developed by Game Planit, a business partnership of multimedia, problem gambling and educational specialists from Canada. A CD-ROM version of this tutorial was released in 2001 and made available for purchase (www.gameplanit.com). Although the effectiveness of this has not yet been evaluated, Safe@Play has been utilised in several treatment programmes in Canada and the U.S. as well as in public awareness and prevention campaigns.

In a paper presentation at the 3rd Annual Alberta Conference on Gambling Research held in Canada (2004), Currie noted the importance of making available clear gambling guidelines to the general public. He discussed the use of prevalence survey data from five Canadian provinces and the Canadian national survey to enable the calculation of low-risk parameters for 'moderate' gambling frequency, duration and spending. For the adult Canadian population these parameters included: gambling no more than \$75 (CDN) per month, gambling no more than two percent of monthly income, and gambling no longer than 60 minutes per session. Whilst these gambling guidelines are both interesting and promising, Currie cautions that these preliminary findings are not internationally generalisable and have not been widely promoted or empirically validated (Currie, 2004).

Gambling venue information centres

An innovative Responsible Gaming Partnership programme has been developed by Global Cash Access (GCA¹) and the (U.S.) National Council on Problem Gambling. This consists of providing signage as well as a recorded audio message at automated teller machines (ATMs) and other key locations. These interventions are purposed to encourage sensible play and publicise the Council's 24-hour toll-free helpline number. In addition, most of the GCA ATMs now have telephone handsets with a direct link to GCA's 24-hour call centre which is linked to the National Council on Problem Gambling's helpline and immediate access to a problem gambling counsellor. This programme also enables customers to block access to credit card cash advances (Abbott et al., 2004).

¹ GCA is the leading provider of cash access and customer financial management technologies in gaming venues in the U.S.

The Crown Casino Customer Support Centre is an innovative programme in Victoria, Australia. This industry initiated effort enables patrons to obtain information and referrals as well as professional counselling on-site. Self-exclusion programmes are also available within this separate facility in Melbourne's Crown Casino (Crown Casino, 2004).

The Responsible Gaming Information Centre is another innovative programme in Canada that has been developed by the Addictions Foundation of Manitoba and Manitoba Lotteries. This consists of a centre situated within the Winnipeg-area Casino that is staffed by counsellors who primarily utilise the Safe@Play tutorial to educate guests on how gambling works. Guests with on-site support and referrals and the staff participate in voluntary exclusion cases, and consult with casino managers and employees. In addition, the centre conducts Responsible Gaming Open House/Awareness Weeks several times a year in the Casino. This programme was said to be implemented in the other Winnipeg-area casino later in 2004 (Abbott et al., 2004).

Youth gambling

Many primary prevention gambling programmes around the world are targeted at school-age children. This is plausibly the consequence of young people being internationally recognised as a high-risk population that is increasingly susceptible to the development of harmful gambling-related problems (Derevensky & Gupta, 2004; Jacobs, 2000; National Research Council, 1999).

Canada has taken a leading role in developing primary prevention programmes for young people and adolescents. Several Australian and U.S. states (e.g. Victoria, Queensland, South Australia, Connecticut, Minnesota) also have active programmes and New Zealand is currently trialling a recently developed programme. These programmes are predominantly based around school curricula to target adolescents between the ages of 12 and 17 years and include:

- *California's Youth at Play and Gambling Education for Teens Just in Time* (California Council on Problem Gambling)
- *Facing the Odds: the Mathematics of Gambling* (Harvard University Division on Addictions)
- *Spare time, Spare cash: Teens Talking About Gambling, Your Best Bet, When Young People Gamble: An Early Intervention Resource* and *Playing for Keeps* presentation Kit (Alberta Alcohol and Drug Abuse Commission)
- *Deal Me In: Gambling Triggers* (video and posters) and *Improving Your Odds* (Minnesota Institute for Public Health)
- *Kids Don't Gamble...Wanna Bet* (North American Training Institute)
- *Count Me Out (Moi, je passé)* (Le Groupe Jeunesse, Quebec)
- *Drawing the Line* (Nova Scotia Department of Health)
- *Gambling: Reducing the Risks* (Saskatchewan Health)
- *Gambling: that's entertainment? In control - taking responsible risks. Gambling and health: communication skills. Gambling: minimising health risks.* (Queensland Government)
- *Dicey Dealings* (South Australia Government)
- *When is it not a game?* (Problem Gambling Foundation of New Zealand)

As well as the school-based curricula, primary prevention also includes the production and dissemination of resources that are specific to adolescents, such as stickers, brochures and posters. Poster contests and campaigns have been held in several affiliates of the (U.S.) National Council on Problem Gambling to generate discussion and raise awareness around gambling-related problems (Abbott et al., 2004).

A number of projects have identified potentially effective public health interventions for young people and problem gambling. In Quebec, Canada, Gaboury & Ladouceur (1993) recommended that prevention programmes for young people provide explicit gambling information and be administered over long periods of time (as opposed to three 75-minute sessions over one week). Subsequently, Ferland, Ladouceur, & Vitaro (2002) identified the use of video with specific information about gambling as a useful resource to use with students. This intervention had a positive effect on increasing knowledge and modifying misconceptions and erroneous beliefs about gambling. In Ontario, Canada, Bell (2004) found that the production of screen plays on gambling by young people was considered a positive way to inform adolescents about problem gambling. This project is still to undergo external evaluation².

More recently, Felsher et al (2004) have argued that Ontario problem gambling prevention programmes should target primary school students as well as adolescents. In addition, awareness-raising and education strategies should also inform school staff and parents. Similarly, Wiebe & Falowski-Ham (2003) identify the need to target younger children and increase parents' awareness of youth gambling and related harms. These authors also contend the need for prevention strategies to provide meaningful and targeted problem gambling messages for this population. This includes language-specific targeted messages, messages that address the negative impacts (e.g. lost money, fights) and perceived positive impacts of gambling (e.g. status, bragging rights) and disseminating messages outside the confines of the school.

Teen-oriented websites that address gambling problems have also emerged as one of the most recent developments in youth problem gambling prevention. These include *Zoot2* (<http://www.zoot2.com>) hosted by the Alberta Alcohol and Drug Abuse Commission (Canada) and *Lucky Day* (<http://www.luckyday.ca>) hosted by the Addictions Foundation of Manitoba (Canada). New Zealand has a website called *In Ya Face* (<http://inyaface.co.nz>) that offers information and assistance to youth, and in the U.S., the North American Training Institute in Minnesota hosts a website about underage gambling (<http://www.wannabet.org>). The Louisiana Office for Addictive Disorders (U.S.) hosts a 'youth gambling prevention' website with interactive games, information and assistance (<http://www.thegamble.org>). The Queensland Government

² This highlights the fact that although there is an increasing number of adolescent problem gambling prevention programmes, understanding their effectiveness and efficacy is limited. The majority of these programmes are based on awareness-raising strategies relative to gambling and gambling problems. Some of them focus on providing information that defines gambling and problem gambling and explores motivations to gamble, warning signs and gambling-related impacts. The availability and accessibility of help-seeking services is also addressed. Other programmes address resilience factors and foster coping skills, while additional programmes focus on the mathematical probabilities and realities of gambling or are aimed at reducing erroneous beliefs. At this point it is important to note that before these programmes were implemented within wider audiences, very few had been tested for effectiveness or evaluated for efficacy (Abbott et al., 2004).

has established two complementary websites, *School Stuff* and *School Stuff II*, designed to inform and educate young people assisting them to make informed choices in regard to responsible gambling (www.responsiblegambling.qld.gov.au).

Korn, Lombardo & Murray (2002) describe the development of a Toronto website called TeenNet (<http://www.youthbet.net>) based in the Department of Public Health Sciences at the University of Toronto, Canada. This site is aimed at *promoting* informed, balanced attitudes and behaviours towards gambling, *preventing* youth gambling-related health problems, and *protecting* vulnerable and at-risk youth. However, the utilisation of and changes in gambling knowledge, awareness, attitudes and behavioural intentions are yet to be evaluated. Comparative with Bell's (2004) findings of the limited number of evaluations on prevention programmes, this highlights the fact that although there is an increasing number of adolescent problem gambling prevention programmes and approaches, understanding of their effectiveness and efficacy is limited.

In addition to the availability of websites, increasing developments in technology-based systems of communication continue to provide new channels for the provision of gambling education and support among youth. In particular, interactive texting and text-based education is likely to develop (Abbott et al., 2004). This has already occurred in other addictions areas. For example, a mobile phone text messaging smoking cessation programme, conducted in New Zealand, was found to be a potential new way to help young smokers to quit, in addition to being affordable, personalised, age appropriate and not location dependent. Effectiveness was shown with more participants having quit at six weeks into the intervention in comparison with the control group, and with reported quit rates remaining high at six months. However, the follow-up was incomplete so caution is required in drawing conclusions for the latter finding (Rodgers et al., 2005).

