GAMBLING & ADDICTIONS RESEARCH CENTRE
NATIONAL INSTITUTE FOR PUBLIC HEALTH & MENTAL HEALTH RESEARCH
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Brief Literature Review to Summarise the Social Impacts of Gaming Machines and TAB Gambling in Auckland

FINAL REPORT

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1 EXECUTIVE SUMMARY

In April 2012, the Gambling and Addictions Research Centre, Auckland University of Technology, was commissioned by the Auckland City Council to prepare a brief literature review to summarise the social impacts of gaming machines and TAB gambling in Auckland. The purpose of the review was to inform the development of Auckland City Council's policy for Class 4 (non-casino electronic gaming machine) and Totalisator Agency Board (TAB) gambling venues. The Gambling and Addictions Research Centre was asked to focus primarily on the key documents detailed in the Auckland Council's Research Brief Form which consisted primarily of New Zealand research and, where possible, Auckland-specific research.

The aspects of gaming machine and TAB gambling that this review has examined include:

- Background (e.g. forms of gambling in the Auckland area, participation in gambling, treatment services)
- Attitudes and perceptions around gambling and problem gambling
- Negative community and individual impacts of problem gambling (e.g., crime; work/ study impacts; family violence; child/elderly care; co-existing issues including alcohol, tobacco, mental health and physical health; and life quality and satisfaction)
- Positive community impacts of gambling (e.g., community grants, entertainment/ socialising, and employment)
- Issues associated with location, accessibility and density of venues
- Impacts of other people's gambling on individuals/families
- Impacts on specific ethnic groups (i.e. Maori, Pacific, Asian)

These areas make up the sections of this literature review.

1.1 Background

Auckland has a wide array of gambling opportunities, with all modes of legal gambling present in each of the 21 local boards with the exception of non-casino electronic gaming machines in Great Barrier and casino gambling which is only available in the Waitemata region (as the SkyCity Auckland casino is located in the centre of the city). Obviously, residents from other local boards are able to gamble at the casino if they choose to do so.

Auckland has 4,219 non-casino electronic gaming machines (NCEGMs); 23% of the total number of NCEGMs (18,001) nationally. SkyCity Auckland Casino currently has 1,647 of the 2,818 casino electronic gaming machines (EGMs), increasing the total number of EGMs (casino and non-casino) in Auckland to 5,866; 28% of all EGMs. In 2011 there were 640 TAB outlets nationally

with over 130 located in the Auckland region (approximately one-fifth of the total number of venues).

Participation in gambling activities in New Zealand has remained high from when national studies on gambling behaviour began in 1991. Generally, between 80% and 90% of the population has participated in gambling (in the past six- or 12- months), although some studies have reported participation rates of 63% to 65%. The differences in gambling participation estimates may be due to methodological differences in the conduct of the surveys; results from telephone surveys have been reported to differ from results from surveys conducted face-to-face.

A total of $1,967 million was expended nationwide on gambling in 2011. A significant proportion of this expenditure was on NCEGMs ($856 million), followed by casino gambling ($434 million), NZ Lotteries products ($404 million) and TAB racing and sports betting ($273 million).

The estimate of lifetime problem gambling prevalence in the New Zealand population ranges between 0.31% and 3.6%. Harm from problem gambling affects not only the gamblers but people closely associated with the gamblers such as family, friends and work colleagues ('affected others').

Auckland offers a range of free treatment for problem gamblers and affected others. The options include face-to-face and telephone counselling and are available in most Auckland local board areas. The treatment services also offer culturally-specific services, including telephone counselling in over 40 different languages, ensuring that as many people as possible can access assistance. In 2010/11, 37.5% (n=4,539) of all clients seeking help from face-to-face problem gambling treatment services reported they resided in the Auckland area (compared to an Auckland population of 33% of total population). Similarly, in 2011 the Gambling Helpline reported that Aucklanders comprised 32% (n=686) of total callers.

People seeking treatment most commonly reported that NCEGMs were the mode of gambling causing harm, for example, 72% of new gambler clients calling the Gambling Helpline in 2011 cited NCEGMs as their primary mode of problematic gambling. This was followed at a substantially lesser extent by casino EGMs (10%) and New Zealand Racing Board gambling (7%) (includes track and TAB betting). A similar pattern was noted for new gambling clients accessing face-to-face counselling services in 2010/11.

1.2 Attitudes and perceptions around gambling and problem gambling

New Zealanders' attitudes to different types of gambling vary. EGMs, track and sports betting, casino table games, internet gambling and Lotto (including scratch tickets) are all perceived as "true" modes of gambling by a majority of the population. However, other modes of gambling, especially more informal types such as making bets for money with friends, are more likely to be perceived as "just a game" rather than a mode of gambling.

Attitudes regarding the number of gambling venues in New Zealand are divided, with a relatively equal number of people reporting that the number of venues is about right compared with those reporting that there are too many venues. Of those who reported that there are too many venues, they mainly cited on overabundance of NCEGM venues.

People are becoming more aware of problem gambling as a social issue. This may be due to social marketing campaigns, such as those run by the Health Sponsorship Council, and increasing regulations around harm minimisation in venues.

1.3 Negative community and individual impacts of gambling and problem gambling

People who regularly (once a week or more often) participate in EGM gambling, track betting and casino table games (continuous forms of gambling) have been shown to be at a much higher risk for developing problem gambling than people who participate in other non-continuous modes of gambling. These forms of gambling have been reported to cause the most harm in the community.

Crime has been linked to gambling and includes financial crimes to facilitate gambling (e.g., theft), crimes associated with gambling venues (e.g., money laundering), and crimes against a person such as family violence. New Zealand prison studies show that rates of problem gambling amongst prison inmates are far higher than those of the general population. A pilot study on unreported crime indicated a relationship between problem gambling and criminal behaviour.

Harmful gambling is also associated with many other issues including poorer work and/or study performance and poorer child care. Family violence sometimes co-exists with problem gambling and can affect all family members. Problem gamblers have greater odds for hazardous drinking and to be smokers than non-problem gamblers. A substantial proportion of problem gamblers suffer mental health issues such as psychological distress, anxiety and depression and one Auckland study reported a larger than average proportion of problem or at-

risk gamblers amongst a hospital population of suicide/self-harm attempts. Physical health is also reported to be worse amongst problem gamblers, particularly those who spend longer periods of time gambling on EGMs or casino table games.

Longer play on EGMs, casino table games and gambling at the TAB have been reported to be associated with poorer overall quality of life ratings, with lower overall life satisfaction also reported by those who play longer on EGMs.

1.4 Positive community impacts of gambling

Grants to various community groups from EGM proceeds are often cited as the main benefit of NCEGM gambling. Gaming machine trusts are legally required to allocate a minimum of 37.12% of net proceeds to authorised purposes (i.e. non-profit community organisations). Historically, sports/physical activities have been given a major share of the funding, though in recent years, this share has become less (75% in 1996 compared to 47% in 2005) and a greater proportion of funding has been granted to social/community services (18% in 1996 compared to 40% in 2005).

There have, however, been some concerns over the funding model and perceived inequitable practices. In 2011, over $228 million was distributed to charitable causes from a total gambling expenditure on NCEGMs of $856 million.

Entertainment, socialising and increased employment are also seen as positive impacts of gambling, although the contribution that gambling makes to employment is controversial, with some studies reporting marginal benefits due to disposable income being channelled away from other sectors, such as retail, thus affecting employment opportunities in those other sectors.

1.5 Issues associated with location, accessibility and density of venues

The influences that the location, accessibility and density of gambling venues have on participation, expenditure and rates of problem gambling in the community are complex. Findings from studies differ and situational factors need to be investigated more fully.

Living closer to gambling venues has been associated with being more likely to be a problem gambler. Greater participation in gambling is also influenced by the distance to the nearest gambling venue though expenditure on gambling appears not to be associated.

Although exposure to gambling opportunities has been reported to influence gambling behaviour, it has been argued that adaptation occurs over time. In simplified terms, this means that after an initial surge in gambling participation when a new mode of gambling is introduced, this is followed by a decrease in participation to previous levels. The process of adaptation can be increased by regulation of gambling and increased public health education. However, adaptation is a complex phenomenon that is influenced by a multitude of factors.

Gambling venues are more likely to be located in areas of high deprivation and low income; areas where more Maori and Pacific people reside.

1.6 Impacts of other people's gambling on individuals/families

Affected others comprise a substantial number of people who seek help from treatment services. In 2010/2011, 37.2% (N=4,496) of clients assisted by face-to-face problem gambling treatment services were affected others. The Gambling Helpline reported receiving calls from 381 new affected others in 2011; this comprised 38.4% of their new callers that year.

Affected others cite problems such as bills being unpaid, accumulating debt and family problems as consequences of the gambling of the person close to them.

1.7 Impacts on specific ethnic groups

Some ethnic minority groups and recent migrants exhibit a bimodal gambling pattern, with high numbers both of non-gamblers and high-intensity gamblers.

Maori are four times more likely and Pacific people are four to six times more likely to be at risk of developing gambling problems than Pakeha/Europeans. Living in more deprived areas and having lower educational levels are associated with problem gambling. These associations are also apparent in Maori and Pacific peoples.

The impact of gambling on Asian people is difficult to assess due to the secrecy that surrounds gambling within Asian cultures. Prevalence studies report similar rates as Pakeha/Europeans and Asian people do not make up a high percentage of help-seekers. However, targeted studies conducted by Asian researchers have indicated that Asians may have higher rates of problem gambling than the general population.

The percentage of Asian and Pacific peoples in the Auckland area is greater than the overall national percentage and is predicted to increase over the next several years. Auckland also has

a Maori population percentage equivalent to the overall national percentage. Thus, strong harm reduction measures are required to protect these disproportionately affected groups from the harms of problem gambling.

1.8 Conclusion

In conclusion, the Auckland area (which provides opportunities for all legal forms of gambling) has a substantial proportion of the country's EGMs and TABs. A large proportion of those harmed and seeking help have problems with EGM gambling. Maori and Pacific peoples are at much higher risk of developing problem gambling than Pakeha/Europeans and this may be exacerbated by the higher density of machine venues in areas of high deprivation; the areas with greater populations of Maori and Pacific people. There are multiple negative and some positive social impacts of gambling, each of which will have consequential flow on effects. Any assessment of social impacts should consider the flow on effects as well as the direct impacts.

2 INTRODUCTION

In accordance with the Gambling Act 2003 and Racing Act 2003, every local authority must consider the social impacts that gambling may have in their community when making decisions regarding gambling policy. At the Auckland Council's request, the current brief literature review focuses on and summarises the social impacts of electronic gaming machines (EGMs) and Totalisator Agency Board (TAB) gambling in Auckland. Due to this review's focus on the Auckland region, key documents relating nearly exclusively to New Zealand and Auckland gambling research as detailed in the Auckland Council's Research Brief Form were used.

Figure 1 shows the 21 local boards that make up Auckland City. Where possible, the review has used board-specific or Auckland-specific statistics regarding participation, expenditure and impacts of gambling.

Figure 1: Map of Auckland City and the 21 local boards

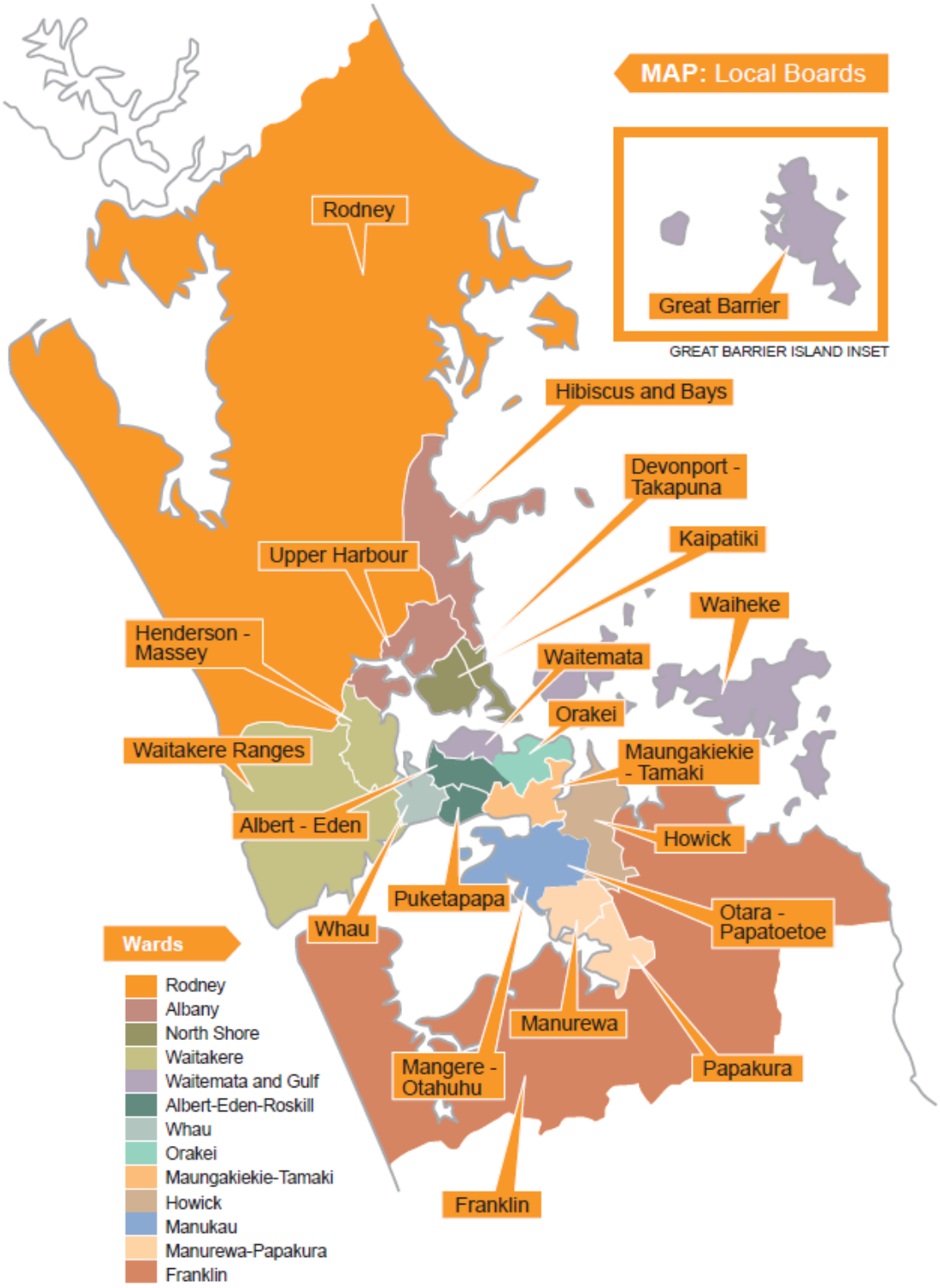


Table 1 shows populations in the 21 Auckland local boards. It uses data from the 2006 Census of Population and Dwellings to produce population estimates for June 2011 (Statistics New Zealand, 2012). The mesh blocks used in the Census were fitted to the new Auckland Council boundaries using a "best fit" methodology.

