2007 ADULT GAMBLING PREVALENCE STUDY

NOVA SCOTIA
Health Promotion
and Protection

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Any errors or omissions are solely the responsibility of the principal investigators at Focal Research Consultants. The opinions expressed in the report are those of the authors and do not necessarily reflect the views or policies of the Nova Scotia Department of Health Promotion and Protection, or any regulatory or community gaming body, group or organization in the province. This report contains information that was available at the time of data collection in 2007. Updated information since this period may not be reflected in the report.

This report is available online at: http://www.gov.ns.ca/hpp/gambling/pg-resources.asp

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EXECUTIVE SUMMARY

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The 2007 Nova Scotia Adult Gambling Prevalence Study, commissioned by Nova Scotia Health Promotion and Protection (NSHPP), marks the fourth such study to be conducted in the province and the second using the Canadian Problem Gambling Index. This report describes the prevalence of gambling and problem gambling among adults 19 years of age and older who are permanent residents of Nova Scotia, living in private households (n=2,500). It also describes the changes that occurred between 2003 and 2007. In addition to the adult survey, supplementary surveys were administered to a select sub-sample of young adults 19-34 years (n=240)[1] and youth (n=85)[2] living in these randomly selected households.

The data was segmented and compared by risk for gambling problems using the Problem Gambling Severity Index (PGSI), the nine scored items of the CPGI. Self-reported gambling problems were also examined by type of gambling activity. A profile of the gambling market in Nova Scotia, including market trends and changes since the last measurement period (2001/02 to 2006/07), was included to provide context.

From October 5 to December 21, 2007, 2,500 adults living in 1,661 randomly selected households throughout the province of Nova Scotia completed a telephone survey incorporating standardized and adapted instruments as well as customized questions in order to measure:

- Gambling participation and problem gambling in general, and by gambling activity
- Gambling perceptions, attitudes, behaviours etc.
- Exposure to problem gambling at a household, family and community level
- Awareness and use of problem gambling support services and programs
- Other substance use and dependency
- General health and well-being
- Gambling advertising awareness and evaluation (promotional and preventative)

The study achieved an overall response rate of 60.6%, with 77.2% of all eligible, randomly selected households on the sample fully screened and 78.5% of all adults identified in each household successfully taking part in the study. Results for total adults in the study are accurate within ± 1.96% at the 95% confidence interval (95 times out of 100).

The results of the 2007 Nova Scotia Adult Gambling Prevalence Study are reliable, representative and can be used as input to planning, management, and resource allocation for various gambling stakeholders in the province of Nova Scotia.

[1] 2008 Yellow Flag Post-Campaign Evaluation Among Young Adults in Nova Scotia, http://www.gov.ns.ca/hpp/gambling/pg-resources.asp

[2] 2008 Nova Scotia Adolescent Gambling Report, http://www.gov.ns.ca/hpp/gambling/pg-resources.asp

SECTION 2

Gambling Market in Nova Scotia

Currently, seven forms of legalized gambling are available in Nova Scotia including inter-provincial and provincial lotteries and sports betting, video lottery terminals (VLTs), casinos, bingos, charitable lotteries and raffles, harness racing and First Nation gaming activities.