Although there are many considerations in developing primary prevention programmes targeted at youth, it is important to note that literature from the field of adolescent alcohol and substance abuse prevention suggests that no single approach is likely to succeed. Baer, MacLean & Marlatt (1998) propose that a combination of strategies has a higher likelihood of nurturing resilience among adolescents. These authors also claim that strategies that merge programmes targeting families and communities are the most successful. Furthermore, programmes that include a range of activities aimed at informing young people, parents, educators and others, and that also improve life and social skills, offer alternative activities, ensure problem identification and referral, and fostering community-based processes are likely to succeed. Baer, MacLean & Marlatt also argue the need for flexible programme design as a means of adapting to changes in coping strategies and social, academic, employment and economic pressures over time.

In line with this argument is Evans' (2003) suggestion that gambling prevention programmes address the progression from initiation to possibly increasing patterns of gambling as well as through exploring the models and theories of substance abuse prevention programmes that are most applicable to youth gambling. Evans discusses social inoculation, reasoned action, planned behaviour and problem behaviour theory as useful frameworks upon which to develop youth gambling prevention programmes. For example, the theory of reasoned action, premised by the notion that a sequence of

cognitive and psychosocial processes and intentions precede a possible change in behaviour, may be useful as it has been found to be effective on a number of other behaviours. These include family planning behaviour, weight control, cigarette smoking, breast cancer detection behaviour, alcohol and drug use, dieting and exercise, breast feeding, use of birth control and testicular cancer examination. Although the theory of reasoned action has also been positively utilised amongst adult and youth gambling populations within Australia and the U.S. (Cummings & Corney, 1987; Moore & Ohtsuka, 1997), Abbott et al (2004) suggest a need to focus on the different factors that influence the onset and maintenance of adolescent gambling.

Secondary prevention

Staff awareness and training

In 1989, Harrahs in the U.S. implemented the first staff training programme to address underage gambling. The programme, Project 21, was based on three basic awareness principles. These included all employees being aware of underage gambling, addressing the situation and alerting appropriate authorities, educating the public about age restrictions, and emphasising the legal consequences of underage gambling with casino employees. Project 21 was initially implemented in-house through various methods including seminars, training sessions, meetings and internal publications. However, as a means of reaching out to young people, the programme eventually became integrated into schools through a scholarship programme. Students were awarded up to \$2,500 (USD) to submit essays, poster or public service announcements relative to the aims of Project 21. Today, casinos in 14 states participate in some form of the Project 21 programme (Responsible Gaming Quarterly, Winter, 2003).

In 1998, the Addictions Foundation of Manitoba (AFM), Canada began development of the Manitoba Problem Gambling Customer Assistance Programme. This was purposed to give VLT staff the skills and knowledge necessary to provide appropriate assistance to customers experiencing gambling-related problems. The goal of the one-day training is that upon completion, participants are more informed on understanding the development of problem gambling, identifying the key signs of problem gambling and on-site behaviours indicative of problem gambling experiences, understanding the regulations, guidelines and practices to provide assistance, and practising customer sensitivity and site appropriate assistance strategies. Following the 1999 pilot phase with 400 participants, 20 AFM trainers were employed to provide the now mandatory training programme for employees at all VLT sites.

By August, 2001, AFM trainers had delivered 160 training sessions in 45 locations across the province and 1,550 employees from 623 VLT sites had participated. Course evaluations that were completed after each session indicated significant increases in knowledge of problem gambling and skills to assist customers experiencing gambling related problems (Smitheringale, 2001).

The Nova Scotia Gaming Corporation, Canada implemented a similar programme in 1999 with the goal of providing VLT retailers and their employees with the skills, knowledge and attitudes to implement and maintain responsible gambling guidelines and procedures. To date, no evaluation has been published.

More recently, Harrahs has introduced another training programme, 'Operation Bet Smart: Know When to Stop before You Start'. This is designed to educate and train employees on the importance of responsible gambling and the policies and practices of Harrahs responsible gambling programmes (Harrahs Entertainment, 2004). Operation Bet Smart encourages employee awareness on problem gambling and equips them with information and direction to potentially help others. Responsible gaming signage with referral information is also visible on the casino floor and in the back-of-house. Additional information is provided in brochures, player cards and hotel directories.

Other international casino companies and state lotteries have adopted initiatives similar to Harrahs. These programmes include:

- *When the Fun Stops: Problem Gambling Awareness Training* (Nevada Council on Problem Gambling, U.S.)
- *Advancing Responsible Gaming, Underage Gambling: A Bad Bet for the Gaming Industry and Compulsive Gambling: Red Flags and Referrals* (North American Training Institute)
- *Careplay* (College of Social Work, Lucerne, Switzerland)
- *When the Stakes Are Too High: Understanding Problem Gambling* (California Council on Problem Gambling, U.S.)

In 2003, the Queensland Government launched 'The Training Framework for Industry'. The framework is designed to enhance the knowledge and skills base of gambling venue employees, managers and other responsible officers in their work to promote responsible approaches to gambling (www.responsiblegambling.qld.gov.au).

Ladouceur and colleagues (2004) completed an evaluation of a two-hour awareness promotion programme 'As luck would have it'. Targeted at VLT retailers in Quebec, Canada, the programme aimed to increase knowledge on chance, randomness, the misconceptions associated with excessive gambling, the signs and symptoms of problem gambling and intervention techniques. The evaluation found an improved understanding of problem gambling and an increased capacity to cope with problem gamblers. A follow-up evaluation identified that those who had attended the workshop were more likely than those who had not attended, to have approached a problem gambler to discuss options available to them (Abbott et al., 2004).

Additionally in 2004, the Manitoba Lotteries Corporation, Canada in partnership with the University of Nevada, U.S. announced the establishment of the Canadian Gaming Education Forum. This consists of providing courses on gambling management for Canadian gambling professionals and employees, each of which counts toward a 93-hour requirement for a university certificate in gambling management. Similarly, the National Centre for Responsible Gaming in partnership with the Institute for Research on Pathological Gambling and Related Disorders was working on an employee responsible gaming certification programme scheduled to debut in 2004 (Abbott et al., 2004).

Host responsibility or service interventions

There are a small number of reports on host responsibility training programmes for gambling. To date very few have been evaluated for their effectiveness.

Based on the opinions of psychologists and practitioners in the field of problem gambling, Allcock et al (2002) list some behaviours likely to indicate distress related to gambling problems. These behaviours include requests for assistance to self-exclude, attendance at the gambling venue every day, continuous visits to the ATM during playing time, patrons irritated at being addressed by staff while playing, patrons exhibiting mood swings, patrons who personalise machines or become attached to particular machines, claims of malfunction of electronic gaming machines (EGMs), patrons who attempt to borrow money from staff or other patrons, patrons requesting that staff maintain secrecy about their attendance, patrons present at opening hours through to closing, family members/partners/colleagues coming in search of a patron.

This report recommends that information concerning these behaviours be incorporated within a staff training programme to raise the awareness and capability of staff to improve customer assistance and situations where customers potentially have a problem with their gambling. Also patron access to treatment, information and resources would be improved by senior staff being knowledgeable about and, as far as possible, having a working relationship with, the treatment providers in their communities and region.

Hing & Dickerson (2001) reviewed voluntary measures and mandatory regulations across Australia that were designed to encourage and ensure responsible gambling. These authors developed a framework of the principles and practices that regulate gambling to assess what was already being done to promote responsible gambling and what remained to be done.

It was identified that the only common mandated practices for responsible gambling across Australia were prohibitions of minors, prohibitions on providing credit for gambling, and consumer complaints processes. However, the broad range of mandatory practices included limits on EGM bets, a mechanism for consumer complaints, player information on gambling products, caps on EGM venues, restricted access to EGMs and EFTPOS (electronic transfer of funds at point of sale), prohibitions on gambling by intoxicated persons, staff gambling prohibitions, regional caps on EGMs, self-exclusion processes, imposed exclusion for problem gamblers and the payment of big wins by cheque. There were no evaluative measures on the effectiveness of these existing mandatory responsible gambling practices on countering problem gambling or promoting responsible gambling.

There were also approximately 30 voluntary codes and policies in the gambling industry. Some applied nationally to a single sector while others covered all gambling in a state. Voluntary codes and policies included responsible external advertising and internal promotions, consumer complaints mechanisms, the display of clocks, problem gambling information and player information on gambling products, restricted access to EFTPOS, direct counselling at venues, imposed exclusion for problem gamblers and restricted access to ATMs. No programmes had been evaluated for their effectiveness in addressing problem gambling or in promoting responsible gambling.

Hing & Dickerson (2001) concluded that there was a need for consumer protection strategies to include effective product information guided by research. In addition, responsible advertising, promotions, consumer education and awareness should also be informed by research that explores the effectiveness of hard, soft and alternative

messages, media, slogans and placement of problem gambling information. Additionally, research should be conducted to identify the appropriateness of messages displayed on signage and brochures and their effectiveness in changing gambling behaviour.

Hing & Dickerson also argued that harm minimisation strategies should include decreased access to ATMs and EFTPOS, bans on cheque cashing, the prominent display of clocks, the appropriate design of gaming rooms (i.e. access to EGMs and natural lighting), prohibitions on staff gambling and gambling by intoxicated persons, and limits on the number of EGMs in certain types of venues. Self-exclusion programmes and direct counselling should be available in all gambling sectors. Standardised training programmes and trainers should be provided to all levels of staff, including management, gambling, security, finance and support area staff.