Table 1: Populations of the 21 Auckland local boards

Local Board	Population Estimate Jun 2011
Albert-Eden	101,200
Devonport-Takapuna	58,600
Franklin	66,200
Great Barrier	900
Henderson-Massey	113,900
Hibiscus and Bays	91,300
Howick	132,700
Kaipatiki	88,200
Mangere-Otahuhu	78,800
Manurewa	90,300
Maungakiekie-Tamaki	75,300
Orakei	83,700
Otara-Papatoetoe	83,600
Papakura	46,600
Puketapapa	57,700
Rodney	56,200
Upper Harbour	51,300
Waiheke	8,730
Waitakere Ranges	50,400
Waitemata	71,500
Whau	78,800
Total Auckland	**1,486,000**

(Statistics New Zealand, 2012)

3 BACKGROUND

The Department of Internal Affairs is the government body responsible for the administration of the Gambling Act 2003. The following are considered legal modes of gambling in the Gambling Act:

- Housie
- Keno
- Lotteries Commission products, e.g. Lotto, Bullseye
- Scratch tickets
- EGMs in pubs, clubs and casinos
- Track betting with the TAB
- Sports betting with the TAB
- Casino table games
- Card games, e.g. poker
- Raffles
- Casino/gaming evenings

All of the above modes of gambling are subject to strict regulations, including the maximum value of prizes allowed, how profits are distributed, and whether a licence is needed.

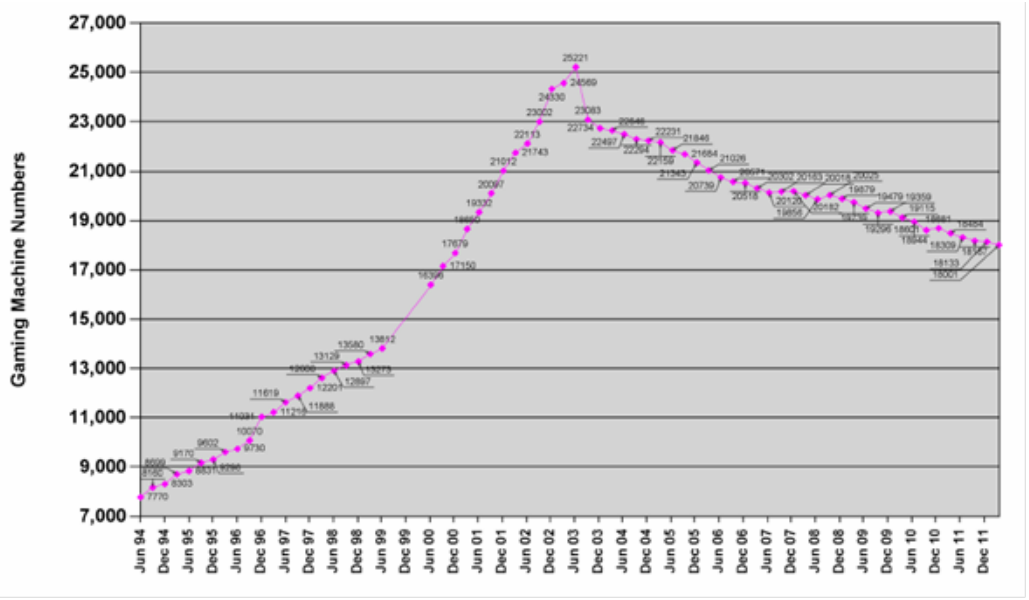
Illegal gambling includes bookmaking and remote interactive gambling (e.g. internet gambling) with the exception of Lotteries Commission products and TAB betting.

In Auckland, all legal forms of gambling are available in all local board areas, aside from Great Barrier which does not have any NCEGMs. Another exception is casino gambling which is only available in the Waitemata region (as the casino is located in the centre of the city). Obviously, residents from other local board areas are able to gamble at the casino if they choose to do so. Opportunities to engage in non-casino electronic gaming machine (NCEGM) gambling are readily available, with Auckland being home to 4,219 machines; 23% of the total number of NCEGMs (18,001) nationally. In addition, SkyCity Casino in Auckland currently has 1,647 of the 2,818 casino EGMs in New Zealand, pushing the total number of EGMs (casino and non-casino) in Auckland to 5,866; 28% of all EGMs (Department of Internal Affairs, website). Auckland is home to 33% of the national population of just over four million people (Statistics New Zealand, 2010), thus indicating that it may have slightly less NCEGMs per capita than other areas of New Zealand. However, as will be discussed later, there are significant differences in the distribution of these EGMs within communities in Auckland.

In 2003, the year that the Gambling Act came into legislation, there were over 25,000 NCEGMs. The number of machines had been growing rapidly since they were first legalised in 1988. Following the enactment of the Gambling Act 2003, of which one purpose was to control the

growth of gambling, the number of EGMs has fallen to 18,001 as of 31 March 2012 (Department of Internal Affairs, 2012). This is most likely due to the caps[1] and sinking lid policies[2] in place in many territorial authorities throughout the country, though other factors may also have played a role. Figure 2 illustrates the increase and subsequent decline in the number of NCEGMs over the last 18 years.

Figure 2: Gaming machine numbers: June 1994 to March 2012 at 3-month intervals



(Department of Internal Affairs, 2012)

According to the New Zealand Racing Board's 2011 Annual Report, TAB gambling is available in 640 outlets throughout New Zealand, as well as being able to be accessed online. Currently, 131,000 people have TAB accounts. There are over 130 TAB outlets available in the Auckland area (approximately one-fifth of the total number of venues). Data detailing the changes in TAB numbers over the years are not readily available as with EGM numbers.

[1] A cap is a limit on machine numbers, usually based on the population of the area.

[2] A sinking lid policy consists of granting no new gaming licenses or allowing machine swaps between venues, thus gaming machine numbers should fall over time as venues close.

3.1 Participation in gambling

The two national prevalence surveys conducted in New Zealand in the 1990s reported similar participation rates of gambling amongst the population. In 1991, 90% of New Zealanders had gambled on some mode in the past six months. This figure dropped slightly to 86% in the 1999 survey (Abbott & Volberg, 1991, 2000). Similar participation rates have been reported by other studies exploring past-year gambling, such as the five-yearly Department of Internal Affairs surveys examining people's participation in, and attitudes to, gambling conducted from 1985 to 2000 (1985 = 85%, 1990 = 90%, 1995 = 90%, 2000 = 87%) and the Health Sponsorship Council's 2006/07 Gaming and Betting Activities Survey (83%) (Amey, 2001; Christoffel, 1992; Department of Internal Affairs, 2008; Health Sponsorship Council, 2007; Reid & Searle, 1996; Wither, 1987). However, there has been a substantial decrease in participation in regular gambling (weekly or more often) on continuous modes of gambling (e.g., EGMs). Between 1991 and 1999, the percentage of adults participating regularly in non-continuous modes of gambling stayed constant at 30% whilst those participating regularly in continuous modes decreased from 18% in 1991 to 11% in 1999 (Abbott, 2001).

A national study by SHORE & Whariki (2008) reported a gambling participation rate of 63% amongst a sample of 7,010 randomly selected participants. A similar rate of 65% for people aged over 15 years was reported in the 2006/07 New Zealand Health Survey, down slightly from 69% in the 2002/03 New Zealand Health Survey (Ministry of Health, 2006b; 2009). The lower percentages of adults participating in gambling reported in these studies in comparison to previous studies could be due to methodological differences, such as differences in the survey instrument (questionnaire), in the way in which the survey is conducted (telephone versus face-to-face), and the way in which the survey is framed by the conducting organisation (Williams & Volberg, 2010).

When examining participation in different gambling modes in the 2006/07 New Zealand Health Survey, it can be seen in Table 2 that Lotto was the most popular activity with a 55% participation rate for total adults and 85% when including past-year gamblers only. This was followed by Instant Kiwi or other scratch tickets (27% and 41%) and any EGM (casino or non-casino) (15% and 23%).

Table 2: Past-year participation in modes of gambling activities in 2006/07

Gambling activity	Participation (%) of total adults	Participation (%) of past-year gamblers	Estimated no. of people (past-year gamblers)
Any gambling activity	65.3	100.0	2,038,500
Any non-Lotto gambling activity	40.5	61.9	1,262,400
Lotto only	24.8	38.0	774,700
Lotto	55.2	84.5	1,722,900
Instant kiwi or other scratch ticket	26.5	40.6	828,300
NCEGMs	10.2	15.6	317,700
Track betting	8.7	13.2	270,100
Casino EGMs	7.7	11.8	240,800
Sports betting	5.2	8.0	162,700
Casino table games	2.1	3.3	66,500
Keno (not in casino)	1.6	2.4	49,000
Housie	1.5	2.3	47,600
Internet-based gambling	0.4	0.6	12,600
Any EGM (casino or non-casino)	15.0	23.0	469,300
Any casino gambling (table games or EGMs)	8.8	13.4	274,100

(Ministry of Health, 2009)

3.2 Expenditure on gambling

The five-yearly Department of Internal Affairs surveys on New Zealander's participation in, and attitudes towards, gambling reported that expenditure per gambling session (adjusted for inflation) increased between 2000 and 2005 for all gambling modes except Instant Kiwi/scratch cards, sports betting and internet gambling (Department of Internal Affairs, 2008). However, the average amount spent on all gambling modes decreased from an average $529 to $474 per person per year. For those who participated in the activity, the highest annual expenditure by mode was on horse and dog racing at the TAB ($826). The second highest was internet gambling ($716), followed by housie ($602). NCEGMs had the fourth highest annual expenditure ($517) and casinos had the fifth highest from a range of nine activities ($286) (Department of Internal Affairs, 2008).

The greatest annual expenditure on gambling activities based on demographic groups was by males who spent an average of $634 per year in 2005 compared to females who spent $327 per year. Maori spent more than other ethnic groups, with an average of $644 per person per year in 2005. Those aged 55-64 years, those with no formal educational qualifications and those

who were unemployed or on a benefit also spent more annually on gambling ($708, $641 and $623 respectively) (Department of Internal Affairs, 2008).

As shown in Table 3, in the 2010/11 financial year, overall expenditure on NCEGMs was $856 million. This represents a small increase of 0.8% from the previous year, despite the global economic downturn. In terms of casino gambling, $434 million was spent at the six casinos which is a decrease of 1.1% from the 2009/10 year (Department of Internal Affairs, 2011). The Ministry of Health believes that SkyCity Auckland Casino's refurbishment impacted spending over this period, leading to the belief that spending will rise at a higher rate in the next years (Ministry of Health, 2010a). $273 million was spent on TAB gambling in 2010/11. This was two percent less than the previous year's expenditure of $278 million. This decrease was attributed to the economic downturn and sensitivity of this form of gambling to these conditions (Department of Internal Affairs, 2011).

Table 3: Changes in gambling expenditure from 2010 to 2011

Gambling sector	Gambling expenditure in 2011	Change from 2010
TAB racing and sports betting	$273 million	-2.0%
NZ Lotteries products	$404 million	16.7%
Non-casino gaming machines	$856 million	0.8%
Casino gambling	$434 million	-1.1%
Total	$1967 million	2.9%

(Department of Internal Affairs website, 2012)

3.3 Problem Gambling

A problem gambler is someone who's gambling causes harm or may cause harm. The Gambling Act 2003 defines harm as:

- *harm or distress of any kind arising from, or caused or exacerbated by, a person's gambling; and*
- *includes personal, social, or economic harm suffered -*
  - *(i) by the person; or*
  - *(ii) the person's spouse, civil union partner, de facto partner, family, whanau, or wider community; or*
  - *(iii) in the workplace; or*
  - *(iv) by society at large*

(Gambling Act 2003)

Harmful gambling can be measured by a number of screening instruments. The most commonly used screens are the Problem Gambling Severity Index (PGSI) (Ferris & Wynne, 2001) and the South Oaks Gambling Screen - Revised (SOGS-R) (Abbott & Volberg, 1991; 1992; 1996). The PGSI uses nine items derived from the longer Canadian Problem Gambling Index (CPGI) to measure gambling severity (past-year gambling) and identifies four gambling subtypes: non-problem gambler, low-risk gambler, moderate-risk gambler and problem gambler. The SOGS-R, a modification of the original SOGS (Lesieur & Blume, 1987) measures current (past six-month) and lifetime problem and probable pathological gambling (Abbott & Volberg, 1991; 1992; 1996).