- Gambling in the province is restricted to adults 19 years of age or older (with the exception of charity bingo) with licensing, operation, and regulation pursuant to the Criminal Code of Canada and the Nova Scotia Gaming Control Act (1994-95).
- The Alcohol and Gaming Division of the Department of Labour and Workforce Development is responsible for the licensing and regulation of gaming activity in Nova Scotia.
- The Nova Scotia Gaming Corporation (NSGC) is responsible for the conduct and management of casinos and other lottery schemes on behalf of the Province. The NSGC offers video and ticket lotteries through the Atlantic Lottery Corporation (ALC), and the two casinos in the province operated by Great Canadian Gaming Corporation (GCGC).
- First Nation gaming in Nova Scotia is subject to independent agreements with the province, administered through the Office of Aboriginal Affairs.
- Since the last prevalence study in 2003, the primary changes in gambling activities available in the province include:
  - The ticket price for Lotto 6/49, a national lottery draw game, increased from $1 to $2 and the minimum jackpot doubled from $2 million to $4 million (June 2004);
  - ALC introduced PlaySphere in Atlantic Canada, an online website for purchasing lottery draws and sport lottery games (August 2004);
  - Great Canadian Gaming Corporation took over ownership and operation of the province's two casinos (Halifax and Sydney) (May 2005);
  - Responsible Gambling Resource Centres (RGRC) opened at both casinos and ticket-in/ticket-out technology (TITO) was introduced, providing patrons with bar-coded tickets instead of tokens for redemption of winnings (2005-06);
  - ALC launched Bucko, a second new $1 daily draw game (February 2006) and introduced a third sports lottery game, GameDay Pick'em Pool (August 2006);
  - NSGC launched a new program with ALC called Support 4 Sport, which branded existing scratch tickets, with 100% of profits from certain games designated to amateur sports in the province (August 2006);
  - Live harness races decreased from 110 to 85 races due to the closure of one of the tracks (2006/07) and NSGC subsidy of purses increased from $750,000 to $1 million;
  - The number of First Nation VLTs increased slightly from 564 to 575.
- There were a number of initiatives directed specifically at video lottery in Nova Scotia during the same time period, including:
  - Hours of operation for VLTs in Nova Scotia were reduced with all machines turned off at midnight (July 2005);

– The number of government-operated machines was reduced by 30% (1,000) starting in November 2005 to a total of 2,234 machines by 2006/07;

– The stop button was disabled on VLTs and the speed of machines was reduced by 30% (January 2006).

Wagering and Gambling Revenues[3]

In 2007, Nova Scotians wagered about $1.5 billion, an increase of 23% (from $1.2 billion in 2002). Despite the increase in wagering, gross gambling revenues (amount wagered less prizes paid out) dropped by 5.8% since 2001/02. These declines were almost entirely due to increases in the amounts being cashed out in prizes especially for casino gambling, video lottery and, to a lesser extent, ALC lottery tickets. It appears that more money is steadily being taken out as winnings for commercial regulated gambling in the province. This trend was not observed for bingo or charitable gaming. As a result, net provincial gambling revenues in the province were found to have dropped by 4.5% over the same period largely due to the decline in gambling profitability especially for video lottery.

- In 2006/07, bets placed on regulated gambling in Nova Scotia reached a total of $1.5 billion, primarily wagered on VLTs ($717.1 million: 47.2%) and casino gambling ($489.1 million:32.2%).
- The total amount wagered on regulated gambling in Nova Scotia increased by 23.0% since 2001/02 ($1.5 billion versus $1.2 billion).
- The amount paid out in prizes increased even more over the same time period (36.5%) moving from about $843.7 million to $1.15 billion, with the average prize cash-out rate increasing from 68.2% in 2001/02 to 75.1% by 2006/07.

- As a result of this increase in prize cash-outs, gross gambling revenue in Nova Scotia (i.e. total wagered less winnings) dropped by 5.8% or about $23 million since 2001/02 (≈[4] $369.4 million versus ≈ $392.5 million).
- Increases in prize cash-outs since 2001/02 were highest for casino gambling (57.4%), VLTs (37.0%) and, to a lesser extent, ALC lottery tickets (13.2%). This same pattern did not appear for charity tickets and bingo, which have stayed stable.
- Net provincial gambling revenues also dropped by 4.5% or about $8 million ($184 million in 2001/02 to $176 million in 2006/07). In 2007, almost $176 million went to provincial coffers with about $193 million paid out in operating costs, retailer commissions, or private profits.
- Most of the net gambling revenue in Nova Scotia continued to come from VLTs (54.3%) followed by ALC lotteries (27.0%) and casino gambling (17.9%). However, the decline in net provincial revenues over the past six years was entirely driven by video lottery.
- VLTs continued to be the most profitable form of gambling, generating $95.7 million for the province (2006/07).

[3] Nova Scotia Annual Gaming Report, Nova Scotia Alcohol and Gaming Authority (2001/02 to 2006/07)

[4] ≈ symbol refers to an "approximate" value.