An interim report by Tse et al (2005) on host responsibility and best practice guidelines for gambling venues in New Zealand includes an international overview of gambling harm, host responsibility and codes of practice. It also provides a three-dimensional framework for considering Best Practice Guidelines for Host Responsibility in gambling venues in New Zealand. The framework focuses on three elements:

- A typology of harms and types of harm³
- A typology of best practice perspectives⁴
- A typology of interventions in existing gambling practice⁵

This information is intended to provide the basis for stakeholder consultation which will then inform the development and production of a document on 'Host Responsibility: Best Practice Guidelines for Gambling Venues in New Zealand'. This is expected to be complete by mid-2005.

Exclusion programmes: Imposed and voluntary

Abbott et al (2004) claim, from a public health perspective, that exclusion is a potential and effective tool for minimising gambling-related harms because it assists some individuals to control their gambling. This is internationally recognised and exclusion programmes exist in several European countries, all of the Canadian provinces, several U.S. states (e.g. Connecticut, Illinois, Louisiana, Michigan, Mississippi, Missouri, Nevada, New Jersey), in New Zealand and in some states in Australia, most notably Victoria. This includes *imposed exclusion*, whereby casino patrons with problems are identified by casino staff and barred from gambling in all of their casinos, and *voluntary exclusion* which enables patrons (or family members) to request being banned from the gambling establishment, removed from its mailing list and sanctioned if they re-enter the premises.

³ Types of harm related to problem gambling and broader harms from gambling such as harms flowing from compromised consumer protection in relation to gambling.

⁴ This typology acknowledges that different groups viewing "harm caused by gambling, including problem gambling" have different ways of observing such problems, different relationships to the problem(s) and different forms of evidence in the face of a presenting harm. Some of these differences come from varying epistemologies and underlying ontologies in the multi-disciplinary research community. A range of experiences ('evidence') are explored about respective interventions.

⁵ A range of interventions are described in detail in terms of key features of interventions. Intervention effectiveness is analysed from multiple perspectives.

Imposed exclusion

Holland Casino's Responsible Gambling Programme in the Netherlands is an example of imposed exclusion. All patrons who visit any of the available casinos 20 or more times per month for three months are first interviewed by a floor manager and a 'Security and Risk Control' representative, then banned for a minimum of six months (Abbott et al., 2004; Bes, 2002). An evaluation by Bes (2002) reports positively on the banning of 40% of problem gamblers who scored five or more on the South Oaks Gambling Screen (SOGS)⁶. In addition, part of the programme includes the development of a new informational brochure, advertising the programme on its website and training floor managers and SRCs in motivational interviewing techniques.

Switzerland also requires casinos to provide extensive prevention activities. These include staff training, monitoring of patron visits and expenditures, and dissemination of information about exclusion options. Alternative prevention techniques include an awareness campaign for the general public, a helpline, a website, targeted campaigns for operators and youth, and coordination and cooperation with other agencies (Sani, 2003).

Voluntary exclusion

Voluntary exclusion programmes have been the focus of several small studies. In 2002, Steinberg reported on 294 patrons who self-excluded themselves from a tribal casino in Connecticut, U.S. Nearly all of the participants (96%) scored five or more on the SOGS and most were likely to have learned about the exclusion programme from family or friends (39%). In a follow-up study with 20 participants, half of them felt that the self-exclusion programme needed to be better publicised and 42% felt that casino employees knew that they had a problem. Steinberg (2002) concludes that self-exclusion is an effective gateway to formal treatment or self-help for problem gamblers.

This is generally supported by studies in Canada, Australia and the U.S. (National Council on Problem Gambling, 2003; Nowatzki & Williams, 2002; South Australian Centre for Economic Studies, 2003).

In comparison, from a legal perspective, Napolitano (2003) claims that the voluntary self-exclusionary programme concept is legally and clinically flawed. The author contends that these are not enforceable contracts and that the sanctions imposed on the gambler are unjustified and disproportionate to the agreement. In addition this approach is "fixed as opposed to individualised and improperly shifts the responsibility for a gambler's behaviour from himself to the gaming establishment" (Napolitano, 2003, p. 313). Since the majority of studies support voluntary exclusion, this highlights the need for future exclusion programmes to 'match' the different types of gamblers with the specific experiences and difficulties faced by that person.

⁶ The SOGS is the most widely used of all the available gambling screens, developed by Lesieur & Blume (1987). A score of five or more indicates that the respondent is a probable pathological gambler.

Responsible Gambling Features: Applications for electronic gaming machines

Responsible Gambling Features (RGFs) have become increasingly popular amongst governments and gambling operators since the rapid growth of electronic gaming machines (EGMs), the increased prevalence of problem gambling as a consequence of EGM use and the emergence of a public health approach to minimising gambling-related harms. RGFs are inbuilt electronic features that are intended to reduce the likelihood of a person losing self-control whilst gambling. These include displaying information about time and expenditures per session, pop-up messages related to responsible play, mandatory cash-outs after a pre-determined period of play and limits on game speed and maximum bets. To date, the government of New Zealand, the Australian state of New South Wales and the Canadian provinces of Manitoba, Nova Scotia and Quebec have mandated the implementation of RGFs.

In New Zealand, the Gambling Act 2003 specifies that EGMs with banknote acceptors be modified to accept a maximum denomination of \$20 (NZD). In addition, from 1 October 2005 regulations require that all new EGMs must have design features available that will provide the player information on:

- Game characteristics including the odds of winning the game, the average winnings paid out to players of the game over a period of time or number of plays and the maximum and minimum spend rate for the game
- Individual player information including the duration of the session of play, the amount of money the player has spent and net wins and net losses during the session of play

The regulations also require all new EGMs to have a design feature that interrupts play at irregular intervals not exceeding 30 minutes of continuous play and informs the player of the duration of their session of play, the amount of money the player has spent and net wins and net losses during the session of play. The feature must also ask the player if they wish to continue their session of play. If the player elects not to continue, the EGM must automatically pay out any credits owed to the player. EGMs must also display the current time while they are in use (Department of Internal Affairs, 2003c).

Abbott et al (2004) list a number of RGFs that have recently been introduced in some Canadian provinces. For example, in 2000, the Nova Scotia Gaming Corporation declared the replacement of 3,200 VLTs with new or modified machines that incorporated responsible gambling features. These features included: (1) a mandatory cash-out after 150 minutes of continuous play, (2) display of betting activity in cash amounts rather than in credit points, (3) a permanent on-screen clock showing the time of day, and (4) pop-up reminders of time spent playing after 60, 90 and 120 minutes of continuous play (Abbott et al., 2004).

In 2003, Loto-Quebec initiated the replacement of 14,293 of their own VLTs with those that included responsible gambling features. These included: (1) a display of helpline numbers and warnings, (2) mandatory selection of session length before play begins, (3) a reduction in the number of games available, (4) an explanatory module on games of chance, (5) a reduction in the maximum stake from \$600 to \$100 (CDN), (6) deactivation of the machines outside the hours authorised by the liquor permit, and (7) a reduction in the speed of games (Abbott et al., 2004).

Most recently, in 2004, the Manitoba Lotteries Corporation, Canada was expected to replace all VLTs at charitable casinos and racetracks with new machines with responsible gambling features. In addition to many of the features detailed previously, these machines also include: (1) player-initiated time limits, (2) varied content and appearance of pop-up messages to avoid habituation, (3) provision of a 15-minute warning to give players time to prepare for the mandatory cash-out, and (4) a cap on the number of extensions of session time permitted (Abbott et al., 2004).

Responsible Gambling Features: Applications for online gambling sites

Similar to the international growth of RGFs is the emergence of interactive gambling services. Licensed and regulated operators now provide online gambling in approximately 30 countries around the world (Sinclair & Volberg, cited in Abbott et al., 2004). McMillen (2003, cited in Abbott et al., 2004) notes that online technology to address problem gambling has existed for a number of years and that interactive opportunities in Australia are potentially more protective than those in the physical world. The use of such measures is increasingly popular amongst licensed operators, particularly since licensed online gambling sites in Australia are required to have player protection measures in place. The Lasseters Corporation (2003) in Canberra, Australia describes online links to counsellors and other forms of problem gambling treatment as some of the interactive provisions. Other measures are also highlighted which can trigger imposed exclusion. These include limits set by the service provider or player on monthly expenditures and on amounts bet, prohibitions against credit betting and delays in payment of winnings.

Evaluation of Responsible Gambling Features

Although general consensus around the use of RGFs appears to be growing, there remains a paucity of research into their development or effectiveness on problematic gambling behaviour.

Riley-Smith & Binder (2003) conducted a small qualitative study with 45 participants from Sydney, Australia to: (1) identify from a series of ten harm minimisation messages⁷ those with the greatest potential to influence a change in gambling behaviour, and/or (2) to call the gambling helpline. The messages with the most impact on regular and problem gamblers were: Have you spent more on gambling than you intended? Are you gambling longer than planned? Have you felt bad or guilty about your gambling? All of the messages were accompanied by the phrase 'If gambling is a concern for you, call G-Line'. The authors acknowledge a two-part message structure whereby the first part is a harm minimisation message promoting responsible gambling, whilst the second part targets problem gamblers and rather than responsible gambling, is about dealing with a gambling problem. This may offer regular gamblers a way out on the premise that only 'severe' problem gamblers are expected to call the helpline. The authors conclude that in developing gambling harm minimisation messages it is necessary to differentiate between regular and problem gamblers, both in message content and in targeting routes.