The 1991 and 1999 New Zealand National Prevalence Surveys both used the SOGS-R (Abbott & Volberg, 1991; 1992; 1996) which was also used in the majority of the prevalence surveys internationally prior to 2000 (Abbott & Volberg, 2000). The Health Sponsorship Council's 2010 Healthy Lifestyles Survey used the PGSI, as has the most recent New Zealand Health Survey (Ministry of Health, 2008a). Many studies now use both measures. SHORE and Whariki (2008) used a combination of time spent gambling and loss-to-income ratio to categorise gamblers likely to be experiencing problems. Where different measures have been used to assess risk, problem or pathological gambling, the findings are not directly comparable.

Abbott and Volberg (1991; 1992) estimated from their national survey of 4,053 New Zealanders over the age of 18 years that the prevalence rate for current problem and probable pathological gambling was 2.1% (±0.4) and 1.2% (±0.3) respectively. The 1999 New Zealand Prevalence Survey indicated this to be approximately 0.8% problem gambling and 0.5% for probable pathological gambling (Abbott, 2001). Abbott and Volberg (1991; 1992) also estimated the lifetime prevalence rate to be between 0.31% and 3.7%.

Abbott and Volberg (1991; 1992) argue that the prevalence of problem gambling in New Zealand could actually be higher due to the fact that only those in private residences were surveyed, which excludes populations that are known to have high rates of problem gambling, for example, prison populations and those in psychiatric institutions. In addition, only one adult per household was randomly selected to participate in the survey. Since there are often multiple problem gamblers in one household, this may have produced an artificially lower estimate (Abbott & Volberg, 1991). Additionally, minority groups, younger adults and males are often under-represented in sample surveys (Williams & Volberg, 2010).

The 2006/07 New Zealand Health Survey, which consisted of face-to-face interviews with a random sample of 12,488 adults over 15 years of age found that 0.6% of past-year gamblers could be classified as problem gamblers, with an additional two percent being classified as moderate-risk gamblers (Ministry of Health, 2009).

The Health Sponsorship Council's 2006/07 Gaming and Betting Activities Survey surveyed 1,774 adults aged 18 years and over and 199 youth aged 15 to 17 years. This face-to-face nationwide survey reported that nine percent of New Zealand adults had experienced harm due to their gambling in the past year and 24% reported that they had experienced harm at some point in their lives due to their gambling. Sixteen percent also reported that their household had experienced financial strain due to their or someone else's gambling (Health Sponsorship Council, 2007).

SHORE and Whariki (2008) reported that three percent of the adult population of New Zealand were involved in 'heavy' gambling, meaning that they gambled for more than three hours per week and spent more than five percent of their income on gambling activities. As these authors did not use a standardised measure of problem or pathological gambling, they used the above measures as a proxy for probable problem gambling.

3.4 Problem gambling treatment

In Auckland, there is a range of free gambling help services available. These include both face-to-face and over the phone services which are discussed briefly below.

The national Problem Gambling Foundation of New Zealand (PGF) offers face-to-face counselling in the Auckland region. As well as offering these services in English, they have trained counsellors in their Asian Family Services unit who speak Korean, Cantonese, Mandarin, Thai, Khmer and Vietnamese, and who provide a dedicated telephone hotline as well as face-to-face counselling. PGF also provides a dedicated Pasifika service, Mapu Maia, which aims to provide culturally appropriate services for Pasifika clients. If a client would like a Maori language speaking counsellor, PGF offers a referral system (PGF website).

PGF has clinics in the following areas of Auckland:

- Glen Innes (Maungakiekie-Tamaki local board)
- Grafton (Waitemata local board)
- Henderson (Henderson-Massey local board)
- Papakura (Papakura local board)
- Papatoetoe (Otara-Papatoetoe local board)
- Takapuna (Devonport-Takapuna local board)

National Oasis Centres, run by the Salvation Army, also offer face-to-face counselling for gamblers and significant others. Pakeha/European, Maori and Asian counsellors are available.

They also make referrals to self-help groups, such as Gamblers Anonymous (Oasis website). Oasis Centres are located in the following areas of Auckland:

- Albany (Upper Harbour local board)
- Henderson (Henderson-Massey local board)
- Manukau City (Otara-Papatoetoe local board)
- Royal Oak (Maungakiekie-Tamaki local board)

Gamblers Anonymous is a self-help group run by current and former problem gamblers. It is modelled on Alcoholics Anonymous, offers peer support and a 12-step programme and is free to attend (Gamblers Anonymous website). Meetings are available by arrangement in West and South Auckland and are held weekly in the following Auckland locations:

- Grey Lynn (Waitemata local board)
- Mairangi Bay (Hibiscus and Bays local board)

Te Piringa Tupono problem gambling services are a branch of Raukura Hauora O Tainui based in the Counties Manukau area of Auckland. They incorporate a tikanga Maori approach to their operations. Raukura Hauora O Tainui is a large healthcare organisation.

Hapai Te Hauora Tapui is a public health organisation that specialises in using a Maori approach to reduce gambling harm both at a local and national level. Hapai provides information, development opportunities and support to Maori, Pacific and other providers and the general public.

Waitemata District Health Board Tupu is a service for Pacific people living in Auckland. It is a mobile service providing help with gambling problems, as well as alcohol and drugs. It has practitioners at the following locations:

- Kingsland (Albert-Eden local board)
- Otahuhu (Mangere-Otahuhu local board)

Another service providing help for Pacific people experiencing harm from gambling is South Seas Healthcare Trust. South Seas is a primary health provider and is available to Pacific people who live in Manukau. Clinics are located in the following areas:

- Otara (Otara-Papatoetoe local board)
- Papatoetoe (Otara-Papatoetoe local board)

The Gambling Helpline is a 24-hour, 365 day per year telephone service that provides counselling and referrals to face-to-face counselling providers. It's 0800 telephone service and text (SMS) service play an important role in gambling treatment in New Zealand as they allow

those who live in remote locations easy access to gambling treatment. The Gambling Helpline offers counselling in over 40 languages and offers the following specialised services:

- Maori gambling helpline
- Pasifika gambling helpline
- Gambling dept line
- Youth gambling helpline

When examining the statistics regarding those who seek help for gambling, it is important to note that it is estimated internationally that only 6% to 17% of problem gamblers will ever seek formal help (Productivity Commission, 2010; Slutske, 2006; Suurvali et al., 2008). This indicates that for every problem gambler who contacts a gambling treatment service, there could be up to 15 others who do not seek formal help.

Table 4 shows the total clients assisted by face-to-face problem gambling treatment services (excluding brief interventions) in New Zealand over the last seven years (Ministry of Health website). The number of people seeking help for gambling rose between 2004 and 2010, with large increases occurring in the years 2006/07 and 2008/09. There was a small decrease in help-seekers between 2009/10 and 2010/11 but it is yet to be seen whether this trend will continue into 2012. It should be noted that the way data were collected changed over the years so the numbers are not directly comparable.

Table 4: Total clients recorded by New Zealand face-to-face problem gambling treatment services (excluding brief interventions)

Contact	Jul 04 - Jun 05	Jul 05 - Jun 06	Jul 06 - Jun 07	Jul 07 - Jun 08	Jul 08 - Jun 09	Jul 09 - Jun 10	Jul 10 - Jun 11
Total clients	3237	3329	4271	4441	6015	6367	6133
New clients	2293	2194	2786	2834	3854	3637	3180
Existing clients	944	1135	1485	1607	2161	2730	2953
↑ from prev. year	-	92	942	170	1574	352	-234
% ↑ from prev. year	-	2.8%	28.3%	4.0%	35.4%	5.9%	-3.7%

(Ministry of Health website)

As detailed in Table 5, the Gambling Helpline has had relatively stable numbers of new clients seeking help over the past seven years (Gambling Helpline, 2012). However, the number of existing clients has decreased markedly over the years. This may be due to the Gambling Helpline referring clients to face-to-face services and the fact that they mainly offer brief interventions over the telephone, rather than more structured long-term counselling.

Table 5: Total clients recorded by the New Zealand Gambling Helpline

Contact	Jan - Dec 05	Jan - Dec 06	Jan - Dec 07	Jan - Dec 08	Jan - Dec 09	Jan - Dec 10	Jan - Dec 11
Total clients	6534	5631	5747	4653	4118	4060	3600
New clients	2861	2641	2877	2268	2133	2444	2122
Existing clients	3673	2972	2870	2385	1985	1616	1478
↑ from prev. year	-1993	-903	116	-1094	-535	-58	-460
% ↑ from prev. year	-23	-13.8	2	-19	-11.4	-1.4	-11.3

(Gambling Helpline, 2012)

Table 6 details the number of new clients and the total number of clients who used face-to-face problem gambling treatment services in Auckland in 2010/11. It also details this as a percentage of all face-to-face clients throughout New Zealand (Ministry of Health, 2012). In terms of the population of Auckland, the 2006 New Zealand Census showed that 33% of the New Zealand population lives in Auckland (Statistics New Zealand, 2010). Table 6 indicates that 37.5% of clients seeking help for gambling problems were from Auckland, slightly exceeding its percentage of the population. The Gambling Helpline does not offer a breakdown of clients by specific districts but the number of callers from Auckland in the 2011 calendar year was 686. Aucklanders comprised 32% of the total callers, which is consistent with its share of the population (Gambling Helpline, 2012). However, only when the caller's region was known was the information included in the data, so caution must be used when interpreting these figures.

Table 6: Clients assisted by territorial authority in the year June 2010 to July 2011

District	Number of new clients assisted	New clients as % of new clients in NZ	Total number of clients assisted	Total clients as % of clients assisted in NZ
Auckland City	1551	17.02	1976	16.34
Franklin District	34	0.37	58	0.48
Manukau City	1373	15.07	1727	14.28
North Shore City	157	1.72	275	2.27
Papakura District	76	0.83	153	1.27
Rodney District	14	0.15	27	0.22
Waitakere City	175	1.92	323	2.67
Total	3380	37.08	4539	37.53

(Ministry of Health website)

3.5 Types (modes) of gambling

Different types or modes of gambling appear to differ in their potential to lead to problem gambling. Abbott and Volberg (2000) reported that New Zealanders who regularly (weekly or more often) participate in continuous forms of gambling[3] are at greater risk for developing problems with their gambling, and those who regularly participate in non-continuous forms of gambling[4] have a lower probability of being lifetime problem gamblers.

Table 7 details the number of new and total clients of face-to-face problem gambling treatment services in New Zealand by gambling mode, including affected others[5] as well as gamblers, in the year 2010-2011. It illustrates that NCEGMs are the most commonly cited mode of gambling that causes harm, reported both by gamblers and affected others. This is followed by casino EGMs and casino table games. New Zealand Racing Board gambling is the next most commonly cited cause of harm in total, which includes dog and horse betting both at the track and at a TAB venue.

[3] Where there is very little time between placing the bet, learning the result, and being able to place another bet (e.g., EGMs).
[4] Where there is a period of time between placing the bet, learning the result and being able to place another bet (e.g., Lotto).
[5] Usually referred to as 'significant others', these are friends, family, dependants, co-workers and other people that are adversely affected by someone's gambling.

Table 7: Face-to-face clients assisted by primary gambling mode in the year 2010-2011

Gambling mode	Clients	Total new clients	Total clients	Total clients %
Non-casino electronic gaming machines	Family/Affected Other	480	1018	66.8
	Gambler	1481	2927	63.5
Casino electronic gaming machines	Family/Affected Other	87	134	8.9
	Gambler	226	463	10.1
Casino tables	Family/Affected Other	64	105	6.9
	Gambler	185	371	8.1
Lotteries Commission products	Family/Affected Other	31	47	3.1
	Gambler	174	284	6.2
NZ Racing Board	Family/Affected Other	77	122	8.0
	Gambler	172	353	7.7
Cards	Family/Affected Other	4	10	0.7
	Gambler	26	46	1.0
Housie	Family/Affected Other	17	20	1.3
	Gambler	41	45	1.0
Other	Family/Affected Other	40	68	4.5
	Gambler	75	118	2.6
Total	*Family/Affected Other*	*799*	*1525*	
	Gambler	*2381*	*4608*	

(Ministry of Health website)

Table 8 details the number of new clients calling the Gambling Helpline for each gambling mode. NCEGMs are again the most commonly cited source of problems both for gamblers and significant others. Casino EGMs were the next most common, followed by New Zealand Racing Board betting. Note that due to differences in the way that the data are recorded, Tables 7 and 8 have slight differences in the way that the gambling modes are categorised. Due to these differences, the numbers cannot be directly compared.

Table 8: Gambling Helpline new clients assisted by primary gambling mode in Jan to Dec 2011

Gambling mode	New clients	Total new clients	Total clients %
Non-casino electronic gaming machines	Family/Affected Other	267	70.1
	Gambler	711	71.7
Casino electronic gaming machines	Family/Affected Other	27	7.1
	Gambler	100	10.1
Casino tables/cards	Family/Affected Other	12	3.1
	Gambler	57	5.7
Lotteries Commission products	Family/Affected Other	0	0
	Gambler	7	0.7
NZ Racing Board	Family/Affected Other	25	6.6
	Gambler	64	6.5
Sports betting (TAB, pub, internet)	Family/Affected Other	9	2.4
	Gambler	22	2.2
Tables/cards (pub, internet, other)	Family/Affected Other	15	3.9
	Gambler	12	1.2
Housie	Family/Affected Other	0	0
	Gambler	0	0
Other	Family/Affected Other	26	6.8
	Gambler	19	1.9
Total	*Family/Affected Other*	*381*	
	Gambler	*992*	

(Gambling Helpline, 2012)

The over-representation of EGMs in treatment-seeking populations is reflected in expenditure statistics. Abbott and Volberg (1999) reported that one percent of New Zealanders contribute to 20% of EGM expenditure (i.e. 25 times as much as the average), most likely illustrating the high amounts of money that problem gamblers spend when gambling on EGMs. Similar findings from Australia show that problem gamblers account for 22% to 60%[6] of total gaming machine expenditure (Productivity Commission, 2010).