- It should be noted that VLT wagers ($895 million), gross revenue ($200.2 million) and net provincial revenue ($132.6 million) peaked in 2004/05. Following the reduction in number of machines, removal of stop buttons and decrease in the speed of play, the amount wagered declined by 19.8%. Gross revenues also dropped 24%, and provincial VLT profit fell by 27.8%. It is worth noting that prize cash-outs again continued to increase from 77.6% to 78.9%
- Compared to ALC lotteries, casino gambling in Nova Scotia generated more than double the amount wagered ($489.1 million versus $215.1 million) and a similar amount of gross revenue after prizes ($89.4 million versus $94.4 million) yet contributed only two-thirds of the net revenue received from ALC lotteries ($31.5 million versus $47.6 million).
  This positions casino gambling as providing the lowest return to the province for the amounts spent.
- In 2006/07, 32.2% of all gambling wagers in the province occurred at the two casinos. This was an increase of about $133.1 million (37.4%) over 2001/02. However, again, due to increases in the amount of money cashed out in prizes, the actual revenue generated by casino gambling has fallen by almost 12% over the same period. Casino gambling accounted for only about 18% of provincial net gambling revenues ($31.5 million) but generated $51.2 million less expenses which can significantly reduce revenue for Great Canadian Gaming Corporation which owns and operates the casinos in Nova Scotia.

- Overall, net provincial revenues for casino gambling increased by $6 million (24.5%) since the last prevalence study while ALC lottery net revenues were fairly flat registering only a slight increase of about $1.6 million (3.5%).

SECTION 3

Problem Gambling Prevalence

Based on the Canadian Problem Gambling Index, it was estimated that approximately 6.1% or about 47,000 adults in Nova Scotia were at any level of risk for problem gambling. About one-third of those (2.5%; 19,000 adults) were scoring at problem levels, with 1.6% 12,000 adults) scoring for Moderate Problems and .9% (≈ 7,000 adults) identified as Severe Problem Gamblers.

- The percentage of adults scoring at any level of risk did not differ from 2003 (6.9%) to 2007 (6.1%), nor did the percentage scoring for problem gambling (2003: 2.1% versus 2007: 2.5%). However, there was a significant drop found in the percentage of At-Risk gamblers (CPGI score=1-2; 2003: 4.8% versus 2007: 3.6%, $p < 0.05$).
- The proportion of adults in Nova Scotia identified as At-Risk for having gambling problems reached a high in 2003 (4.8%) but in 2007 had fallen back to previous levels (3.1%-3.6%).
- In contrast, those scoring at problem levels remained constant from 2003 (2.1%) to 2007 (2.5%) although it appears that, over time, the percentage of problem gamblers is slowly increasing (1993: 1.7 versus 2007: 2.5; $p = 0.19$).

- Compared to other provinces in Canada, Nova Scotia (2007: 3.6%), New Brunswick (4.9%), and especially Prince Edward Island (1.2%) had lower rates of adults scoring At-Risk for gambling problems, although rates of problem gambling were highly similar across the country.
- Rates of Moderate+ Problems in Nova Scotia (2.5%) were lower only than that observed for British Columbia (4.6%), Alberta (5.2%), and Saskatchewan (5.9%) and did not differ compared to the other five provinces.
- There were no significant differences in the percentage of adults scoring as Severe Problem Gamblers in any of the provinces except British Columbia (.4% versus 0.9%-1.4%).

Gambling Participation Rates in Nova Scotia

SECTION 3

Gambling continues to be a pervasive activity with 94% of adults surveyed having gambled at least once in their lifetime although the percentage of adults who gambled in the past year has dropped slightly (2003: 89.3% versus 2007: 87.0%). Adults were more likely to be involved in gambling on a regular (53.6%) rather than casual (33.6%) basis with 95% of gambling revenues in the province coming from those who gambled regularly each month. More importantly, as was the case in 2003, 39.2% of gambling expenditures (losses) were coming from those who were scoring at some level of risk for gambling problems ($\approx$ 6.1% of adults in the province).

- In 2007, almost all adults in Nova Scotia had wagered money on a game of chance at some time (93.7%) and most (87.0%) had gambled in the past year.
- Past-year gambling participation rates were slightly lower compared to 2003 (89.3%), but average per adult annual reported expenditure on gambling remained stable (2003: $578 versus 2007: $609).
- As in 2003, just over half (53.6%) of adults gambled on a regular monthly basis with about one-third (33.6%) typically gambling once a week or more. These Regular gamblers continued to spend about $1,080 per year and generated 95% of gambling revenues in the province in 2007.
- One-third of adults gambled less than once per month and were characterized as Casual gamblers. Casual gamblers only accounted for about 5% of gambling losses in 2007 although average gambling expenditures within this group had increased significantly (2003: $70.48 versus 2007: $87.92).