⁷ Problem poker machine players played on video poker machines with ten different 'harm minimisation messages' (running either consecutively or randomly).

To date, only three large-scale studies have been carried out to assess the impact of changes to electronic gaming machines on regular and problem gamblers.

Blaszczynski, Sharpe & Walker (2001) conducted a study to evaluate the differential impact of proposed changes to electronic gaming machines in New South Wales, Australia on recreational and problem gamblers and to determine whether there might be negative unintended consequences associated with recommended changes.

The research team found that limiting bill acceptors affected expenditure more than any other individual modification. Slowing the speed of games was consistently viewed as leading to lower levels of enjoyment. However, it was concluded that the reconfiguration of machines to accept denomination notes of \$20 (AUD) or less was not an effective harm minimisation strategy⁸, nor was the adoption of slowing reel spins⁹. The reduction of maximum bet size from \$10 to \$1 on electronic gaming machines was considered the most potentially effective harm minimisation strategy for a small proportion of players. However, a review of Blaszczynski and colleagues report by Tse, Brown & Adams (2003) led the reviewers to conclude that “the reconfiguration of bill acceptors could be a potentially effective harm minimisation strategy if it was to be implemented together with other considerations such as proximity to ATMs. In isolation, the modification of bill acceptors itself does not appear supported for its effectiveness in harm minimisation”.

In the Australian Capital Territory (ACT) an assessment of three harm minimisation measures that had been introduced to EGMs between 1993 and 2002 was carried out by McMillen & Pitt (2005). The daily three-hour mandatory shutdown period had little effect on recreational gamblers but was reported as having a positive effect for a very small number of problem gamblers; however, the actual hours of shutdown meant that most problem gamblers were not affected. The gambling behaviour of recreational and problem gamblers was not altered by the \$10 (AUD) maximum bet as it was perceived to be a higher limit than was usually bet. The measure that appeared to have the greatest impact on player behaviour was the restriction on cash payment of winnings¹⁰ with a majority of problem gamblers stating that the restriction restrained the amount of money they gambled; however, a large number by-passed the restriction by cashing out early or gambling to below \$1,000 to avoid payment by cheque.

As mentioned earlier, in 2000, the Novia Scotia Gaming Corporation, Canada announced that it would replace 3,200 video lottery terminals (VLTs) with new¹¹ or modified machines. This occurred in three phases over two years. The first phase saw the introduction of 1,000 new VLTs and about 400 older, upgraded models distributed throughout specific retailer locations around the province.

⁸ This modification did, however, have the greatest impact on revenue.

⁹ It was suggested that this modification could potentially result in unintended gambling-related harms to a small group of patrons without the intended benefits. This might also prolong the duration of gambling sessions.

¹⁰ Winnings above \$1,000 (AUD) must be paid by non-cash means.

¹¹ The new machines included new games, improved graphics and bill acceptors as well as the RGFs.

An important component of the VLT replacement plan was the conduct of an evaluation by Schellinck & Schrans (2002) of the impact of the RGFs during the introductory period of the new terminals. This was designed to:

- Assess awareness of, and exposure to, the features
- Determine the effect of the RGFs on player behaviours, perceptions and attitudes
- Identify what, if any, changes or improvements are recommended to enhance the effectiveness of the features in mediating excessive play

The authors concluded that exposure to a pop-up reminder after 60-minutes of continuous play was associated with a small but significant reduction in session length and a decrease in expenditure among higher-risk players. Although the on-screen clock was associated with improvements in keeping track of time and playing within desired time limits, it had no measurable effect in reducing session length or expenditure. Limitations to the effectiveness of pop-up messages were also noted, such as habituation, and the opportunities for players to reset the internal clock and avoid exposure by cashing out or by running credits to zero before putting in more money.

Schrans, Grace & Schellinck (2004) evaluated the second phase of modified responsible gambling features implemented for video lottery terminals in Nova Scotia. Some of the new features included setting time limits for play and a pop-up message after every 30 minutes. Modified features included the introduction of a mandatory response requirement for all on-screen pop-up messages, a permanent on-screen clock, an extension of time between the warning message and mandatory cash-out (from five to ten minutes), and the replacement of 'credits' to cash amounts to give cash display more prominence. The purpose of these RGFs was to introduce reality checks, breaks in play and encourage responsible gambling.

Schrans, Grace & Schellinck identified that the modifications related to mandatory cash-outs and cash display were minor and either generated low awareness or, in the case of the cash-out feature, low exposure. Therefore, the research evaluation largely focused on the three primary modifications introduced: time limit option, 30-minute pop-up message and on-screen clock. The authors concluded that allowing players to set optional time limits for their play was only effective in influencing one of the six behaviours being targeted for improvement and that the introduction of a pop-up message after every 30 minutes had a marginal impact on player behaviour over and above the impact of the original 60 minute then every 30 minute pop-up feature. However, the authors concluded that there were some benefits of the 30 minute pop-up feature in that it could assist high-risk players to stay on budget and that the message may play a preventative role in alerting low-risk players to changes in their play associated with overspending. Modifications to the on-screen clock did not influence usage rates. One of the recommendations related to this latter finding was to focus on assisting players to manage money rather than time.

It appears that some RGFs can be beneficial, according to the small number of studies that have been completed. However, possible other features with potentially negative and unintended consequences make it difficult to predict the overall impact of the introduction of these features. It has been recommended that empirical evaluations of small-scale changes to electronic gaming machines should be required prior to implementation on a jurisdiction-wide basis (Abbott et al., 2004).

Tertiary prevention

Tertiary prevention, as noted earlier, is directed at individuals who display signs of a problem or symptoms of disease. The focus is on preventing re-occurrence of the problem, minimising disease-related complications and restoring individuals to the highest possible level of functioning (Abbott et al., 2004).

In a general overview of international harm minimisation strategies implemented by the gambling industry, Blaszczynski (2001) briefly defines tertiary prevention as therapeutic interventions. Encompassed within this concept, however, is the formation of relationships between industry players and health service providers that are important to effective referral processes and the prevention of future problems with identified gamblers. In as much as problem gamblers generate various problems and harms for other people, effective tertiary prevention (i.e. treatment and rehabilitation) may reduce gambling-related harms within families, communities and the wider population. Given that having a parent with a gambling problem is a risk factor for problem gambling, tertiary prevention may also play some role in reducing the incidence (new cases) of problem gambling.

The current review draws on a public health approach to gambling to best inform a social marketing strategy toward problem gambling in New Zealand. This focuses on the entire population and does not aim to single out just those categorised with a problem. Therefore, although tertiary prevention is not explored in depth in this review, liaisons between the gambling industry and treatment or prevention specialists have already been highlighted throughout this section.

3.3 Risk and protective factors associated with gambling-related harm

This section reviews international and national literature on risk and protective factors for problem gambling. Within a public health framework, these are features of the agent (gambling exposure), the environment (physical, social and cultural setting) and the host (individual factors) that have been demonstrated to have an association with problem gambling. This approach examines the inter-relationships between relevant factors within and between these three categories.

Identifying risk factors is important because of the major role they may play in the development and maintenance of problem gambling. Determining the nature of their influence would advance the knowledge base of problem gambling and aid in developing a social marketing approach to problem gambling prevention and treatment interventions. A public health response generally aims to: (1) reduce exposure to the agent, and (2) increase host resistance to exposure.

3.3.1 The agent - gambling exposure

The globalisation of gambling over the last 15 to 20 years has seen a proliferation in gambling activity, participation and expenditure. This is particularly evident in countries such as the United States, Australia, New Zealand, Canada and South Africa where electronic gaming machines and large urban casinos have been widely introduced. This was generally preceded by the introduction of state lotteries and increased availability of other types of instant lotteries.

Several broad inter-related trends that have been associated with the expansion of gambling continue to influence the international development of commercial gambling. These include the growing acceptability of increased legal gambling activities, accelerated globalisation, the influence of the internet on all forms of gambling, the continued expansion of gambling to traditionally non-gambling settings and the association between gambling and financial technologies (for example see Abbott & Volberg, 1999; Abbott et al., 2004).

Different gambling forms

Gambling encompasses a broad range of activities with unique features that appeal to the different sorts of people that participate in them (Abbott & Volberg, 1999; Abbott et al., 2004).

Some forms including electronic gaming machines (EGMs) and casino table games have been strongly associated with problem gambling because of their continuous nature and the perceived elements of skill that are involved. A number of general population prevalence surveys have identified that the probability of developing problem gambling behaviours is higher amongst those with frequent involvement and substantial expenditure on these continuous forms of gambling (Abbott & Volberg, 2000; Productivity Commission, 1999; Schrans, Schellinck, & Walsh, 2000).