[6] Average of 41%.

4 ATTITUDES AND PERCEPTIONS AROUND GAMBLING AND PROBLEM GAMBLING

Although gambling has always been present in New Zealand, legislation has become gradually more permissive following the establishment of a state lottery in 1929. Gambling was mostly centred around track betting until the introduction of Lotto, Instant Kiwi and NCEGMs in the late 1980s which lead to a doubling in per capita expenditure on gambling from 1987 to 1990. This proliferation of gambling modes, as well as increased accessibility to gambling and promotion of gambling have contributed to gambling becoming an accepted pastime in New Zealand (Abbott, 2001).

This normalisation of gambling is illustrated by the Department of Internal Affairs' 2005 survey on gambling participation and attitudes, from a random sample of 1,672 New Zealanders which reported that 80% of respondents had taken part in at least one form of gambling in the previous 12 months (Department of Internal Affairs, 2008). However, only three percent of respondents participated in NCEGMs at least once a week, and five percent participated at least once a month. Similarly, three percent of respondents gambled at the TAB on horse or dog racing at least once a week, and two percent did so at least once a month. Only one percent of respondents gambled at the TAB on sports events at least once a week, and another one percent at least once a month (Department of Internal Affairs, 2008). This indicated that although gambling is an accepted pastime for many New Zealanders, only a small proportion frequently gamble at non-casino electronic gaming machine and TAB venues.

The Gaming and Betting Activities Survey included questions asking people about their perceptions of which modes of gambling were "true gambling" rather than "just a game". The following are the percentages of respondents who felt these forms of gambling were "true gambling":

- EGMs at casino = 86%
- Horse or dog races or sports events = 86%
- EGMs at pub or club = 83%
- Table games at casino = 81%
- Internet game for money = 65%
- Lotto including scratch tickets = 52%
- Text game for money = 48%
- Gaming or casino evening or buying a raffle ticket for fundraising = 43%
- Housie or bingo for money = 41%
- Making money bets with friends = 36%
- None of the above = 2%
- Don't know = 1%

(Health Sponsorship Council, 2007)

These results indicate that New Zealanders' attitudes to different modes of gambling vary. EGMs, track and sports betting, casino table games, internet gambling and Lotto (including scratch tickets) were all perceived to be "true" modes of gambling by a majority of the population. However, other modes of gambling, especially more informal types such as making bets for money with friends, were more likely to be perceived as "just a game" rather than a mode of gambling. This may have implications for problem development, recognition and help-seeking behaviour.

Attitudes on the availability of gambling opportunities in the community were split in the 2005 Department of Internal Affairs survey on attitudes to, and participation in, gambling. The largest group of respondents (46%) reported that the number of gambling venues in their area was "about right". This was closely followed by 41% reporting that there were too many venues. Only one percent of respondents reported that there were not enough venues for gambling in their area.

Of those who reported that there were too many gambling venues in their area, the majority (86%) reported that there was an excessive number of EGM venues and 20% felt there were too many TABs. Fourteen percent of respondents reported that there were too many Lotto/ Keno/Instant Kiwi outlets and the same percentage reported there were too many casinos.

Interestingly, the youngest respondents in the sample (15 to 19 year olds) were more likely to report thinking the number of venues was "about right", with 69% of this age group reporting thinking this way compared to 46% of respondents in the older age groups. This may indicate that young people are being raised in a society where gambling is seen as an acceptable leisure pastime, as opposed to older generations whose more conservative and religious views were more anti-gambling. The Manukau City Council (2003) voiced this in their report on the social impacts of gambling in the community, arguing that young people in Manukau live in a world with significantly more gambling opportunities than their parents had when growing up, which has the possibility to lead to greater problems with gambling in this next generation.

Empirical research by Volberg (1994) supports this view. Volberg's United States-wide study showed that in states where gambling had been legal for less than 10 years, the rate of problem gambling in the population was 0.5%. Conversely, in states where gambling had been legal for over twice as long (20 years or more), 1.5% of the population could be classified as problem gamblers. This may indicate that the longer a particular activity is deemed legal in a jurisdiction, the more popular and socially acceptable it becomes, leading to greater participation and thus a higher number of people with problems. However, the adaptation theory (discussed further in Section 7 of this review) posits that as people and societies become more familiar with the different forms of gambling that are introduced, problem gambling prevalence will fall to previous levels (Abbott, 2007).

In the aforementioned 2005 Department of Internal Affairs survey, in terms of the differing modes of gambling and respondents' perceptions of their social desirability, internet gambling

was seen as the least acceptable form of gambling, with 68% of respondents rating it as socially undesirable, an increase of 23% from 2000. This was closely followed by NCEGMs (64% compared to 45% in 2000). Social undesirability of casino gambling in 2005 (59%) and telephone or text games (53%) stayed relatively stable (Department of Internal Affairs, 2008).

Attitudes to problem gambling have also changed over time. In 2005, 51% of respondents agreed strongly that there was a "growing problem" with people being heavily involved with gambling (Department of Internal Affairs, 2008). This was a large increase from the 1985 Department of Internal Affairs survey in which only 19% of respondents strongly agreed that there was a "growing problem". This trend is also seen at the opposite end of the spectrum, with four percent of people in 2005 disagreeing or strongly disagreeing that there was a "growing problem" with people being heavily involved in gambling, compared to 15% in 1985.

The increase in the awareness of problem gambling as a negative issue in the community (Department of Internal Affairs, 2008) is most likely due to growing awareness of the harms of problem gambling. Although attitudes have been shifting strongly in this direction for the past 20 years, as reported in the five-yearly Department of Internal Affairs surveys (1985-2005), the introduction of the Gambling Act 2003 and the Health Sponsorship Council's social awareness campaigns may have also be working to increase awareness of possible gambling harms. The Health Sponsorship Council's current campaign "Choice Not Chance" aims to increase public awareness and support for gambling issues, as well as increasing the rate of help-seeking amongst those experiencing harm (Health Sponsorship Council website).

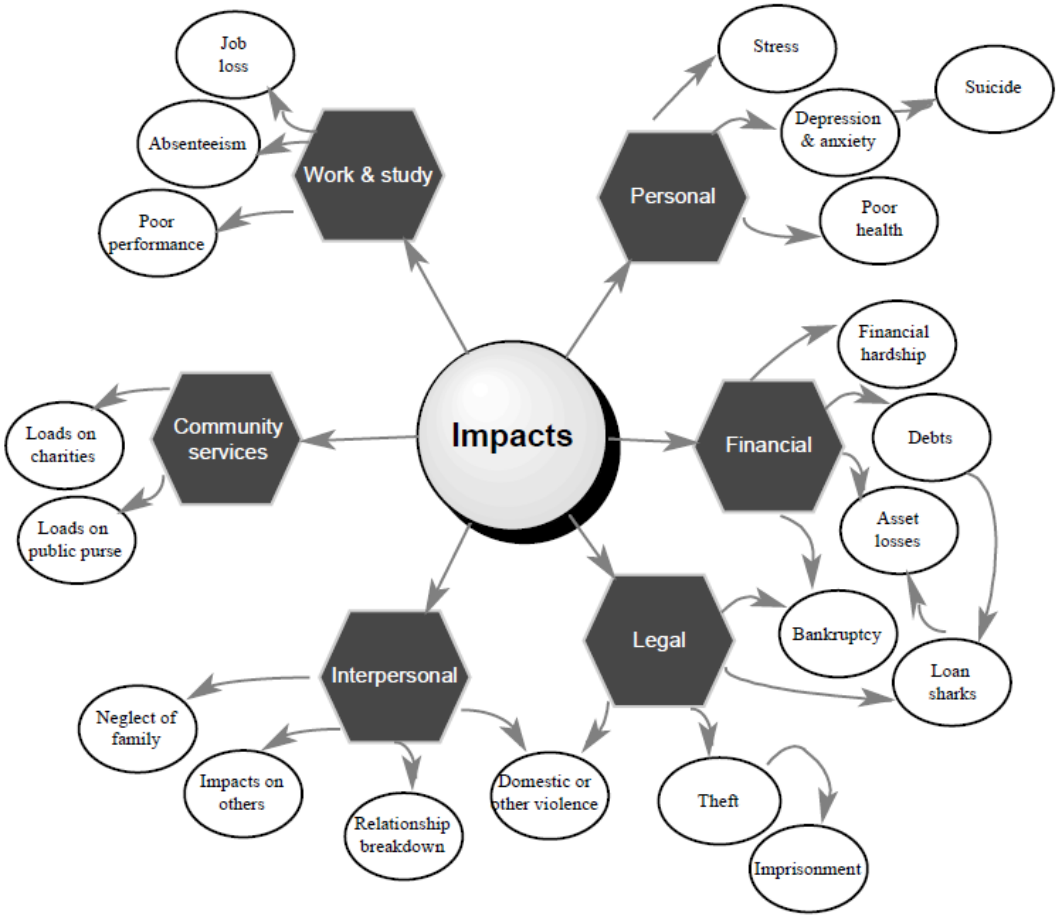
The Health Sponsorship Council (2007) asked a sample of 1,774 adults and 199 youths aged 15 to 17 years in the 2006/07 Gaming and Betting Activities Survey whether they thought that some types of gambling are more likely to attract people into playing more often and for more money than they should, with 86% of people agreeing. The majority of the people who agreed thought EGMs at casinos (77%) and EGMs at a pub or club (74%) were most likely to do this. This view is supported by empirical research. Breen and Zimmerman (2002) reported in a sample of treatment-seeking gamblers in Rhode Island, USA, that those who played EGMs had a faster progression from recreational gambling into problem gambling than those participating in other modes of gambling. Statistics from New Zealand problem gambling treatment providers (as provided in the Background section) also show that a large majority of those seeking treatment (67%) have problems relating to NCEGMs (Ministry of Health, 2008a, website).

There also appears to be public will for organisations that provide and profit from gambling to take more steps to prevent harm from gambling. In the previously mentioned 2005 Department of Internal Affairs survey, 78% of respondents indicated that gambling providers should be required to do more about their customers gambling to excess and 77% indicated that the Government should do more.

5 NEGATIVE COMMUNITY AND INDIVIDUAL IMPACTS OF PROBLEM GAMBLING

People who regularly (once a week or more often) participate in EGM gambling, track betting and casino table games have been reported to be at a higher risk for developing problem gambling than people who participate in other modes of gambling. These modes of gambling are 'continuous' in nature in that they can have a very small break in the time between placing the bet, knowing the outcome and being able to bet again (Abbott & Volberg, 2000). It is estimated by the Australian Productivity Commission that problem gamblers contribute between 22% and 60% of the total amount spent on EGM gambling (Productivity Commission, 2010). In turn, these forms of gambling cause more problems in the community for those who choose to participate in them, and for their friends and family (Abbott & Volberg, 2000). Figure 3 shows in detail the negative community and individual impacts that have been suggested to be a result of problem gambling (Productivity Commission, 1999, p.25).

Figure 3: Impacts of problem gambling



(Productivity Commission, 1999, p.25)

5.1 Cost to society

In addition to the financial costs borne by problem gamblers and their families, the Australian Productivity Commission estimated that each problem gambler costs society between A$10,000 and A$30,000 (Productivity Commission, 2010). Similar data are not available in the New Zealand context.

5.2 Crime

Crime has been linked to gambling. Apart from financial crimes to facilitate gambling, there are also crimes associated with gambling venues (e.g., money laundering), and crimes against a person such as family violence. In a pilot study conducted in 2007, Bellringer et al. (2009) interviewed a small convenience sample of 33 problem gamblers who had committed crimes (not necessarily related to gambling) and seven significant others of problem gamblers who had committed crimes, to explore the links between gambling and crime. Although the small sample size and recruitment method makes the findings unable to be generalised to the wider population, the findings indicated that there is a belief amongst those who commit crimes, and those close to them, that there is a relationship between problem gambling and criminal behaviour, especially in regard to unreported crimes.

Of the 33 gamblers who had committed crimes, 82% were classified as problem gamblers by the PGSI, most being at the most serious end of the scale. In addition, two of the seven significant others were also classified as problem gamblers. The most reported reasons for committing crimes were financial problems, mental or emotional problems, relationship/family issues, and gambling problems. The majority of those who committed crimes started doing so before the age of 25 years. Regular gambling began between the ages of 35 and 44 years, with 63% reporting that regular gambling began within one to five years of their first criminal activities, illustrating that regular gambling often commenced after the criminal behaviour.

Forty-one percent of the gamblers reported committing a crime to finance their gambling, with another 14% reporting considering doing so. Borrowing money without permission (technically stealing) to finance their gambling was reported by 70% of the gamblers. The gamblers also differentiated between crimes they had committed *in order to* gamble and crimes they had committed *because of* their gambling. Crimes committed in order to gamble included breaching trespass orders and selling stolen items, with 24% reporting this motivation. Crimes committed because of their gambling included theft and drug running and were reported by 58% of gamblers. A relationship between their gambling and crimes was reported by 63% of

the gamblers, with many expressing that their crimes were both a cause and an effect of their gambling.