Changes in Gambling Participation Rates

SECTION 4

Participation rates in gambling were slightly lower in 2007 than 2003. The decline was widespread, affecting most gambling activities. Exceptions include instant lottery tickets and casino table games (which remained stable) and lottery draws, which saw an increase (due to a large jump in daily draw purchasing).

- Compared to 2003 past-year involvement in most forms of gambling declined significantly including VLTs (19% versus 14%), casino slots (22% versus 16%), bingo (15% versus 12%), ALC Pro Line (5% versus 4%) and charity raffles (65% versus 50%).

- Participation in casino gambling other than slot machines (4%) and purchasing of ALC's instant lottery tickets (52%) remained stable.
- In contrast, the number of adults purchasing lottery draw tickets went up primarily in response to the daily lottery draws where participation rates more than doubled since 2003 (6% versus 14%).
- While past-year gambling participation rates declined (2003: 89.3% versus 2007: 87.0%), the amount of money spent by gamblers increased slightly ($647 versus $700; p=.22) resulting in no significant changes in average gambling expenditures per adult between the two measurement periods (≈$600 per adult).

SECTION 4

Gambling Involvement by Risk for Gambling Problems

Frequency of play increased along with risk for problem gambling for specific types of gambling, especially VLTs, casino gambling, daily lotteries and instant lottery tickets. Those showing no problems with their gambling were more likely to play at casual levels, least likely to gamble on a regular weekly basis (35%), and take part in fewer different games. Expenditures among regular gamblers also increase with risk: Problem gamblers were losing over 10 times the amount of money lost by Non-Problem gamblers.

- Frequency of play continues to be a strong indicator of an individual's risk for experiencing problems, and contributes to the differences observed in expenditure among the various risk segments.
- Those at any level of risk for problem gambling were significantly more likely to be involved in regular monthly gambling (79.1% to 85.3%) as compared to Non-Problem gamblers (60%).
- Problem gamblers (70.5%) were significantly more likely to gamble on a regular weekly basis than any other gamblers (At-Risk: 53.8%, Non-Problem: 37.0%). The same patterns were found in 2003.
- While both At-Risk and Problem gamblers tended to wager on about 5 to 6 different types of gambling activities throughout the year, Non-Problem gamblers were involved in only about three different types, primarily lottery and charity tickets.
- On average Non-Problem gamblers spent $458 per year whereas At-Risk gamblers spent almost five times this amount ($2,256) and those scoring for Moderate to Severe Problems spent an average of $6,414 yearly, a rate three times that of At-Risk gamblers and 14 times higher than Non-Problem gamblers.
- Even among those who gamble regularly, expenditure levels were over four times as high for At-Risk gamblers (≈ $2,800/year) versus Non-Problem (≈ $700/year), and more than 10 times higher among those scoring for Problem Gambling (≈ $7,500/year).
- Similar to results in 2003, the 6.1% of the adult population scoring at any level of risk for gambling problems in Nova Scotia accounted for 39.2% of total losses.
- There were only two forms of gambling for which past-year participation rates increased by risk for gambling problems: video lottery and, to a lesser extent, daily lottery games.
- It was regular involvement in higher-risk gambling activities that posed the greatest problems for gamblers in Nova Scotia. As risk for gambling problems increased, so too did regular participation in VLTs, Scratch 'n Win tickets, slot machines and ALC's sport lottery. Problem gamblers in Nova Scotia were also more likely to be playing ALC's daily lotteries.

Percent of Expenditures by Type and Frequency of Gambling

SECTION 4

Only 14.1% of the population regularly took part in gambling outside of lottery tickets, but collectively they accounted for the majority of gambling losses in Nova Scotia. This group accounted for 62% of gross gambling revenues generated for the province.