The strong association between EGMs and problem gambling is further exemplified by the increased numbers and proportions of individuals presenting to gambling telephone helplines and counselling services that report this activity (particularly non-casino

EGMs) as their primary mode of gambling, particularly in New Zealand and Australia (Paton-Simpson, Gruys, & Hannifin, 2004; Productivity Commission, 1999).

Recent increases in the number of female problem gamblers presenting for help have also been associated with the widespread availability of EGMs. This is particularly evident in New Zealand, Australia and some parts of the United States and Canada (Abbott, 2001b; Abbott, Volberg & Ronnberg, 2004; Volberg, 2003). The Ministry of Health has reported in its 2004 National Statistics for Problem Gambling Intervention Services in New Zealand that, in 2004, 95% of new female counselling clients and 81% of new male clients receiving face-to-face counselling cited EGMs as their primary mode of problematic gambling (Ministry of Health, 2005c).

Around the world, problem gambling is considered to have become feminised (Abbott et al., 2004). In New Zealand, Bunkle & Lepper (2004) provide information from the Department of Internal Affairs (DIA) participation surveys (1990, 1995 and 2000) to indicate a convergence in the numbers of men and women participating in certain forms of gambling. In particular, they suggest that the percentage of women gambling regularly increased from 1991 to 1999 while the percentage of men gambling regularly decreased, so that by 1999 the percentage gambling regularly were almost identical by gender. Additional information from the New Zealand national prevalence surveys is also used to imply that there is some evidence of convergence in the prevalence of problems as well. In 2004, for the first time, the number of new female gambler clients accessing face-to-face counselling services exceeded the number of males (50.4% female versus 49.6% male) (Ministry of Health, 2005c).

However, since Bunkle and Lepper do not break down the DIA participation information on regular participation by gender into types of gambling, it remains unclear whether women only participate regularly in, for example, Lotto while men participate regularly on, for example, EGMs (personal communication: John Markland, 2005). A break down in the frequency of gambling by gender and by gambling form from the 1990 and 2000 participation surveys identifies that almost identical percentages of men and women gamble regularly in casinos (or at least gambled regularly in casinos in 2000). In addition, the percentage of men and women playing non-casino EGMs regularly was also virtually identical. Interestingly, the percentage of women playing regularly remained relatively consistent in 1990 and 2000, while the percentage of men playing regularly had more than halved (personal communication: John Markland, 2005).

High rates of problem gambling have also been identified amongst recent migrants to New Zealand who have come from countries with fewer legal gambling opportunities (Abbott, 2001b; Abbott & Volberg, 2000). The Australian national survey found higher rates of problem gambling amongst people who did not speak English at home (Productivity Commission, 1999). Volberg (2002) found adults living in Nevada, U.S. for less than ten years had more problems than longer-term residents. All of these findings are consistent with a view that exposure contributes to the development of new gambling problems.

Different forms of exposure to gambling

Studies on exposure are in their infancy and public health approaches have only recently been incorporated. There remains much variability in terms of what aspects of exposure are included and how they are measured. For these and other reasons, findings from various studies must be treated with caution. However, the Australian Productivity Commission (Productivity Commission, 1999) does note that:

“While causation is hard to prove, the Commission considers that there is sufficient evidence from many different sources to suggest a significant connection between greater accessibility - particularly of gaming machines - and the greater prevalence of problem gambling” (Productivity Commission, 1999, pg. 81)

Exposure through occupation

Since it is expected that people whose work brings them into regular contact with gambling agents should experience increased problems, public and occupational health researchers have focused on occupational groups with high levels of exposure to gambling. For example, Shaffer, Vander-Bilt & Hall (1999) found a higher prevalence of pathological gambling, smoking, alcohol problems and depression amongst casino employees compared with the general adult population. They concluded that there is a need to improve problem gambling screening, smoke-free work areas and to increase awareness of employee assistance programmes and health promotion education.

Exposure through distance to venue

The distance travelled to reach EGM venues and casinos has been found to be a factor for gambling and/or problem gambling. A recent national telephone survey in the U.S. indicated that the presence of a casino within ten miles of the respondent's house was positively related to problem gambling with the rate being twice that of those who live further away from a casino. The researchers postulated two possible theories for this finding. Firstly that the availability of the casino can lead to problem gambling in some people who would otherwise not develop it and secondly, that a few problem gamblers may move closer to the casino (Welte et al., 2004b).

In a community attitudes survey conducted in Victoria, Australia more than half the EGM gamblers participating in the survey travelled less than five kilometres to the last venue where they gambled on EGMs and in fact most of those people (32%) had travelled less than 2.5 kilometres. Importantly, 83% of participating gamblers went to an EGM venue directly from home and a further eight percent went from work. The researchers summarised that the majority of Victorian EGM gamblers do not travel out of their local neighbourhood to access the machines, there is little evidence that they actively seek out venues for their gambling facilities, and the majority of people who have played EGMs did so as part of a wider social outing (McMillen, Marshall, Ahmed & Wenzel, 2004).

Using a framework of time-geography, Marshall (2005) collected data on gambling behaviour in a specific region (Richmond-Tweed) within New South Wales, Australia. From his study, Marshall indicated that higher concentrations of EGMs amongst populations may be influencing higher levels of gambling activity amongst local residents.

Since the proximity of EGM venues to home and/or places of work correlates with gambling activity and problem gambling, and as low socio-economic status and high unemployment are also risk factors for problem gambling development (discussed later in this subsection in ‘Sociodemographic and cultural factors’) it would seem that a high density of EGM venues in areas of poverty or low socio-economic status would be a strong risk factor for problem gambling. Unfortunately, that appears to be the situation in New Zealand. A mapping exercise commissioned by the Ministry of Health in 2003 showed clearly that gaming machines were much more likely to be found in the more deprived areas of the country, with 53% of the machines found in the 30% most deprived areas (Public Health Intelligence Applications Laboratory, 2003).

Familial exposure

A number of studies have found that problem gamblers as opposed to non-problem gamblers report higher rates of gambling problems among family members and higher levels of early exposure to familial gambling participation. Problem gamblers also commonly report an earlier onset of gambling participation and an early introduction to this behaviour from family members (Abbott, 2001b; Raylu & Oei, 2002; Tepperman & Korn, 2004).

3.3.2 The environment

In addition to the gambling agent, environmental factors encompassing physical and social contexts have an impact on problem gambling and play a role in increasing or decreasing exposure. Environmental factors include a number of major risk factors for problem gambling such as financial, social and cultural factors. Although the concepts of gender and availability were mentioned in the previous section because they are associated with gambling exposure, they are also included in environmental factors.

However, this section will first explore a number of broad, inter-related, contextual influences and trends associated with the environment that have been identified in relation to problem gambling. These include the expansion of gambling to non-gambling settings, attitudinal changes toward gambling, internet gambling, the intersection of gambling and financial technologies, increased globalisation and regulatory factors.

Broad contextual factors

Gambling in non-gambling settings

Over the past decade, one of the most notable changes internationally has been the shift of gambling activities from traditional gambling-specific venues to a number of social settings not previously associated with gambling. This move to non-gambling settings signifies the integration of gambling with major social institutions, communities and everyday life. Prior to this, gambling venues were less accessible or attractive to particular groups, including women.

In the past, venues such as pubs and clubs did not allow legal gambling or offered a limited range of activities. Today, in addition to alcohol sales, they offer multiple gambling opportunities to their patrons.

Increases in the number of gambling venues and the availability of gambling in non-gambling settings has been referred to by Goodman (1995, cited in Abbott et al., 2004) as 'McGambling' or 'Convenience Gambling'. This is considered to influence the acceptability of, and accessibility to, gambling which in turn contributes to a widespread normalisation of gambling.

Attitudinal change

Society and religious, academic, legal and medical professions have played a major role in influencing the historical changes of gambling acceptance in society (see Abbott & Volberg, 1999; Abbott et al., 2004; Austrin, 1998). Today in most countries around the world including New Zealand, in spite of increased acceptability, there has also been an increase in the awareness of, and concern about, problem gambling and adverse gambling-related harms (Amey, 2001; Abbott & Volberg, 1999). However, this has not occurred everywhere, for example, the nature and extent of gambling problems in Western Australia differ markedly from the rest of Australia since electronic gaming machines are confined to the casino (Addy & Richardson, 2004). In addition, although there are a small number of countries where limited gambling forms exist (mostly illegal gambling) these are not accepted. For example, in Utah, U.S. and Indonesia's Aceh province in Jakarta, despite gambling being outlawed in both regions there are media reports that gambling participation has resulted in dire consequences for the gambler (Davidson, Collins, & Romboy, 2005; Malaysia Star, 2005).

Nonetheless, the growth in public concern about problem gambling has contributed to government decisions, the growth and development of research in this area and the establishment of information, resources, helpline and counselling services for problem gamblers. More recently this has become inclusive of preventative measures. In New Zealand, the Gambling Act 2003 exemplifies a government's response to minimising gambling-related harms.

Attitudes towards gambling are important because they directly influence one's gambling behaviour as well as other people one is associated with. Research on the role of attitudes in gambling behaviour could be helpful in refining strategies to prevent problem gambling development.