In addition, the gamblers and the affected others both reported experiencing other harm from gambling including relationship breakdowns, domestic abuse, poverty, family issues and work problems. Due to the fact that much of the crime discussed in the study was unreported crime, many of the impacts of crime related to gambling, both socially and economically, may be underestimated when using crime statistics. The Australian Productivity Commission (1999) estimates that only 40% of gambling-related crimes result in a conviction. In addition, crimes such as borrowing money without permission are often perpetrated against family members, many of whom do not wish to report these crimes. Reasons such as not wanting to upset family/whanau relationships or see a family member imprisoned are cited for this lack of reporting (He Oranga Pounamu, 2006).

The Australian Productivity Commission (1999) reported that gamblers involved in crime not only have a negative impact on society as a whole, but greatly burden their families and employers. Relationships with partners often contain lies and deception, arguments, abuse and end in separation. Children are also affected, often being subject to neglect, abuse and negative effects from poverty.

A nationwide general population survey by SHORE & Whariki (2008) supports many of the findings above. They reported that of the 1.3% of the population who had engaged in any form of criminal activity in the last 12 months, one quarter of those people would not have committed a crime if they had not been involved in gambling. SHORE also reported that those who participated most in gambling were more likely to have committed a crime than those who participated at lower levels or did not gamble at all. Those who gambled on EGMs in a bar or played poker/card games were more likely to have committed a crime than those who did not gamble.

Crime was also a theme explored in Phase Two of the 1999 New Zealand Prevalence Study (Abbott & Volberg, 2000). Of the problem gamblers interviewed, eight percent admitted to considering illegal activities in order to obtain money to gamble or to pay debts that were related to their gambling, and 16% admitted to borrowing money without permission to finance their gambling.

Within the prison system, Abbott and McKenna (2000) and Abbott, McKenna and Giles (2005) reported that one quarter of male inmates and one third of female inmates in New Zealand prisons had a gambling problem. Due to the over-representation of Maori in New Zealand prisons, this also highlights the impact that crime and problem gambling has on certain populations (Bellringer et al., 2009).

5.3 Work/study

The 2002/03 New Zealand Health Survey reported that problem gamblers had worse self-rated functioning in the areas of work and study. Problem gamblers reported cutting down on the amount of time spent on work or other activities, accomplishing less than they would like to and not working or doing other activities as carefully as they usually would (Ministry of Health, 2006b).

Similarly, people who spent more time gambling on casino table games reported performing more poorly at work than those who spent less time gambling on this mode, whilst people who spent longer gambling on poker/card games at their own or someone else's house reported performing more poorly in areas of study (SHORE & Whariki, 2008).

5.4 Family violence

Anecdotally, problem gambling and family violence sometimes co-exist. However, there is a paucity of robust research investigating this negative aspect of problem gambling. Available literature often cites abuse and violence as features characteristic of problem gambling families (Kalischuk et al., 2006). The abuse can be physical, psychological, emotional or verbal and can affect all family members including children (Bellringer, Abbott, Williams, & Gao, 2008; Bland, Newman, Orn, & Stebelsky, 1993; Community West, 2007; Lorenz & Shuttlesworth, 1983).

5.5 Child/elderly care

Caregivers of children who spent longer playing EGMs at bars rated themselves as poorer caregivers than those who spent less time playing EGMs. Caregiving of elderly people was not reported to be affected by people's gambling (SHORE & Whariki, 2008).

5.6 Co-existing issues

5.6.1 Alcohol

Data from the 1991 New Zealand prevalence survey indicated that over 60% of participants classified as problem gamblers were also classified as having problems with alcohol use. This finding was echoed 15 years later in the 2006/07 New Zealand Health Survey where it was noted that problem gamblers were 5.2 times more likely to engage in hazardous drinking behaviour than those with no gambling problems (Ministry of Health, 2009). This was still the

case even when possible confounding factors such as socio-economic status, ethnicity and educational level were controlled for. The Manukau City Council (2003) review on the social impacts of gambling in the community recommended that the link between alcohol consumption and gambling, strengthened due to the fact that EGMs are located primarily in liquor licensed premises (with TABs being the exception as some do not hold liquor licences whilst having EGMs), needs to be addressed.

5.6.2 Tobacco

Gamblers are significantly more likely than the general population to be smokers. Sullivan and Penfold (1999) found that 64% of gamblers seeking treatment in New Zealand were smokers compared to 25% of the general population. Data from the 2006/07 New Zealand Health Survey indicated that problem gamblers were 3.73 times more likely to be smokers than those who did not have problems. It has also been reported that gamblers increase their rate of smoking whilst gambling (Ministry of Health, 2009). Due to this strong link between gambling and smoking, the Smoke-free Environments Amendment Act 2003 which banned smoking in licensed premises (including gambling venues) from 10 December 2004 was very effective in reducing gambling expenditure on EGMs (Diamond, 2009; SACES, 2005; 2008). The smoking ban in Australia was followed by a sudden drop in gambling expenditure and the same pattern occurred in New Zealand (Department of Internal Affairs, 2012). However, the advent of 'outdoor' EGM areas sanctioned by the Gambling Commission, of which there are currently seven such venues, may work to reverse this drop if they become widespread (Department of Internal Affairs, 2010).

5.6.3 Mental health

Abbott and Volberg (1992) reported that 48% of problem gamblers in the 1991 New Zealand prevalence survey were experiencing serious levels of psychological distress and 43% suffered from depression. Data from the 2006/07 New Zealand Health Survey indicated that problem gamblers were significantly more likely to have a high or very high probability of suffering from depression or anxiety (Ministry of Health, 2009). These findings are supported by Sullivan, Arroll, Coster and Abbott (1998) who reported that problem gamblers presenting to General Practitioners (GPs) were likely to present with anxiety, depression and other stress-related disorders, rather than cite problems with their gambling. Sullivan et al. also reported that problem gamblers are more likely than the general population to use health services such as residential treatment programmes and GPs. This offers an opportunity for GPs and other

health practitioners to potentially explore problem gambling as a contributing factor to depression and other related disorders with which their patients may present.

Self–rated mental health is significantly poorer for gamblers in the 'higher participation' group (SHORE & Whariki, 2008), with higher loss to income ratio also contributing to significantly worse mental health. Poorer mental health has been reported by those who spent longer gambling on EGMs in any setting, casino table games, and at the TAB than those who spent less time on those activities (SHORE & Whariki, 2008).

A study by Penfold and colleagues (2006) examined the rate of problem gambling amongst 70 patients admitted to Auckland Hospital's Accident and Emergency Department over a 20-week period for suicide attempts or self-harm. Participants were administered the EIGHT screen[7] (Sullivan, 1999). Penfold et al. reported that 12 participants (17%) met the criteria for probable problem gambling by answering positively to four or more of the eight questions. An additional nine participants answered positively to between one and three of the questions, indicating that they may have been engaging in risky gambling activity.

5.6.4 Physical health

SHORE and Whariki (2008) reported in their sample of 7,010 randomly selected New Zealanders, that those who were classified as being part of the 'higher participation' group of gamblers had significantly worse self-rated physical health compared to participants who had not gambled in the last year and those who gambled only on Lotteries Commission products. SHORE and Whariki also assessed the loss to income ratio of gamblers in their study and reported that respondents with a higher loss to income ratio also had significantly worse self-rated physical health. In terms of how physical health was impacted by preferred gambling mode, respondents who spent the greatest amount of time gambling on EGMs, be it at a pub, club or casino, or gambling on casino table games experienced the worst physical health.

Of respondents who gambled on horse and dog racing, SHORE and Whariki (2008) reported those who spent the greatest amount of time on this mode of gambling actually reported better physical health than respondents who spent less time at the race track.

[7] Early Intervention Gambling Health Test: A brief set of eight questions designed to be used by General Practitioners that has been shown to be sensitive enough to predict the presence of problem gambling.

5.7 Life quality/satisfaction

In the previously mentioned SHORE and Whariki study (2008), in terms of self-rated overall quality of life, simply participating in gambling did not indicate any significant effect. However, higher loss to income ratio predicted poorer ratings of overall quality of life. Respondents who spent more time playing EGMs in any setting (bars, clubs or casino), casino table games and gambling at the TAB had poorer overall quality of life ratings. Conversely, respondents who spent more time playing poker or card games at their own or someone else's house rated their overall quality of life as higher than those who spent less time on this mode of gambling (SHORE & Whariki, 2008).

When rating overall satisfaction with life, respondents in the higher participation gambling group reported lower ratings compared to respondents in the lower participation group, as did respondents who reported high loss to income ratios. Longer play on EGMs in bars and casinos also resulted in lower ratings of overall life satisfaction compared to those who gambled for less time. Those who spent more time gambling on horse and dog racing at the track had higher self-rated overall life satisfaction than respondents who gambled for less time (SHORE & Whariki, 2008). However, Lin et al. (2010) reanalysed the SHORE and Whariki study's data and found that those respondents who gambled at the race track had a higher average income ($49,400) than respondents who gambled on other modes, with the exception of those who gambled on casino table games ($63,300). Race track gamblers were also more likely to be older than those who gambled on other modes, with over 15% being senior citizens. This being said, the likelihood of race track gamblers being retired and being in a stronger financial position than other gamblers may explain why they had higher ratings of overall life satisfaction, as well as other areas of functioning previously mentioned.

Note, however, that as the SHORE and Whariki study (2008) was cross-sectional in nature, it cannot be concluded that various modes or intensities of gambling lead to negative life outcomes or vice versa. Causality cannot be concluded from this type of study, therefore, the direction of the relationships may be the reverse, may be a mix of both, or some other factor common to both may explain the association.

6 POSITIVE COMMUNITY IMPACTS OF GAMBLING

Gambling also has positive impacts on Auckland communities. The most commonly reported positive impact of gambling is the proceeds that NCGMs generate that must be used for authorised purposes (i.e. charitable causes) (Gambling Act 2003). This funding, distributed by gaming machine trusts, makes up a considerable proportion of the funding that some community groups receive. TABs are not required to give proceeds to authorised purposes, although some of the profits from gambling do go back into sustaining the racing industry. In addition, other positive impacts of gambling have been noted in the community including entertainment value and employment opportunities.

6.1 Community grants

One of the most prominent arguments that EGMs have a positive community impact is that proceeds from this form of gambling (NCEGMs) are funnelled back to the community via the charitable trusts that own and operate the machines. The Department of Internal Affairs (2007) states that all 'net proceeds' from NCEGMs must go to 'authorised purposes'. The 'net proceeds' are the profits from NCEGM expenditure minus the 20% Gaming Machine Duty and the Problem Gambling Levy[8]. 'Authorised purposes' are defined by the Gambling Act 2003 as "a charitable purpose, a non-commercial purpose that is beneficial to the whole or a section of the community, or promoting, controlling, and conducting race meetings under the Racing Act 2003, including the payment of stakes" (Gambling Act 2003, Section 4). The current minimum percentage of EGM proceeds which must go to authorised purposes is 37.12% (Gambling Act 2003).

In 2011, the amount of money allocated to authorised purposes by gaming machine societies was more than $228 million (figures were unavailable at this time for seven of the 49 gaming machine trusts), representing a large contribution to community groups (Department of Internal Affairs, 2012).

The charitable redistribution of profits is required for all NCEGMs with the exception of machines that are owned by chartered clubs, sports clubs and Returned and Services' Associations. These organisations are allowed to use the proceeds of their gaming machines to pay for the running costs of their organisations and to benefit their members.

[8] The levy is set every three years and is calculated using rates of player expenditure on each gambling mode and rates of presentation to treatment for that mode.

Casinos in New Zealand are privately owned commercial enterprises and are not required to give a percentage of their EGM proceeds back to the community (Gambling Act 2003). However, a condition of SkyCity Auckland's license is that it contributes 2.5% of the profits of its Auckland operation (which includes the casino, hotel, conference centre and sky tower) per annum to the SkyCity Charitable Trust. To date, SkyCity has donated more than $24.2 million to charities in the Auckland area. SkyCity also works to raise awareness for its charitable partners: Leukaemia and Blood Foundation, Prostate Cancer, Kidz First Children's Hospital, and Variety - the Children's Charity. SkyCity Auckland also sponsors various professional sports teams, such as the New Zealand Breakers, the Auckland Blues, and the New Zealand Warriors (SkyCity Auckland website).

Rodney District Council (2010), whose EGMs in their district raise at least $4.4 million per year for charitable causes, argues that the real monetary benefit of the NCEGM proceeds given to these causes is multiplied due to the flow-on benefits in the community. For example, funding benefiting a local sporting organisation not only benefits those members directly, but also their families due to lowering the burden of costs, and the community due to increased opportunities for recreation and community involvement. It also allows clubs and groups to expend less time and energy on fundraising and more on their core activities.

Many sports clubs are heavily reliant on funding from NCEGM profits (Rodney District Council, 2010). The Problem Gambling Foundation reports that many of these clubs and other community groups have ethical issues with accepting EGM proceeds but have little choice due to the difficulties of fundraising (PGF website).

Although community grants are a benefit (positive impact) of NCEGMs, there are some public concerns which are more negative in nature. Focus groups comprising Auckland community members, industry stakeholders and tangata whenua, were held by the University of Auckland's Centre for Gambling Studies to investigate attitudes regarding the restriction of EGMs in Auckland and, therefore, a decrease in funding available for community groups (Centre for Gambling Studies, 2004). One of the strongest themes from the community focus groups was the concern regarding the reliance of community groups on funding from gaming machine trusts and questions regarding where this funding would come from if the number of EGMs were reduced. However, the focus group participants also expressed that this reliance on gaming machine trust funding was not healthy and that efforts should be made to explore alternative avenues for funding.