- Over the past year, approximately 40% of adults purchased only lottery-type ticket games on a regular basis each month, spending about $506.00/year on all their gambling and contributing about 33% of annual gambling expenditures in the province.
- Only 4% of these regular lottery-ticket-only gamblers were scoring for any level of risk on the CPGI, with only 1% identified as problem gamblers.
- In contrast, a small proportion of adults (4.1%) were regularly gambling on VLTs and casino games each month. This segment of players were spending, on average, about $5,300.00 per year (a rate almost 9 times higher than for the lottery-ticket-only gamblers), and contributed about 36% of annual gambling expenditures in Nova Scotia.
- The proportion of adults regularly participating in VLT and/or casino gambling each month decreased since the 2003 study (4.1% versus 6.6%). However, average annual expenditures by regular VLT/casino gamblers increased by $1,500.00 over the same period (from $3,760 to $5,293, p=.10; significant at the 90% CI).
- Just under half (≈ 43%) of the VLT/casino gamblers were scoring at any level of risk for gambling problems on the CPGI (At-Risk=16%; Problem=27%).
- About one in ten adults regularly took part in any other forms of gambling, including sports betting, bingo, or card games. On average, these regular gamblers were spending about $1,620.00 annually on gambling, and contributed about 26% of all monies spent on gambling in the province.
- About 12% of those regularly involved in other types of gambling were scoring at any level of risk for gambling problems (At-Risk=8%; Problem=4%).

Self-Reported Problems with Gambling

SECTION 4

Overall, 2.3% (or approximately 18,000 adults in Nova Scotia) self-reported ever having a problem with the amount of time or money spent on gambling, with 1.4% (≈ 11,000) reporting current problems. Video lottery terminals (VLTs) continued to be cited as the principal source of gambling problems in the province, mentioned by two–thirds of those self-reporting a gambling problem. However, in 2007, there has been a shift towards negative impacts associated with ALC daily lottery products and commercial versions of poker in addition to slots and casino table games. Problems with Internet gambling were only mentioned by 4% of those who have ever experienced problems.

- Overall, 2.3% (±.59%) of adult respondents, representing about 18,000 adults across the province, reported that either now or at some time in the past they have had a problem with the amount of time or money spent on gambling.

- More than half of these same people (1.4%, ±.46%) reported current problems, suggesting that about 11,000 adults in Nova Scotia have personal concerns surrounding some aspect of their gambling.
- Similar to 2003, the vast majority (81%) of those who self-reported having ever had a problem with gambling were associating the problem with only one form of gambling.
- Video lottery terminals continued to be mentioned most often as playing a role by the majority of those self-reporting gambling problems (67% versus 3%-18% for other activities).
- In 2007, there was a shift observed for other high-risk gambling impacts. Daily lotteries were ranked second to VLTs, cited by one in five adults who have ever had a gambling problem, and 18% of those reporting current problems. Poker, especially commercial versions of the game, was mentioned by 15% of adults who have ever had a gambling problem.
- Casino slots (9%) table games (6%), and Scratch 'n Wins (6%) also continued to be associated with self-reported gambling problems among a minority of those experiencing difficulties.
- Internet gambling was only mentioned by 4% of all those who have ever had a gambling problem and 3% of those with current problems.
- It is notable that the majority (74.3%) of those self-reporting gambling problems were also identified as Problem gamblers by the CPGI (score = 3+). However, almost one quarter of these adults did not trigger on the CPGI, which suggests that reliance on conventional ways of measuring clinical problems may overlook a significant proportion of those experiencing difficulties with their gambling.

Rates of Self-Reported Gambling Problems by Type of Gambling

- Video lottery exhibited the highest levels of relative problems. About one out of every 21 people (4.7%) who had ever tried these machines experienced problems.
- Among past-year VLT gamblers, the proportion jumped to one in 12 (8.8%) but increased dramatically to about one out of every four adults (26.7%) who took part in VLT gambling on a regular basis. This is the highest rate of problem development compared to any other form of gambling available in Nova Scotia, and represents a significant increase over findings in 2003, when 16% of all regular VL gamblers reported having had a problem.
- Casino gambling, ALC sports lottery, breakopen tickets, daily lottery draws, and bingo also emerged as being associated with higher than expected risk for problems.
- Sample sizes were too small to accurately profile risk among regular casino gamblers, however, prevalence of self-reported problems almost doubles among regular gamblers for each for the other gambling options mentioned above.
- While the percentage of regular gamblers self-reporting problems was substantially lower than is typically the case for VLTs and casino gambling, one in every 45-50 regular ALC Sport Select (2.2%), daily lottery (2.1%), breakopen (2.0%) and bingo players (1.9%) reported problems.
- In the case of daily draws, the rates of problems identified among players in 2003 have stayed constant. As predicted, the increased trial of this form of gambling corresponded with an increase in the number of people in Nova Scotia experiencing difficulties with this form of gambling. In 2007, self-reported

problems among regular daily lottery ticket players was 200% higher than for weekly draw players (2.1% versus 0.1%).