Internet gambling

The internet is an increasingly common feature in today's society. Numerous opportunities for casino gambling, sports betting and lottery games are available on a fast growing number of internet sites. There are an estimated 2000 internet gambling sites available online run by approximately 400 separate companies, and the growth of internet gambling is likely to continue (Eadington, 2004). 'Convenience' gambling is taken to a new height and is now directly linked to mobile phones, homes and workplaces around the world (Abbott et al., 2004).

Like the United States, a number of governments have attempted to control access, whilst others have passed legislation permitting internet gambling. Eadington (2004) outlines reasons why it is unlikely that internet gambling will be constrained in the near future. He also points out that it is likely that this form of gambling will increase rapidly with the growth of technological developments and the security of financial transactions. Welte et al (2004a) also predict an increase and suggest the need to track

the trends and correlates of this form of gambling. Griffiths & Wood (2000) contend the need for research, particularly since they note that insufficient evidence is available to support the claims that online gambling will contribute significantly to problem development. These authors argue that research must monitor usage and identify links between usage and problem gambling in different sectors of the population.

In New Zealand, only small numbers of people participate in gambling activities via the Internet (Amey, 2001). The Gambling Act 2003 (Sections 9 (2) (b) and 16) could be somewhat of a protective factor in terms of problem gambling since the legislation prohibits remote interactive gambling and the advertising within New Zealand of overseas-based gambling¹². However, there are exemptions in that sales promotions in the form of a lottery and conducted in New Zealand are excluded from the ban on remote interactive gambling, and the Lotteries Commission and the Racing Board can conduct approved forms of remote interactive gambling. A further limitation in terms of the legislation being a protective factor is that the prohibition is on remote interactive gambling conducted in New Zealand. Thus, it is not illegal for someone in New Zealand to participate in internet gambling if the website is overseas (Department of Internal Affairs, 2003b).

The intersection of financial gambling technologies

Gambling has been significantly influenced by rapidly evolving electronic technologies and their intersection with financial institutions. One example of this is the opportunity for 'cashless' gambling where casino games and the purchase of lottery tickets is conducted via debit or credit cards. These impacts are likely to be more profound than internet-based gambling (Abbott et al., 2004).

Technologies and management systems are also rapidly developing to the extent that satellite wagering is possible in homes via cable/satellite television. This enables sports action to be stopped and wagers to be placed in real time. Additional developments include the installation of debit card transaction options on slot machines (Abbott et al., 2004). Despite these, Abbott et al (2004) also note contradictory developments such as attempts to force credit card companies to refuse to honour charges made at gambling establishments and the refusal of search engines such as Google and Yahoo to accept advertising from internet gambling operators.

Globalisation

McMillen (1996 cited in Abbott et al., 2004) refers to globalisation as the shift in gambling development from local-national to international levels. This has resulted in a shift in power from the global to a supranational level. Gambling is no longer considered a social activity that is influenced by community needs and values. It has become big business and is now integrated into mainstream economic development as part of the entertainment sector.

Gambling regulation has become more difficult as a result of the rapid development of legal gambling globally and technological change.

¹² Remote interactive gambling includes gambling by a person at a distance by interaction through a communication device.

Environmental risk factors encompassing physical and social contexts

Gambling contexts

As previously discussed, the increased availability and accessibility of certain forms of gambling (particularly those that influence regular participation and high expenditure) have been associated with higher rates of problem gambling. In addition, various structural features associated with certain gambling activities including the size of the jackpot, the probability of winning and the degree of skill involved, or perceived degree of skill, are considered to influence the development and/or maintenance of problem gambling (Griffiths, 1995).

The gambling venue, social settings and differential features are also noted as attracting various types of people. These features include location, type of establishment, availability (e.g. opening/access times, number of outlets, entry requirements), purpose (e.g. church function, fundraising event), alcohol availability, lighting, colour and sound effects (Griffiths, 1995).

Although contextual factors such as these mentioned have been associated with influencing gambling behaviour, it remains unclear how much they contribute to the development and maintenance of problem gambling. Effective policy development, host responsibilities, public education and prevention and treatment programmes are dependent on identifying and understanding structural and contextual components that influence problem gambling.

Sociodemographic and sociocultural factors

Early prevalence surveys conducted in the United States (Shaffer, Hall & Vander Bilt, 1997; Volberg, 1994, 1996), Canada (Ladouceur, 1996), Spain (Becona, 1996), Australia (Dickerson et al., 1996) and New Zealand (Abbott & Volberg, 1991, 1992, 1996; Volberg & Abbott, 1994) identify similar demographic factors that are associated with an increased risk of problem gambling development. These generally include being male, being of a youthful age, belonging to particular ethnic groups, single marital status, low educational and/or occupational status and residence in urban areas.

In the U. S., Gerstein et al (1999) found that younger people had higher rates of problem gambling. More recent studies by Welte et al (2001, 2002, 2004a) did not confirm this finding; however, they did identify similar rates of probable pathological gambling between males and females. This finding is comparable with that identified by Volberg (2003) and previously mentioned national surveys in New Zealand (Abbott & Volberg, 2000) and Australia (Productivity Commission, 1999). This is a substantial change considering that less than a decade before, 70% of problem gamblers were typically men (Abbott et al., 2004).

Additional changes to risk factors are found in comparing the results from the Swedish and New Zealand national surveys (Abbott, Volberg & Ronnberg, 2004). For example, the 1991 New Zealand survey found that the demographic features associated with a very high risk for lifetime problem gambling were being of Maori or Pacific Island ethnicity, being male, youthfulness and unemployment. In 1999, Maori and Pacific Islanders remained at very high risk (Abbott, 2001a; Abbott & Volberg, 2000) and in addition to living in large households and Auckland residence, were the only factors

common to the 1991 survey. Additional risk factors in 1999 were Christchurch residence, being born outside New Zealand, Australia, Europe and North America, Catholic religion and household income of \$40,001-\$50,000 (NZD). Similar to Welte et al's U.S. survey, the 1999 New Zealand survey also found that differences between the number of male and female problem gamblers had greatly reduced.

At the time the second New Zealand national prevalence study was undertaken, there were many similarities between the Sweden and New Zealand gambling contexts. This included per capita gambling expenditure and the expansion of legalised gambling since the late 1980s. New Zealand, however, had an increased availability of EGMs and casinos in two of its major cities (Christchurch and Auckland). It was also more ethnically diverse with a larger migrant population. For these reasons, New Zealand was anticipated to have higher levels of problem gambling than Sweden (Abbott, Volberg & Ronnberg, 2004).

However, the overall 1998 Swedish and 1999 New Zealand prevalence rates of serious problem gambling were, in fact, found to be similar. The most common demographic risk factors in Sweden were male gender, being less than 25 years old, non-married status, being born outside Sweden, living in major cities and receiving welfare payments. These are similar to the risk factors for problem gambling identified in the 1991 New Zealand national survey (Abbott, Volberg & Ronnberg, 2004). A question posed at this point is whether Sweden will follow the New Zealand trend now that casinos have been introduced and EGMs are more readily available (Abbott et al., 2004).

Increased exposure and bimodal gambling patterns

Information from the national gambling surveys just mentioned suggests that the prevalence of problem gambling is elevated amongst particular sociodemographic groups since many experience increased exposure to high-risk forms of gambling activities. However, although groups with more problems generally report higher levels of participation and expenditure, it is important to note that some of them have bimodal gambling patterns. In other words, compared to other groups, these groups include large proportions of people who do not gamble or gamble infrequently, as well as a number of those who are frequent, high spending gamblers. Immigrant and ethnic minorities such as African Americans in the U.S., Pacific Islanders in New Zealand, and recent immigrants to Sweden exemplify bimodal gambling patterns and have high levels of problem gambling in comparison with mainstream populations (Abbott, 2001a; Abbott et al., 2004; Abbott, Volberg & Ronnberg, 2004).

Older adults

In contrast to the progressive increase in youth research over the years, little is known about the gambling and problem gambling behaviour of older people. National and international prevalence surveys have consistently identified older adults as having low rates of problem gambling, low regular participation in continuous forms of gambling and low presentation to problem gambling treatment services (Abbott et al., 2004; Paton-Simpson, Gruys & Hannifin, 2004; Productivity Commission, 1999). However, McNeilly & Burke (2000) suggest that this group is vulnerable to developing gambling-related problems when they take up new forms of gambling not previously engaged in. Stewart & Oslin (2001) also highlight that erroneous perceptions of gambling as a

coping mechanism will lead to increased levels of gambling participation amongst the elderly. In addition, they anticipate an increased escalation of gambling-related problems amongst this group since many older people are on set incomes and even moderate losses can have substantial adverse financial and other consequences.

Ethnicity

When gambling participation measures were accounted for, a study by Welte et al (2004a) found that African American, Hispanic and Asian ethnicity and low socio-economic status continued to have a significant relationship with problem gambling. Gender and age were no longer significant. This implies that minority ethnic groups and low socio-economic status are independent of other sociodemographic variables and have a greater influence on problem gambling than just contributing to an increased exposure to high risk forms of gambling. The authors also suggest that lower socio-economic status is related to an increase in gambling problems because unlike their higher socio-economic counterparts they are less likely to be able to recover from financial losses.