Those in the industry shareholder focus groups voiced a similar concern, in that if EGM numbers were reduced in a particular district, people would go to other districts to gamble, thus shifting the money that would have been used to support charitable causes to another

area. There was also concern within this group that restricting EGM numbers may impact on the financial viability of many pubs and clubs, thus negatively impacting employment in the area (Centre for Gambling Studies, 2004).

Research analysing the distribution of funds from the six national gaming machine trusts (New Zealand Community Trust, Pub Charity, Lion Foundation, Southern Trust, Scottwood Trust, and Community Grants Foundation) was published in 2004 (Simonsen & Grant, 2004). The authors examined where the funds earmarked for authorised purposes were distributed, and raised questions about where the remainder of the proceeds from EGMs ended up. The authors recommended that the industry needed more transparent processes that were easily open to public scrutiny when it came to distributing EGM proceeds. Detailed reports were difficult to access and there were indications that funding was going outside the area in which the gaming machines were operated, which appeared at odds with the philosophy of the trusts. In addition, the authors also suggested putting in place greater checks regarding how the 33% of proceeds allocated for the running costs of the trust were spent and to compare the expenditure to similar charitable organisations (Simonsen & Grant, 2004).

Restricting TAB numbers was also discussed by the Centre for Gambling Studies' (2004) focus groups. It was felt by participants in all groups that TAB restrictions should follow those of EGM venues, although it was also noted that betting at the TAB was less associated with problem gambling. However, participants in the focus groups also pointed out that TABs do not contribute to community groups like EGM venues and they are not required to by law.

6.2 Beneficiaries of gaming machine trust grants

Historically, sporting organisations have received the major proportion of funding from the proceeds of EGMs. This was still the case in 2005, although the distribution of funding is becoming more diverse over time. Table 9 details the percentage of EGM proceeds that were granted to different community organisations in 1996, 2000 and 2005. Sports funding, which used to receive three-quarters of all gaming machine proceeds in 1996, remains the most common recipient of funds with 47% of profits going towards sports/physical activities. Social/ community services received 40% of gaming machine proceeds in 2005. They remain the second highest recipient although their share has increased substantially from 18% in 1996. The remaining recipients all received four percent or less of gaming machine proceeds. Public scrutiny over the allocation of the funding was the main reason for the changing distribution of funds, with the general public becoming increasingly uncomfortable over the uneven spread across community activities (Department of Internal Affairs, 2007).

Table 9: Gaming machine trusts allocation of profits by type of recipient

Recipient	1996 %	2000 %	2005 %
Sports/physical activities	75%	60%	47%
Arts and culture	2%	3%	4%
Other leisure/clubs	2%	2%	1%
Social/community services	18%	29%	40%
Heritage/conservation	1%	1%	4%
Pub societies (own purpose)	<1%	3%	2%
Other	2%	1%	2%
Not specified	<1%	3%	1%
Total	*100%*	*100%*	*100%*

(Department of Internal Affairs, 2007)

6.3 Auckland gaming machine proceeds

Table 10 details the total gaming machine proceeds for the Auckland territorial authorities in the January to March 2012 quarter, as well as the percentage of the New Zealand total (Department of Internal Affairs, 2012). A significant amount of money is generated from EGMs in the Auckland area, with the total gaming machine proceeds exceeding $48 million in the first quarter of 2012. In 2011, over $228 million was distributed nationally to charitable causes, from a total gambling expenditure on NCEGMs of $856 million (Department of Internal Affairs, 2012).

Table 10: Total gaming machine proceeds for the Auckland area in January to March 2012

Territorial authority	Total GMP Quarter	Percentage of national total
Auckland City	$17, 936, 069.69	8.81
Franklin District	$2, 750, 885.18	1.35
Manukau District	$15, 992, 616.45	7.85
North Shore City	$7, 290, 113.00	3.58
Papakura District	$3, 211, 441.13	1.58
Rodney District	$3, 302, 097.83	1.62
Waitakere District	$7, 975, 205.73	3.92

(Department of Internal Affairs, 2012)

6.4 Attitudes towards EGM proceeds distribution

In a nationwide face-to-face survey conducted by the Department of Internal Affairs in April and May 2005, participants were asked about their attitudes towards the way in which proceeds from EGMs were distributed to the community. Of the 1,672 respondents over the age of 15 years, 63% reported that they were happy with the way that gaming machine proceeds were distributed. Of the 10% who reported they were not happy, their main concerns were most related to the moral viewpoint that gambling should not be used as a basis for funding, that the money should go to more 'worthy' or 'needy' causes than it does at present (with the majority going to sports clubs), or that they were uncertain where the money actually goes or how fairly or evenly it was shared out amongst the community.

In another survey on New Zealander's knowledge, views and experiences with gambling, 1,973 people interviewed face-to-face were asked about their views regarding the proceeds of EGM gambling going towards charitable purposes (Health Sponsorship Council, 2007). Fifty-one percent of respondents reported that raising money in this fashion does more harm than good in the community while only 28% said it does more good than harm. Equal good and harm was cited by 19% (Health Sponsorship Council, 2007). These findings indicate that the population is divided over the costs and benefits of having EGMs in the community. The harm (negative impacts) that EGMs have been reported to cause has been previously discussed.

6.5 Entertainment/socialising

Aside from the general entertainment value of gambling, different modes of gambling offer different social benefits for certain groups of people. The Department of Internal Affairs (1995) reported that housie is perceived as a safe place for women to go on their own at night, it provides social interaction and is seen as a valued source of fundraising for Pacific and Maori church groups. Horse and dog racing at the track is also viewed as a valued pastime in rural communities, serving to bring people together. Casinos were also viewed as positive in the way that they provided a venue for events to bring people together (Department of Internal Affairs, 1995).

As well as gambling opportunities, NCEGM venues also provide places for the community to meet. Many pubs, clubs and TAB venues offer food and drink, television and other activities such as pool or darts. It has been argued that without the patrons that gambling attracts to these businesses, many may struggle to remain viable (Centre for Gambling Studies, 2004).

6.6 Employment

EGM venues are places of business and employment. For example, in Rodney District EGM bars and clubs turnover approximately $3.2 million per annum combined and employ 65 people as a direct result of gambling (Rodney District Council, 2010). According to the Department of Internal Affairs (2005), the New Zealand Racing Industry (which includes the TAB) in 2005 employed 28,000 people in full and part-time positions, and the Lotteries Commission (including its retail outlets) provided 2,672 annual full-time equivalent positions nationally. SkyCity Auckland Casino currently employs over 3,500 people (SkyCity website). When legislating for casinos in New Zealand, the Department of Internal Affairs stated that one of the aims was to provide employment. It was mooted that casinos are 'labour intensive' due to the amount of patron-facing roles that are necessary and that they also create flow-on employment benefits in the area, such as to taxi drivers and restaurants and bars (Department of Internal Affairs, 1989).

However, the employment opportunities that the gambling industry creates are controversial. The Australian Productivity Commission argues that employment is generally negatively affected by gambling due to the negative impact on the retail sector (Productivity Commission, 1999). The Manukau City Council (2003) found in discussions with venue managers that gaming machines or the custom that they generate do not require any extra staff to be employed.

An economic impacts assessment of NCEGMs in Christchurch in 2009 found that they generated $174 million of annual output and $94 million of Gross Domestic Product (GDP) in the area. In addition, the gambling sector generated 812 annual full-time equivalent positions in Christchurch and provided a household income of $31 million. However, it was argued in the report that these figures did not take into account the opportunity costs of gambling. Opportunity costs are described as the probable economic impacts that would have occurred if the money used for gambling was spent on other goods and services in the community. When these were taken into account, Colegrave and Simpson (2009) estimated the net impacts of NCEGMs in Christchurch were largely negative:

- Lost output of $13 million
- Additional GDP of $2 million
- Lost employment for 630 full-time equivalents
- Lost household income of $8 million

(Colegrave & Simpson, 2009).

Similarly, Pinge (2000) reported negligible contributions of EGMs to GDP, reporting that expenditure of EGMs in the Bendigo, Australia region accounted for 1.1% of regional expenditure but only generated 0.3% of wages and 0.4% of all regional jobs. Pinge also

reported that compared to seventeen other sectors, the EGM sector had the lowest employment coefficient.

However, other Australian studies have found there to be positive regional economic effects, reporting increased sales in retail, food, alcohol and tobacco in areas following the introduction of gambling (e.g. National Institute of Economic and Industry Research, 2002).

7 ISSUES ASSOCIATED WITH LOCATION, ACCESSIBILITY AND DENSITY OF VENUES

The issues associated with location, accessibility and density of gambling venues in the community are complex (Abbott et al., 2004; Shaffer et al., 2004). Although there is a general assumption that increased availability of gambling opportunities (a measure of the number, location, accessibility and density of venues in particular communities) impacts on population gambling and problem gambling rates, there have been limited empirical studies investigating the impact of accessibility on expenditure and problem gambling (Abbott, 2007).

In 2008, data from the 2002/03 New Zealand Health Survey (NZHS) was analysed and compared to information regarding the location of gambling venues (EGM venues, racing tracks and TAB outlets) throughout the country to assess the relationship between gambling behaviour and the accessibility of gambling venues (Pearce et al., 2008).

Accessibility was measured in three ways:

1. The distance from the centre of each neighbourhood to the nearest gambling venue via the current road system.

2. The number of gambling venues within an 800 m straight line of each neighbourhood centre (seen as comfortable walking distance).

3. The number of gambling venues within a 5 km straight line of each neighbourhood centre (short driving distance).

Possible confounding factors such as neighbourhood deprivation index were controlled for in the analyses. Neighbourhoods were categorised into one of four quartiles according to their accessibility to gambling venues. Individuals' information from the 2002/03 New Zealand Health Survey was then used to explore the relationships between gambling, problem gambling, and venue accessibility.

As would be intuitively expected, those who lived closer to gambling venues were more likely to have gambled in the past year than those who lived further from venues. The more gambling venues within 5 km (short driving distance) of someone's neighbourhood, the more likely it was that they had gambled in the past year. The authors of the study suggested an exposure-response effect based on these findings, as the odds of having gambled increased with an increasing number of venues (Pearce et al., 2008).

It was reported that of those who had gambled in the past year, those who lived in the two quartiles with the easiest accessibility to gambling venues (i.e. lived closest) were more likely to

be problem gamblers than those that who lived in the quartile with the least access to gambling venues (lived furthest away). However, the likelihood of being a problem gambler did not differ significantly between those in the two closest quartiles. The authors of the study suggested that this indicates a threshold effect whereby living anywhere within a certain distance of gambling venues increases the probability of transitioning from being a recreational gambler to being a problem gambler (Pearce et al., 2008).

The study also found that gambling behaviour was influenced by the distance to the nearest gambling venue, but not the number of gambling venues within walking distance.

Those who lived in the three quartiles closest to NCEGM venues were more likely to have gambled on a NCEGM than those who lived in the quartile furthest away. However, as mentioned above in the general findings, there appeared to be no significant differences in likelihood of gambling on a NCEGM between the three distance quartiles. This was not the case for TAB venues. When examining only TAB venues, those who lived closest to the venues were more likely to have gambled there than those who were living progressively further away.

The findings of the above study have implications for policy decisions regarding gambling venues in the community. The Ministry of Health (2008b) stated that:

> *"These findings suggest that policies aimed at preventing and minimising gambling-related harm could focus on environmental modifications, which increase people's distance to gambling venues. Examples of such modifications include limiting the number of gambling venues in areas, in particular in vulnerable communities, and reducing the geographical dispersal of gambling venues in the community."* (Ministry of Health, 2008b, p.xii).

Reviews of the literature have generally concluded similarly to the above study, theorising that increased access leads to an increase in participation and an increase in gambling related harms (Abbott, 2007; Productivity Commission, 1999).

However, the relationship between access to gambling opportunities and problem gambling remains unclear. This is indicated in results from the New Zealand prevalence surveys where between 1991 and 1999 the number of gambling opportunities increased greatly, yet the prevalence of problem gambling decreased (Abbott & Volberg, 2000).

These conflicting results have spurred two hypotheses regarding the accessibility to gambling and its role in influencing gambling behaviour:

- Exposure hypothesis: Greater accessibility increases participation and problems
- Adaptation hypothesis: The relationship between accessibility and gambling-related problems is curbed over time

(Abbott, 2006, 2007; Shaffer & Kidman, 2004)

Until recently, the exposure hypothesis was the natural way to frame arguments about gambling behaviour. However, the adaptation hypothesis has gained credibility. Abbott (2006) outlines the adaptation hypothesis as follows:

- When new gambling opportunities are introduced, especially modes that are continuous in nature, e.g. EGMs, participants are at higher risk of developing gambling problems.
- As time progresses, even if the number of opportunities to participate in this mode of gambling increase, society adapts and the amount of people experiencing problems decreases.
- Adaptation can be sped up by increasing public health measures, such as public awareness campaigns and opportunities for help-seeking.

Abbott (2007) argues that several studies show support for the adaptation hypothesis. For example, the first nationwide gambling prevalence study was conducted in the United States in 1975. This study was replicated 20 years later and reported that whilst rates of lifetime participation in gambling had increased, rates of past-year participation had remained stable at 63% (Gerstein et al., 1999; Kallick et al., 1976). The stability in past-year gambling participation was despite substantial increases in gambling opportunities across the country. Storer, Abbott and Stubbs (2009) found in a meta-analysis of 34 problem gambling studies that there was a strong relationship between increasing problem gambling prevalence and increasing per capita density of EGMs, and that this relationship did not plateau with increasing density of EGMs. However, they also found a decrease in prevalence of problem gamblers each year when EGM density held constant, consistent with the adaptation hypothesis.