- As a result, expanding the player base for any of the higher risk games identified above, or introducing changes that facilitate play involvement or capacity for expenditure, could be expected to lead to a corresponding increase in the proportion of gamblers at risk for problems.

Internet Gambling

- In general there were very low involvement levels with non-regulated internet gambling in Nova Scotia, with only 1.6% (n=41) having ever tried gambling on-line, including on-line poker (1.0%) , sports betting (0.6%) and other forms of on-line wagering (0.4%).
- In the past year, less than 1% reported wagering on any of these forms of internet gambling: on-line poker (0.4%), sports betting (0.2%), other forms of on-line wagering (0.2%).
- Among those who have ever tried internet gambling about 1 in 20 (4.9%) reported developing problems with the amount of time and/or money they spent on this activity. This preliminary rate of problem development was almost identical to that well documented for VLTs (4.7%).

Use of ALC PlaySphere

- About 2.1% of adults have tried ALC's new online gambling site at some point in time. While just under a third of trial visitors dropped the service, 70% were current members and about half had purchased through the site over the last year (1% of adults).
- For the most part, purchasing was reported to be casual although 0.4% (≈ 3,000) of adults indicated that they were making regular monthly purchases.
- It is unclear whether the site attracts those at higher risk or contributes to risk. But the evidence indicates that those playing on the PlaySphere site were at higher levels of risk for gambling problems than those who did not use the site.

Gambling Participation and Risks for Problem Gambling in Nova Scotia by Key Population Segments

District Health Authorities (DHAs)

- Due to a significant increase in the percentage of adults scoring for gambling problems in the Northern district (DHAs 4, 5 & 6; 2003: 1% versus 2007: 2.6%; $p<.05$) there were no longer any significant differences in risk for gambling problems in the various Addiction Services shared service areas across the province.
- Compared to the other health districts, DHA 9 (Capital) reported higher levels of sports betting, casino gambling (especially table games), and lower involvement in breakopens and bingo than other regions in Nova Scotia.
- Gamblers in DHAs 7 & 8 (Eastern) had the highest rates of regular play for VLTs, slot machines and daily lottery, all associated with high levels of risk. Regular involvement with bingo and charity lotteries was also high in the Cape Breton area.
- The only other notable difference was a higher level of regular purchasing for breakopen tickets reported in DHAs 4, 5 & 6 (Northern).
- There were no differences between the areas for regular poker or purchasing of instant lottery tickets.

Gender

- Overall, risk (8% versus 4.4%) and rates of problem gambling (3.5% versus 1.5%) continued to be about twice as high among men in Nova Scotia compared to women, yet women still comprised one-third of those having gambling problems.
- Men who gambled in the past year were more likely to be taking part in higher risk gambling activities such as sports betting, VLTs, casino table games and poker, as well as weekly lottery draws (compared to women).
- Daily lottery and slots were played by an equal proportion of men and women but women were more likely to engage in instant lottery tickets and bingo.

Age

- As was the case in 2003, risk for gambling problems declined with age. Adults 19 to 24 years of age were most likely to be at any level of risk for problems (12.1%) and this rate declined to 2.0% among those aged 65 years or older.
- Slightly higher rates of problem gambling in all age cohorts under age 65 years suggests that the increased risk observed in 2003 among younger adults in the province has translated into increased rates of problem gambling as they aged.
- Problem gambling was still highest among those under 35 years of age ($\approx$ 4.4%) but there were no differences in the percent scoring for gambling problems among those 35-65 years of age ($\approx$ 2.3-2.9%).
- Rates of regular participation in daily lottery games, breakopen tickets, casino slots and table games, and VLTs were similar among those age 19-54 years.