A number of ethnic minority groups, recent migrants and refugees have been identified as being at high risk for problem gambling (Abbott & Volberg, 1999; Productivity Commission, 1999; Raylu & Oei, 2002, 2004). Their problems are sometimes associated with particular forms of gambling. For example, in New Zealand, most of the people that sought help for their gambling in 2004 reported problems in relation to EGMs, whereas the majority of Asians (predominantly Chinese) reported casino table games (Paton-Simpson, Gruys & Hannifin, 2004). Blaszczynski et al (1998) report high problem gambling prevalence rates amongst an Australian Chinese sample. Interestingly, the majority of this sample did not gamble but of those that did, most reported that their gambling had started upon migration to Australia.

Indigenous populations including Maori and Native Americans (U.S.) and other ethnic minority populations such as Pacific peoples in New Zealand have also been found to have particularly high rates of problem gambling. Pacific peoples in particular are identified as the most at-risk ethnicity in New Zealand, six times that of the European population (Abbott & Volberg, 1991, 2000; Volberg & Abbott, 1997). These populations have histories of colonisation, exploitation and oppression and in conjunction with an increased risk of developing problem gambling, are also at high risk for other health and social problems including alcohol and drug problems. In addition they are all demographically young. Migrant populations such as Pacific and Asian peoples in New Zealand are also susceptible to various forms of acculturative stress (Perese, 2000; Wong & Tse, 2003). Raylu & Oei (2002) contend that this plays a major role in influencing gambling participation.

Evidently, indigenous, ethnic minority and some migrant groups are characterised by multiple risk factors. Therefore, it is possible that some or all of these factors rather than ethnicity may account for the elevated prevalence of problem gambling within these groups. However, the aforementioned studies by Welte et al (2004a) and Abbott & Volberg (1991, 1996, 2000) which identified the continued significance of ethnicity as a risk factor when other factors were controlled for, imply that this variable is important and independent of others.

Cultural values and beliefs as well as social factors within some minority cultures have also been identified as important influences on gambling behaviours. For example, recent Canadian research by Tepperman & Korn (2004) with six ethnocultural groups, concluded that cultural beliefs, practices and family socialisation influenced gambling participation. These influences were durable across generations. Despite this, a recent review by Raylu & Oei (2002) claims that there remains a major gap in the literature on what part cultural factors play in the development and maintenance of problem gambling. More detailed studies of particular minority groups, especially those that are, or appear to be, at high risk, are required to extend understanding in this area (Abbott et al., 2004).

Social interactions

Exploring cultural and sociological factors is also important in enhancing understanding of the role that other variables such as age, gender and socio-economic status play in influencing the development of problem gambling. For example, although most gambling involves social interaction and people frequently go to gambling venues with other people (usually family members and friends), problem gamblers more often than not gamble alone (Abbott 2001b). While it is probable that social interaction, or lack thereof, has an influence on both the development and maintenance of problem gambling, there is a paucity of research on this topic (Abbott & Volberg, 1999).

Familial factors

As previously mentioned, families play a potential role in contributing to the development of problem gambling by increasing one's exposure to gambling activities and social learning. General population prevalence surveys, for example, have commonly found that problem gamblers report increased rates of parental problem gambling. Clinical studies have also found high levels of gambling problems among other family members such as siblings, grandparents and cousins (Black, Moyer, & Schlosser, 2003; Daghestani, Elenz, & Crayton, 1996; Gambino et al., 1993; Gupta & Derevensky, 1998; Lesieur et al., 1991; Raylu & Oei, 2002; Winters, Bengston, Dorr, & Stinchfield, 1998).

In contrast to non-problem gamblers, problem gamblers generally report an earlier onset of gambling participation and higher levels of moderate to heavy gambling in the families they grew up in. Most also report being introduced to gambling first by family members and then by friends (Abbott, 2001b; Gupta & Derevensky, 1998; Jacobs et al., 1989).

Problem gamblers also commonly report that their spouse or partner, and work colleagues have gambling problems (Abbott, 2001b). Although problem gamblers frequently gamble alone they do not apparently differ from non-problem gamblers with respect to the frequency of their gambling participation with friends and work colleagues. However, further research is needed to examine the nature of these interactions and what role they play in the development and maintenance of problem gambling (Abbott et al., 2004).

3.3.3 The host - individual factors

The development and maintenance of problem gambling is primarily influenced by exposure to, and involvement in, particular gambling activities. Without gambling there is no problem gambling. A number of environmental factors have been mentioned that play a major role in increasing the likelihood that gambling participation will develop into problem gambling behaviour. However, not all individuals who are exposed to, and who engage in, high risk gambling activities become problem gamblers. Whilst some appear highly susceptible to developing problems, others are resistant to problem development. In order to explore the reasons for this and increase the knowledge base relative to the determinants of problem gambling, a range of individual factors have been examined. These have been categorised into biological factors, physical health, temperament and personality factors, psychological states and disorders, and cognitions.

Biological factors

Although a wide variety of factors have been considered in examining the role of biological factors in the development and maintenance of problem gambling, this research remains in its infancy. Some of the factors investigated thus far include brain biochemistry and functioning as well as physiological and other indicators of arousal and stimulation.

For example, studies on neurotransmitters suggest that problem gamblers have deficits in one or more of the major neurotransmitter systems (Blanco et al., 2000; Rosenthal, 2004). A number of other studies on biological markers indicate deficits in the serotonergic (Blanco et al., 1996; Rosenthal, 2004), dopaminergic (Bergh et al., 1997; Ebstein et al., 1996) and noradrenergic (Bergh et al., 1997; Rosenthal, 2004) systems.

Neuropsychological, electro-encephalogram and brain imaging studies have found that adult problem gamblers have elevated rates of frontal lobe impairment, attention deficits, distractibility and problems with perceptual organisation (Abbott et al., 2004; Goldstein et al., 1985; Rugle & Melamed, 1993). Potenza (2001, cited in Abbott et al., 2004) highlights brain activation in regions previously connected with drug craving responses.

However, further investigation in all of these areas is warranted since, as yet, it is not known whether these biological factors are causal/predisposing agents or a result of the development of problems.

Physical health problems

A recent survey of older adults in Florida found that problem gamblers were more likely than non-problem gamblers to rate their physical health as poor (Volberg & McNeilly, 2003 cited in Abbott et al., 2004). In comparison, adult problem gamblers in New Zealand more often rated their health as good (89%) than regular (78%) and infrequent (73%) gamblers (Abbott, 2001a). According to Gerstein et al (1999) problem gamblers in contrast to non-problem gamblers are more likely to experience a number of physical health problems. These include cardiovascular and gastrointestinal illnesses, chronic pain and dental problems. However, as Potenza et al (2002) conclude, more research is needed to investigate directly the biological and health correlates associated with specific types of gambling behaviours and to define the role

for generalist physicians in the prevention and treatment of problem and pathological gambling.

Temperament and personality

Personality traits or characteristics that have been consistently identified among problem gamblers include sensation seeking, impulsivity, compulsivity, psychoticism and neuroticism, and personality disorders.

Sensation seeking

Sensation seeking is an intrinsic personality feature that is primarily driven by the want for new and different feelings and experiences (Coventry & Brown, 1993). It is associated with the arousal hypothesis which implies that the excitement of playing rather than money acts as the reward for problem gamblers (Anderson & Brown, 1984).

Sensation seeking is complex and a number of discrepancies between studies have been identified. For example, some community studies have found higher levels of sensation seeking in male problem gamblers than in control groups (Kuley & Jacobs, 1998 cited in Abbott et al., 2004; Breen & Zuckerman, 1999). A selection of studies on youthful populations support elevated sensation seeking rates amongst this group (Gupta & Derevensky, 1998; Powell et al., 1999). However, others such as Blaszczynski, Wilson & McConaghy (1986) obtained contradictory results whereby male problem gamblers did not differ from control groups. These authors proposed that rather than sensation seeking, these problem gamblers participated in gambling to reduce negative emotional states such as anxiety, loneliness and boredom. This finding is supported as a motivation for frequent and problem gambling amongst other adult and youth samples (Blaszczynski, McConaghy & Frankova, 1991; Coman, Burrows, & Evans, 1997; Gupta & Derevensky, 1998, 2000).

Sensation seeking has been noted as predisposing individuals to gamble. However, as Raylu & Oei (2002) contend, some consequences of problem gambling may modify and reduce this trait. Anderson & Brown (1984) also highlight differential levels of sensation seeking with respect to different gambling activities. For example, increased levels were found amongst casino gamblers and reduced levels amongst off-course track bettors. However, within the latter group, those with the highest levels of sensation seeking scores were more aroused, made larger bets, spent more and experienced more loss of control over their gambling. This association between loss of control and sensation seeking highlights an important aspect of problem gambling development.

Impulsivity

Loss of control, as well as the inclination to engage in risky behaviours without thought is an important characteristic of impulsivity (Eysenck & Eysenck, 1978). Impulsivity is considered to play a part in a number of mental disorders (American Psychiatric Association, 1994) and when problem gambling was first classified in 1980 as a mental disorder it was included as one of the disorders of impulse control (American Psychiatric Association, 1980). In light of this, it is plausible to assume that high impulsivity could predispose people to problem gambling.