Situational factors are also argued to play a role in the complexity surrounding the relationship between gambling opportunities, participation and expenditure. In Victoria, Australia, Marshall (2005) reported that in areas where there was a high density of EGMs, residents had significantly higher participation rates, spent longer on gambling activities, and had higher expenditure rates. However, one suburb that had a lesser number of EGMs had similar rates of participation and expenditure as suburbs with high densities of EGMs. Marshall concluded that this was a consequence of the location of the main EGM venue being next to the main shopping centre and place of recreation in the suburb.

The hours which gambling venues are legally permitted to stay open is another factor that can play a role in participation rates and rates of problem gambling. The South Australian Centre for Economic Studies (2005) reported that when four-hour per day compulsory shut-down periods were introduced for EGM venues in Victoria, Australia, there was a three percent reduction in gambling expenditure on NCEGMs.

Different venue types may also play a role in rates of problem gambling. It was reported in the United States that areas near casinos had higher rates of problem gambling in their communities than other areas (Gerstein et al., 1999). In the 1999 New Zealand prevalence survey it was reported that the prevalence of problem gambling was higher in the two cities in which casinos were located than other areas. This relationship remained even when other factors were controlled for in the analyses (Abbott & Volberg, 2000).

A study conducted in 2003 examined the distribution of standalone TABs, non-standalone TABs (e.g., TAB facilities located in hotels) and gaming machine venues in the Greater Auckland Region. Using 2001 Census Area Units, areas were categorised using ratings of high, medium or low New Zealand Deprivation Index Scores, high or low median household income and high or low median age. Table 11 indicates that standalone and non-standalone TABs are more likely to be located in areas of high and medium deprivation, low income and high age. The same is true for the distribution of non-casino EGM venues, with more venues in areas of high and medium deprivation and low household income. However, non-casino EGM venues were just as likely to be in areas where the median age was high or low (Centre for Gambling Studies, 2003).

Table 11: Percentage of standalone TABs, non-standalone TABs and non-casino EGM venues by deprivation, household income and age

	NZ Deprivation rating			Household income		Age	
	High	**Medium**	**Low**	**High**	**Low**	**High**	**Low**
Standalone TABs	46.5%	41.9%	11.6%	34.9%	65.1%	60.5%	39.5%
Non-standalone TABs	32.8%	54.7%	12.5%	45.3%	54.7%	60.9%	39.1%
Non-casino EGM venues	43.5%	56.5%	11.9%	37.6%	62.4%	51.5%	48.5%

Table 12 also shows similar bias in the distribution of gambling venues. Standalone TABs are more likely to be located in areas with higher percentages of Maori, Pacific and Asian people. However, non-standalone TABs appear to be more evenly spread, with the exception of being more likely to be located in areas of low than high percentages of Pacific people. Non-casino EGM venues are more likely to be located in areas where there is a high percentage of Asian people (Centre for Gambling Studies, 2003).

Table 12: Percentage of standalone TABs, non-standalone TABs and non-casino EGM venues by high and low ethnicity

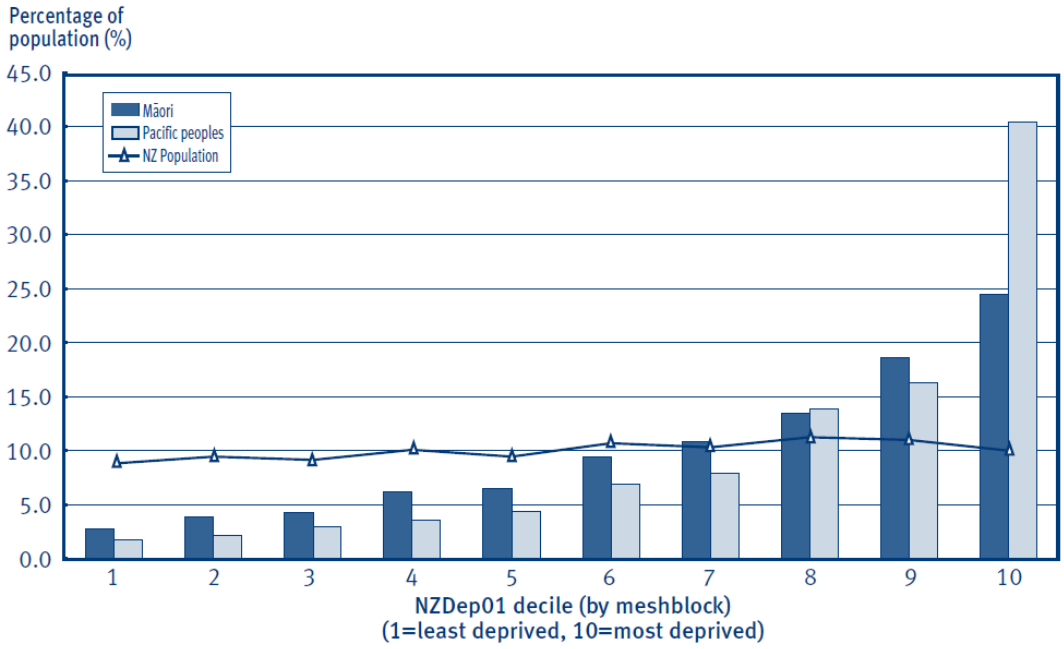
	Percent Maori		Percent Pacific		Percent Asian	
	High	**Low**	**High**	**Low**	**High**	**Low**
Standalone TABs	58.1%	41.9%	62.8%	37.2%	72.1%	27.9%
Non-standalone TABs	53.1%	46.9%	39.1%	60.9%	48.4%	51.6%
Non-casino EGM venues	48.0%	52.0%	46.8%	53.2%	61.1%	38.9%

Using data on the locations of all NCEGMs and TAB outlets, 2001 Census population data and 2004/05 population estimates, the Ministry of Health (2006a) investigated the distribution of gambling venues. Their analyses indicated that NCEGM venues and TAB outlets were more likely to be located in areas of high deprivation (based on the New Zealand Deprivation Index). Over half of all NCEGMs in 2005 were distributed in deciles 8-10 (the three most deprived deciles), with five times as many NCEGMs being located in deciles 9 and 10 as there were in the two least deprived deciles (1 and 2). This uneven distribution of NCEGMs was similar in 2003, indicating that it may not have changed substantially between 2005 and the present (Ministry of Health, 2006a).

The distribution of TAB outlets by deprivation index is similar to that of NCEGMs. The differences between deciles is not as pronounced as with NCEGMs but, again, almost half of all TAB outlets are located in deciles 8 to 10 (Ministry of Health, 2006a).

As detailed in Figure 4, the distribution of Maori and Pacific populations follows the pattern of deprivation. Maori and Pacific people are more likely than the general population to live in areas of higher deprivation.

Figure 4: Distribution of Maori and Pacific peoples by NZ Deprivation Score



(Ministry of Health, 2006a)

These data are supported by findings from the Pacific Islands Families Study. It was reported in that study that Pacific fathers in the lowest income bracket (total net weekly household income of $500 or under and thus presumed to be living in more deprived areas due to the lower cost of living), were more likely than fathers in the highest income bracket ($1,000 or more) to be problem gamblers (Bellringer et al., 2008). The unequal impacts of gambling on particular ethnic groups are explored more fully in a later section.

8 IMPACTS OF OTHER PEOPLE'S GAMBLING ON INDIVIDUALS/ FAMILIES

There is a lack of detailed research into the effects of gambling on significant/affected others (i.e. people close to a problem gambler, such as nuclear family, whanau, and work colleagues) in New Zealand.

From June 2010 to July 2011, 37.2% (N=4,496) of clients assisted by face-to-face problem gambling treatment services were affected others (Ministry of Health, website). The Gambling Helpline reported receiving calls from 381 new affected others in the 2011 calendar year which comprised 38.4% of their new callers (Gambling Helpline, 2012).

From a qualitative pilot study of gamblers and affected others consisting of 68 individual interviews and five focus groups, SHORE and Whariki (2006) reported that many affected others cited financial problems for the household as a major impact of someone else's gambling. This included savings being squandered, the household having to go without necessities, valuables being sold and being in debt.

From a later study, SHORE and Whariki (2008) indicated that there was no reported difference in relationships with friends and family between participation groups (non-gamblers, Lottery products gambling only, lower gambling participation and higher gambling participation). However, participants who had higher loss to income ratios and those who spent high amounts of time per week playing EGMs in bars or casinos reported having poorer relationships. In addition, it was found that these gamblers rated themselves as poorer caregivers to their children. However, due to the cross-sectional nature of this study, causation cannot be determined.

Analysis of data from the 2006/07 New Zealand Health Survey indicated that 2.8% of New Zealanders over the age of 15 years had experienced problems due to someone else's gambling in the last 12 months. NCEGMs were cited as the cause of the problems by 53% of these respondents, with another 33% citing casino EGMs. Of those who had experienced problems due to someone else's gambling, 20% were non-gamblers, 55% were recreational gamblers and 25% were low-risk, moderate-risk or problem gamblers (Ministry of Health, 2009).

The Ministry of Health (2008a) reported that harms from other people's gambling are unevenly spread across ethnic groups. Table 13 details results from the 2006/07 New Zealand Health Survey, showing that Maori and Pacific people were more likely to report experiencing harms due to someone else's gambling than Pakeha/Europeans and Asians.

Table 13: Problems experienced in the past 12 months due to someone else's gambling for adults, by ethnic group

Ethnic Group	Prevalence	No. of adults
European/other	2.1%	54,100
Maori	7.0%	25,000
Pacific	7.6%	12,600
Asian	2.2%	6,300

(Ministry of Health, 2008a)

Data from the Pacific Islands Families Study indicate that Pacific people have a high likelihood of being adversely affected by someone else's gambling, with four percent of Pacific mothers and 10% of Pacific fathers reporting experiencing problems due to someone else's gambling (Bellringer et al., 2008). One in six of respondents (approximately 16%) in SHORE and Whariki's 2008 national study reported that a member of their household had gone without something or a bill had gone unpaid due to gambling.

Analysis of the 2006/07 New Zealand Health Survey data also indicated problems due to someone else's gambling by neighbourhood deprivation. It reported that five percent of people living in areas of high deprivation (according to the New Zealand Deprivation Index) had experienced problems in the previous 12 months, compared to 1.9% of people living in areas of low deprivation (Ministry of Health, 2008a). A study on food bank use in New Zealand reported that over one-third of food bank clients were either problem gamblers or were experiencing problems due to someone else's gambling (Wynn, 2005). Toneatto (2005) reported that in many cases, problem gamblers seeking treatment have endured years of financial strain which is undoubtedly also experienced by their significant others.

9 IMPACTS ON ETHNIC GROUPS (MAORI, PACIFIC, ASIAN)

The Ministry of Health's six year strategic plan 2010/11-2012/13 states its aim as "government, gambling industry, communities and families/whanau working together to prevent harm caused by problem gambling and to reduce health inequalities associated with problem gambling" (Ministry of Health, 2010, p1). Unfortunately, the negative impact that gambling has on some minority ethnic groups is significant and leads to unequal health outcomes for those populations.

Table 14 details the results from a 2007 nationwide study on gambling behaviour (SHORE & Whariki, 2008). There were 7,010 randomly selected participants, with oversampling of Maori, Pacific and Asian populations to allow meaningful analyses of data from those groups. The study indicated that Asians (namely Chinese and Korean people) were most likely to be non-gamblers, with over 56% of the sample reporting that they had not gambled in the past year. Pacific people also had high rates of gambling abstinence, with over half reporting no gambling in the past year. Pakeha/European and Maori were most likely to gamble on Lottery Commission products only, with just over a third and just under a third respectively reporting only gambling on this mode. Maori were most likely to be in the lower and higher participation gambling categories, meaning that Maori were more likely than those of other ethnic groups to participate in gambling other than Lottery products at both a low level and a high level. Maori were nearly three times as likely to be in the higher participation group than Pakeha/ Europeans. Pacific people were also more likely to be in the higher participation group than Pakeha/Europeans and Asians, with 4.9% of respondents being categorised as such.

Table 14: Gambling participation in past year by ethnicity

	Not in last 12 months (%)	Lottery products only (%)	Lower gambling participation (%)	Higher gambling participation (%)
Pakeha/European	35.1	34.3	28.0	2.6
Maori	29.5	31.3	32.0	7.2
Pacific	50.1	21.0	24.1	4.9
Chinese/Korean	56.3	21.1	20.4	2.2

SHORE & Whariki (2008)

9.1 Maori and Pacific

Participation in gambling differs between ethnic groups. Data from the 1991 and 1999 New Zealand prevalence surveys indicated that some ethnic minority groups and recent migrants exhibit a bimodal gambling pattern, with there being high numbers both of non-gamblers and high-intensity gamblers (Abbott, 2001; Abbott & Volberg, 2000). The longitudinal Pacific Islands Families (PIF) Study also reported this bimodal pattern with only 36% of the Pacific mothers and 30% of fathers reporting that they participated in gambling in the past 12-months at the Year 6 data collection point (Bellringer, Abbott, Williams, & Gao, 2008), although past-year gambling participation had increased to 50% for mothers in Year 9 (Bellringer, Taylor, Poon, Abbott, & Paterson, 2012). In addition, patterns of gambling within ethnic groups differ. In the PIF study, Tongan mothers were more likely to report high levels of gambling expenditure than Samoan mothers and were nearly two and a half times more likely to be classified as problem gamblers (Bellringer et al., 2006; Bellringer et al., 2008).