- The youngest adults (19-24 years) in the province were least likely to be regularly playing low risk draw games (such as weekly draws or charity raffles), but more likely than other adults to be playing poker on a regular basis.
- Regular sports betting was highest among those ages 19-44 whereas bingo was played more often by those over 55 years.
- Of particular note is that seniors (65+), who usually have lower rates of involvement in high risk gambling, had the same levels of participation as adults aged 25 to 64 in casino gambling over the past year. They also had the same regular slot machine playing patterns as all age categories, including 19 to 24 year olds.

Income

- Even though those living in higher income households ($60,000 +/year) were more likely to gamble, their overall risk levels were significantly lower (5.2%) compared to those with lower incomes (≈ 7.6%).
- Adults living in household with incomes over $60,000/year had higher rates of past-year and regular casino gambling, poker, charity raffles and draws, whereas instant lottery games and bingo were more popular among those living in households with incomes less than $30,000 per year.
- Daily lotteries were played equally by those with mid-to lower incomes (<$60,000/year).
- The only regular playing patterns that did not vary by income were ALC weekly lottery draws and VLT gambling.

Other Demographic Characteristics

- Those with the highest education levels were least likely to be involved in gambling and had the lowest levels of risk for gambling problems (1.9%).
- Adults who were single (10%) living common-law (10.5%) and especially those separated from a spouse or partner (18.4%) all had higher rates of risk for gambling problems in particular compared to those in formally recognized marriages (4.5%).
- About one in every seven adults unemployed in the province was found to be at risk for gambling problems, with one in ten scoring at problem gambling levels.
- Problem gambling rates (8%) were also significantly higher among disabled adults (8%) while students had the highest levels of risk (10%).
- Gambling participation rates were higher for those adults living in households that had children (92% versus 85%) although rates of gambling problems were similar for those in households with or without children.

SECTION 5

Gambling Attitudes

In 2007 there was an increase in gamblers who set budgets for their gambling and a decline in the percentage who agreed gambling is a fun entertainment option. Fewer gamblers believed a win was more likely to occur after a string of losses, and those scoring at any level of risk for gambling problems were more likely to think that they were knowledgeable about how to gamble. However, despite these changes in attitudes fewer Non-Problem gamblers believed that they could stop gambling whenever they wanted, and one-third of At-Risk gamblers were experiencing guilt over the amount spent gambling. Problem gamblers continued to play more often to forget their worries and try to pay off debts or bills; felt guilt about time and money; and reported negative impacts and complaints by friends and family.

- In 2007, more gamblers considered themselves knowledgeable about games of chance (34.6% versus 15.4%). Half of Problem and At-Risk gamblers believed that they were well-informed about "how" to gamble as compared to only one-third of Non-Problem gamblers.
- There was a strong increase in the percent of adults agreeing that they set a budget or limits before gambling (2003: 52.4% versus 2007: 74.1%), especially among Problem gamblers (2003: 44.6% versus 2007: 62.3%).
- Although the percentage was already low, there was a significant decline in the proportion of gamblers thinking that they are more likely to win after a string of losses (2003: 3.3% versus 2007: 1.8%). However, about one in six Problem gamblers (16%) continued to believe a win is due after a series of losses, which is likely reinforcing chasing behaviour among these particular adults.
- Problem gamblers were less likely than other gamblers to believe they could stop gambling whenever they wanted (56%), although 14% of At-Risk gamblers also had concerns in this regard. They were also more likely to agree that gambling is exciting, suggesting that for the majority of Problem gamblers (60%), gambling is a compelling activity that is hard to stop.
- While Problem gamblers continued to chase losses more often than other gamblers, the percent engaging in chasing behaviour declined strongly since the last study (2003:60.7% versus 2007:37.7%). In contrast, there was no change observed among At-Risk gamblers, with about one in every five reporting chasing behaviour.
- Lying about their gambling (28%) and thinking about gambling/ways to get money to gamble (18%) also continued to be associated most often with gambling problems.
- There were no changes in the percentage of adults reporting negative consequences associated with their gambling.
- Guilt over time (38%) and especially money (59%) continued to be strongly associated with gambling problems with one in every four Problem gamblers indicating that friends or family worried or complained about their gambling.
- It is notable that for At-Risk gamblers guilt was more often associated with money (31%) than time (4%), suggesting that this aspect of gambling may be a more relevant focus for prevention.