A number of studies on adult populations have consistently demonstrated higher levels of impulsivity amongst problem gamblers than non-problem gamblers (Alessi & Petry, 2003; Petry, 2001; Steel & Blaszczynski, 1998). This finding has been replicated amongst youthful populations (Nower, Derevensky, & Gupta, 2004; Vitaro, Arseneault, & Tremblay, 1997, 1999). Vitaro et al (1998) also found young people with gambling and substance abuse problems were more impulsive than those who only had problems with one or the other. These authors suggest that the development of substance use and gambling problems at the same time is related to an impulse control deficit amongst adolescents.

As well as alcohol and other substance use problems, Rugle & Melamed (1993) found that problem gamblers also have high rates of other mental disorders that are associated with impulsivity. These include attention deficit hyperactivity disorder, antisocial personality disorder and other disorders of impulse control. Evidently, impulsivity plays a major role in the development of problem gambling. A more recent study by Langhinrichsen-Rohling et al (2004) suggests that impulsivity influences the development of problem gambling by encouraging gambling experimentation and participation, rather than influencing the path of at-risk gamblers to problem gambling.

Compulsivity

Although pathological gambling is diagnosed as an impulse control disorder, some of the diagnostic criteria are more related to obsessional thinking and compulsivity rather than impulsivity. Compulsivity refers to a preference to participate and engage in repetitive behaviours. This is driven by the need to avoid harm and reduce feelings of anxiety and doubt (McElroy et al., 1993 cited in Abbott et al., 2004).

In line with this view are a number of studies that have found pathological gamblers to have significantly higher levels of obsessive-compulsive symptoms than controls (Black et al., 2003; Frost, Meagher, & Riskind, 2001). In contrast to disorders of impulse control, these studies suggest that pathological gambling might be more aligned with obsessive-compulsive disorders.

Psychoticism and neuroticism

Raylu & Oei (2002) claim that problem gamblers have been found to have increased levels of psychoticism and neuroticism than the general population. However, differences in neuroticism have not been demonstrated in all studies and one study in particular found a reduction in this personality trait following treatment (Blaszczynski et al., 1991). Therefore, rather than preceding problem gambling, neuroticism may in fact arise from problem gambling and related stress.

A number of studies highlighted by Abbott et al (2004) have also found that antisocial personality disorder is more common amongst problem gamblers than the general population. Although most problem gamblers do not have antisocial personality disorder, it is suggested that a link between this trait and impulsivity, sensation seeking and psychoticism may contribute to the high rates of gambling-related crime amongst serious problem gamblers (Abbott, McKenna & Giles, 2000; Blaszczynski & McConaghy, 1994; Abbott & McKenna, 2000).

Personality disorders

In addition to antisocial personality and obsessive-compulsive disorders, Black & Moyer (1998) note that high rates of paranoid, schizotypal and avoidant disorders have been found in treatment samples of pathological gamblers. Blaszczynski & Steel (1998) also report high rates of histrionic, narcissistic and borderline disorders. Despite these findings, further research is required to determine the influence of these different disorders on the development and maintenance of problem gambling.

Psychological states and mental disorders

Although mood states, particularly anxiety and depression, have been found to be associated with features of gambling and problem gambling behaviour, it is interesting to note that general population surveys such as those conducted by Abbott (2001a) highlight that most people consider gambling an enjoyable activity. For example, in New Zealand, many reported gambling for reasons such as winning money, socialising, fun, excitement, a hobby or interest and relaxation (Abbott, 2001a). This finding which has been replicated in other studies around the world suggests that positive emotional states are linked with gambling participation. This is a plausible reason why many people may continue to gamble despite the possibility of losing (Abbott et al., 2004).

Problem gamblers in New Zealand were also more likely than non-problem gamblers to report feelings of excitement and relaxation when gambling. In addition, they often reported gambling to escape depressed feelings. This finding is consistent with the view that gambling to relieve negative emotional states such as depression and anxiety may be a significant risk factor for the development and maintenance of problem gambling (Abbott, 2001a; Blaszczynski & McConaghy, 1989, cited in Abbott et al., 2004). In line with this view, Dickerson et al (1991) indicate the influence of prior mood states on the likelihood of high-frequency gamblers to continue gambling despite repeated losses. Moods have also been identified as impacting on gambling decision-making and different moods are noted to influence gambling choices. For example, there is some research suggesting that EGMs are favoured by anxious gamblers whilst depressed personality types prefer forms of gambling that involve greater skill and/or social interaction (Abbott et al., 2004). While anxiety and depression evidently play an important part in the development and maintenance of problem gambling, Coman, Burrows & Evans (1997) also indicate the influence of these traits on relapse.

Although gambling may briefly distract an individual from experiencing negative emotional states, it is not uncommon for problem gamblers to report feeling depressed and guilty upon completion of a gambling session (Abbott, 2001b). This suggests a negative downward spiral whereby at-risk and problem gamblers gamble to reduce depressed or other negative states, which over time, are consequential of their gambling behaviour (Abbott et al., 2004).

Research is required to examine and identify, in greater detail, how mood states influence participation in particular forms of gambling, as well as how engagement in them, in turn, influences psychological states and gambling behaviour (Abbott et al., 2004).

Gambling and substance misuse

Many studies have found significant associations between problem gambling and substance misuse (Abbott, 2001a; Abbott, Williams & Volberg, 1999, 2004; Fisher, 1993; Gupta & Derevensky, 2000; Stewart & Kushner, 2003).

Rodda, Brown & Phillips (2004) identify a relationship between tobacco smoking and gambling. They also illustrate similar characteristics between these two behaviours, particularly since negative affect was found to contribute both to gambling problems and tobacco dependence. It is important to note that the introduction of smoking bans in places such as the Atlantic province in Canada, Detroit (U.S.) and Regina and Saskatchewan (Canada), according to media reports, have recently been associated with reduced gambling expenditure (Antle, 2005; CBC News, 2005; Wolfson, 2005). However, as has been shown in other jurisdictions such as Victoria, Australia where smoking bans have been in place since 2002, it is anticipated that gambling expenditure will gradually recover over an extended period of time (Dowling, 2005).

Moderate to high percentages (30% to 50%) of adults seeking treatment for problem gambling were also identified as having comorbid alcohol and/or other substance misuse disorders (Crockford & el-Guebaly, 1998; Lesieur, Blume, & Zoppa, 1986; Petry, 2002). Alcohol consumption has been associated with losing and linked with increased risk-taking during video poker play (Stewart & Kushner, 2003). More recently, Welte et al (2004a) suggest that some chronic effects of alcohol such as reduced income, increased expenditure on alcohol and alcohol-induced brain damage may not only increase gambling behaviour but also contribute to the severity of problem gambling.

Whilst there is much literature that explores the co-occurrence of alcohol use and other mental disorders with pathological gambling, understanding the nature of these relationships including causal direction remains limited. One of the predominant reasons for this is that there have been few general population studies to simultaneously assess pathological gambling and other mental disorders (Abbott et al., 2004) and little prospective research.

Cognitions

A body of literature alludes to differences in the way that problem gamblers, as opposed to non-problem gamblers, think about gambling (Griffiths, 1993; Sylvain, Ladouceur, & Boisvert, 1997; Toneatto, 1999). Griffiths (1995) and Ladouceur & Walker (1996) assert that these cognitive differences or distortions play an important role in the development and maintenance of problem gambling, particularly by influencing at-risk and problem gamblers to sustain high levels of gambling despite increasing losses.

In a comprehensive overview of a number of gambling-related cognitive distortions, Toneatto (1999) shows how most of these thoughts commonly lead problem gamblers to believe that they can predict or influence the outcome of chance events.

The characteristics of certain gambling activities also appear to influence the type and frequency of cognitive distortions. For example, Toneatto (1999) found that problem gamblers often held erroneous beliefs about gambling activities that they perceived as

requiring increased levels of skill, such as card games and sports betting. Griffiths (1995) suggests that irrational thinking about control and outcomes is common amongst EGM players, despite the fact that knowledge and experience has no effect.

Although it is highly probable that cognitive distortions influence the development and maintenance of problem gambling, further research is required to explicate how this occurs. Abbott et al (2004) contend the need to identify which cognitions are most commonly associated with particular forms of gambling and how they influence behaviour. The authors also argue the need to consider the influence of variables such as age, gender and ethnic differences, along with the inter-relationships between erroneous cognitions and other risk factors such as alcohol consumption and mood states.

3.3.4 Tabulated summary of risk factors

The risk factors discussed in the preceding pages have been tabulated (Table 1) overleaf. They have been grouped under the headings of ‘agent’, ‘environment’ and ‘host’ to match the framework used in this Section and are further defined as ‘modifiable’ or ‘non-modifiable’. Modifiable risk factors are those which could be influenced by a social marketing approach (e.g. familial exposure to gambling modified through increased awareness around problem gambling) whilst non-modifiable factors are those which cannot be modified by any social marketing intervention (such as gender).