Studies have also reported that certain ethnic groups are more adversely affected by gambling than others. Data from the 1999 New Zealand Prevalence Survey indicated that Maori were four times more likely to be problem gamblers than those in other ethnic groups, aside from Pacific people (Abbott & Volberg, 2000). Similar results were reported in the 2006/07 New Zealand Health Survey (Ministry of Health, 2009). This finding is also illustrated by help-seeking statistics. Ministry of Health service user statistics show that Maori callers to the Gambling Helpline accounted for 21% of callers in 2011 (Ministry of Health, website) yet Maori only comprise approximately 15% of the population (Statistics New Zealand, 2007). In addition, it is estimated that Maori gamblers spend an average of $593 per year on gambling activities, which is more than Pakeha/ Europeans despite the median Maori wage being less than half that of non-Maori (Abbott & Volberg, 2000).

The social impacts of this high rate of gambling and problem gambling in the Maori population are reported as differing from those of other ethnic groups. In a small qualitative pilot used to develop a quantitative survey instrument, SHORE and Whariki (2006) interviewed high risk gamblers and their significant others. The participants were asked about the impacts that gambling had on different areas of their lives. Maori were more likely to report problems with their whanau values, mana and spirituality. These stemmed from family responsibilities, such as caregiving, and being shunned due to time and money spent gambling.

Pacific people in New Zealand are also over-represented in the problem gambling statistics. Data from the 1999 New Zealand Prevalence Study indicated that Pacific people are six times more likely to be problem gamblers than those in other ethnic groups, aside from Maori (Abbott & Volberg, 1999). Data from the New Zealand Health Survey 2006/07 also indicated

that being Pacific is a risk factor for problem gambling, with Pacific people being four times more likely to develop problem gambling than those in other ethnic groups, aside from Maori (Ministry of Health, 2009).

Data from a small qualitative study of Pacific people living in Auckland indicated that problem gambling in the Pacific community was a substantial issue (Perese & Faleafa, 2000). Many participants reported that gamblers often borrowed money from extended family to gamble, took time off work to gamble and used money that should have been set aside for food and bills. SHORE and Whariki (2006) indicated that Tongans reported having to sell their traditional crafts in order to obtain money to gamble. They also reported being unable to meet monetary obligations, such as donations to the church, which is seen as an important part of being a member of the Pacific community. Samoan participants cited similar financial pressures, as well as family problems, including relationship decline, neglecting children's needs and trust issues. Work and education were also reported as suffering due to gambling (Perese & Faleafa, 2000).

Pacific problem gamblers are more likely to prefer casino EGMs, with 33.6% of Pacific face-to-face help-seekers reporting this type of gambling as their preferred mode in 2006 (more up-to-date ethnic break downs are not available) (Ministry of Health website). Bellringer et al. (2008) reported that, aside from Lotto, Pacific mothers in the PIF cohort in Year 6 reported gambling most frequently on housie (11%) and Instant Kiwi (11%), with fathers gambling most frequently on casino EGMs (20%), NCEGMs (15%) and Instant Kiwi (14%). The Year 9 PIF data collection analyses indicated that Pacific children are often involved in housie (as well as card games). Those nine year olds who reported participating in housie for money most often played with family (54% of boys and 62% of girls), indicating that gambling activities may be being encouraged by Pacific families (Bellringer et al., 2012). A commentator in a report for Manukau City (Manukau City, 2003) reported that SkyCity Auckland Casino was becoming increasingly popular with Pacific women. It was believed that the Casino was viewed by Pacific women as a hospitable and safe venue in which to gamble and socialise with other members of the Pacific community and a nice place to take visitors.

Maori and Pacific people are also up to three times more likely to have experienced problems due to someone else's gambling in the last 12 months compared to those in the general population (Ministry of Health, 2009). The impacts are also felt more widely due to the increased connectivity with extended family in these communities and the acceptability of sharing debt amongst the family (SHORE & Whariki, 2006).

Additionally, those with lower incomes and educational qualifications are more likely to be problem gamblers (Abbott & Volberg, 1992). They are also more likely to have experienced

problems due to someone else's gambling (Ministry of Health, 2009). As previously detailed, gambling venues are more likely to be found in low income areas, increasing access to gambling for those who live in those areas (Clarke, Tse, Abbott, Townsend, Kingi, & Manaia, 2006). As Maori and Pacific are over-represented in these groups, this will contribute to more negative social impacts amongst these populations.

Despite this over-representation by Maori and Pacific in low-income groups, between 2000 and 2005, gambling expenditure for people of those ethnicities at casinos increased significantly. Even when adjusting for inflation, Pacific peoples spent $614 on average in 2005 at casinos, double the amount they had spent in 2000. Expenditure by Maori increased by nearly two-thirds, with people in this group spending $399, on average, at casinos. Compared to other ethnic groups (Asians spent $359 and the general population spent $235), Maori and Pacific spent significantly more (Department of Internal Affairs, 2008).

9.2 Asian

Abbott and Volberg (2000) and the 2006/07 New Zealand Health Survey estimated Asian people to have similar rates of problem gambling as the general population. This is despite the lack of Asian clients presenting to formal problem gambling treatment services (Ministry of Health, 2006b). However, subsequent research has indicated that Asian people's levels of harmful gambling may be higher than that of the general population. Chu and Wong (2002) reported in their sample of 88 Asian youths, that 12% reported problems with gambling and 25% knew at least one person in the Asian community who was a problem gambler. Young Asians also appeared to be more heavily involved in gambling than those in the general population, with Chinese international students citing gambling as a popular pastime due to the opportunity it created to meet other Asians, release stress and improve one's counting and problem solving skills, amongst other things (Li & Chan, 2006).

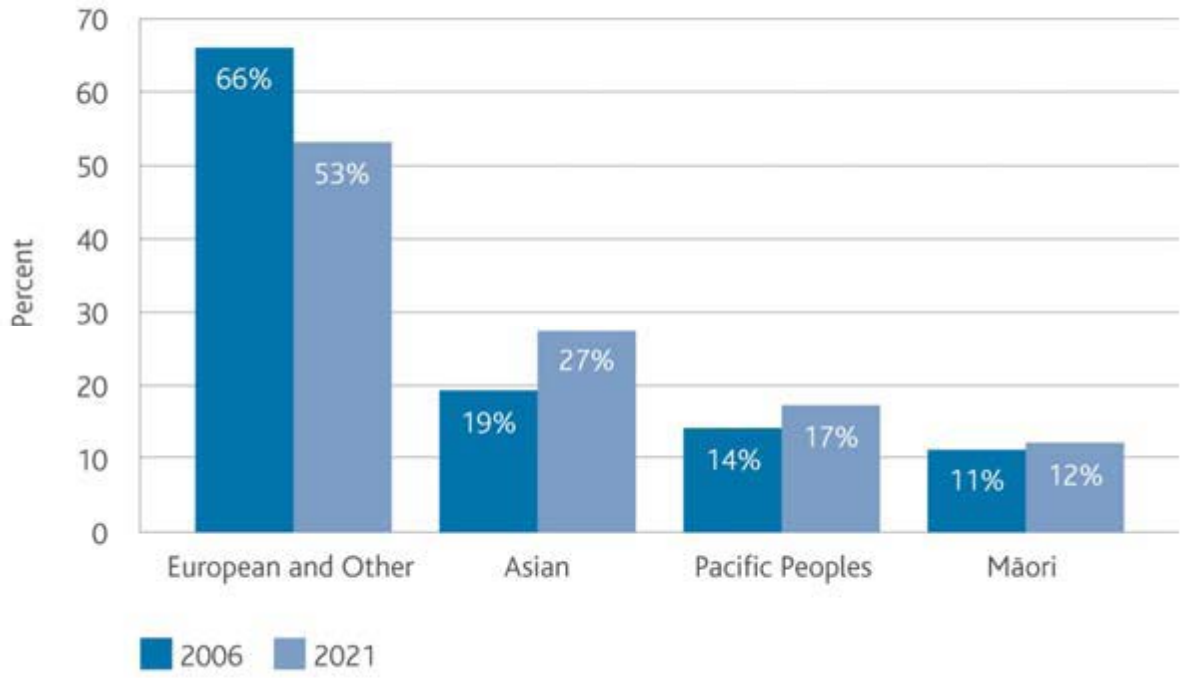
Asians also exhibit different gambling habits from those of other ethnic groups. Whilst EGMs are the most problematic form of gambling for most people, Asian problem gambling help services cite only 36% of clients as having a problem with this mode of gambling. The majority of Asian clients (over 60%) report casino table games as the source of their problems (Wong & Tse, 2003). This may be due to the fact that Asian immigrants describe reasons for gambling that have to do with the social interaction that they may be missing out on in the wider community due to language issues. Li and Chan (2006) and Wong and Tse (2003) both reported that Asian immigrants gravitate towards casinos as they are a place to socialise with other Asians and that language is not necessarily a barrier to playing most of the games.

Asians may also spend significantly more on gambling than the general population, with Wong and Tse (2003) reporting that Asian clients of gambling treatment services lose an average of $10,570 per year, compared to $2,000 for clients of all other ethnicities. In a qualitative pilot study, Chinese students reported being in financial trouble as they had spent their tuition fee and living allowances on gambling (SHORE & Whariki, 2006).

9.3 Auckland's population

As detailed in Figure 5, Asian people, Pacific people and Maori comprise a significant proportion of Auckland's population. In 2006, Asian people, Pacific people and Maori comprised 19%, 14% and 11% respectively. This is higher than the national percentage for Asian and Pacific groups (9.2%, 6.9% and 14.6% for Asian people, Pacific people and Maori respectively) (Statistics New Zealand, 2007). Considering that all three of these populations are projected to increase by 2021, Auckland needs to have strong harm reduction measures in place in order to protect the groups that are more vulnerable to the harmful effects of gambling.

Figure 5: Auckland's population by ethnicity



(Auckland City Council, 2011, p.14)

10 CONCLUSION

This brief review of primarily New Zealand literature is focused on the social impacts of gaming machines and TAB gambling. Where data are available, reference has been made to the Auckland region.

The Auckland region provides residents with access to all the legally available modes of gambling including a casino in the city centre. There are over 4,000 non-casino electronic gaming machines (NCEGMs) with a further 1,600 machines (EGMs) available at the casino, comprising 28% of total EGMs available nationally. The Auckland area has approximately one-fifth (about 130) of the total number of TAB venues (N=640). NCEGMs are the mode of gambling causing harm cited by the majority of people seeking help from problem gambling treatment services. In 2011, a larger percentage of clients at face-to-face treatment services reported residing in the Auckland region (37.5%) than the national Auckland population (33%). This may be due to a number of reasons including a higher proportion of venues located in the more deprived areas, a higher proportion of more at-risk ethnic groups than nationally, greater awareness of the harms from problem gambling due to social marketing campaigns, or the availability of several treatment services in many areas of Auckland with Maori, Pacific and Asian specialised services and counsellors also accessible.

People who regularly (once a week or more often) participate in gambling on EGMs, in particular, and other modes of 'continuous' gambling (where there can be a rapid turnaround between laying the stake/bet, knowing the outcome and laying the next stake/bet) have been shown to be at substantially higher risk of developing problem gambling than people who do not play these modes regularly or who participate in other, non-continuous, modes of gambling. This is reflected in the help-seeking statistics with a majority of help-seekers citing EGMS as their primary problematic mode (as detailed above). Of concern is that a higher density of EGM venues (and TAB venues) is located in areas of higher deprivation, which in the Auckland region is where more Maori and Pacific people reside. Numerous nationwide population surveys since 1991 have reported that Maori and Pacific people are at significantly higher risk for developing problem gambling. Living closer to gambling venues has been associated with increased gambling and a higher likelihood of problem gambling development. The location of NCEGM and TAB venues in the Auckland area, therefore, needs to be seriously considered to protect vulnerable population groups.

Numerous negative impacts of problem gambling have been reported, though research is sparse in some areas. Crime associated with gambling is the most obvious negative impact with varying types of crime possible such as financial crimes to facilitate gambling (e.g., theft), crimes associated with gambling venues (e.g., money laundering), and crimes against a person

such as family violence (which can affect all family members). Perhaps less obviously, harmful gambling has been reported to be negatively associated with many other areas of a gambler's everyday life functioning including work/study performance, child care, mental and physical health, and substance abuse/dependence, as well as affecting people close to the gambler (e.g., close family, friends and work colleagues). Each of these aspects has consequential negative effects which have a flow on community effect; for example poor child care in the extreme could lead to the necessity of social service intervention, whilst increased mental and physical health problems can lead to increased burden on the health system. Flow on impacts should be considered just as important as immediate impacts to problem gamblers.

However, there are also some positive impacts from the presence of gambling venues in the community. The most often cited are the community grants from NCEGMs which are a minimum of 37.12% of net proceeds from each gaming machine trust (who own and operate the machines). For the charitable organisations which benefit from these grants, it is indeed a positive aspect to EGM gambling in the community. However, some concerns have been expressed that the share of community grants is inequitable with a large proportion going to sports/physical activities to the detriment of other charities. There is also some concern that funding may be going outside the areas in which the gaming machine trusts operate, meaning that communities other than the local community from where the machines are located (and thus from where the grant money generally originates) are benefiting. Other positive impacts of gambling relate to the entertainment and socialising value as well as the employment opportunities, although again there are some concerns over the value of the benefits (e.g., disposable income may be channelled away from other sectors such as retail).

In conclusion, the Auckland area (which provides opportunities for all legal forms of gambling) has a substantial proportion of the country's EGMs and TABs. A greater proportion of people has problems with, and seeks help for, problems with EGM gambling. Ethnic minority groups, in particular, Maori and Pacific people are at much higher risk of developing problem gambling than Pakeha/Europeans and this may be exacerbated by the higher density of machine venues in areas of high deprivation; the areas with greater populations of Maori and Pacific people. There are multiple negative and some positive social impacts of gambling, each of which will have consequential flow on effects. In any assessment of social impacts, the Auckland Council should consider the flow on effects as well as the direct impacts.

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