Behaviours while Gambling

- The use of cash resources continued to be a strong indicator of risk for problem gambling.
- The vast majority of those scoring for problem gambling had accessed ATM/bank machines to get additional money while gambling (67%) as compared to At-Risk (44%) or Non-Problem gamblers (3.5%).
- Those scoring for problems were significantly more likely to borrow money from others during play (24.6% versus 1% to 13%), use credit cards to get more money to gamble (21% versus 0.4% to 9%) and especially gamble with funds earmarked for another purpose (36% versus 0.6 to 11%).
- Fewer Non-Problem gamblers (7%) had lent money to others to continue gambling than those At-Risk (36%) or having gambling problems (49%). There were no changes in these behaviours between 2003 and 2007.

Exposure to Problem Gambling

SECTION 6

Overall, 23.4% (representing about 180,000 adults in Nova Scotia) reported first-hand knowledge of someone whom they believed was having a problem with gambling in the province, which was a significant increase over 20.0% in 2003.

- In 2007, almost one in every four adults living in Nova Scotia was personally aware of at least one person who they believed was currently having trouble with their gambling. This represents an increase in exposure over 2003 (20.0%).
- About 2.4% (≈18,500 adults) reported a problem gambler in their immediate household.
- One-third of those exposed were citing gambling problems among family members (7.4%; ≈ 57,000 adults) with a similar proportion indicating problems among close friends (8.1%; ≈ 63,000 adults).
- VLTs accounted for the overwhelming majority of gambling problems adults were exposed to (86%), followed by slot machines (28%) and instant lottery tickets (16%).

- However, consistent with earlier product risk assessments, some new forms of gambling have emerged in 2007 as playing a role in the gambling problems Nova Scotians were exposed to including card games (poker) (10.8%), daily lotteries (8.2%), sports betting (5.8%) and internet gambling (4.9%).
- Overall, about 6% or approximately 46,400 adults in the province were estimated to have provided financial and/or non-monetary assistance to someone with a gambling problem.
- Likelihood of providing financial help to a gambler increased with risk for problem gambling. About 16% of Problem gamblers had given money to someone they believed was having a gambling problem, whereas only 4.2% of Non-Problem gamblers have extended financial support to someone having trouble with their gambling.

- Problem gamblers (13.1%) and those At-Risk (6.6%) were also most likely to have provided other, non-monetary aid such as groceries, babysitting, place to stay, and use of vehicle than Non-Problem (3.3%) and Non-Gambler (2.1%) segments.
- Despite the association with risk, it is important to keep in mind that about two-thirds of those providing any help to Problem gamblers were comprised of Non-Problem gamblers. Thus, this segment is an important source of assistance for gamblers in Nova Scotia.

SECTION 6

Awareness and Use of Problem Gambling Services

In 2007, only 9.8% of those scoring for gambling problems on the CPGI actively sought out any assistance. None of those scoring At-Risk reported use of information or support services for themselves, suggesting very different strategies will be required to reach this group. There was an increase in the percentage seeking assistance to help others with a gambling problem (5.6% or 43,200 adults), positioning friends and family as key targets for information and support. Although there were improvements in awareness of support for those having problems with their gambling, awareness levels of programs or services for family and friends is comparatively low, and has declined since 2003.

- Overall, awareness of programs to assist Problem gamblers increased from 62.9% in 2003 to 70.0% by 2007. Awareness remained high (≈ 80%) for Problem and At-Risk gamblers, with the gain solely due to improvements among Non-Problem gamblers and Non-Gamblers.
- In contrast, awareness of programs for friends and family did not change over the two measures, and actually declined among those scoring as At-Risk gamblers (2003: 62.7% versus 2007: 48.4%).
- The percentage of adults seeking information or assistance for a current gambling problem was highest for Problem gamblers. However, the patterns were different in 2003 and 2007. In 2003, Problem gamblers seeking assistance were almost exclusively motivated by their own behaviour, whereas in 2007, almost as many Problem gamblers were motivated to help someone else as they were to help themselves (Self: 9.8% and Someone Else: 8.2%).
- More adults were seeking assistance for someone else with a gambling problem in the 2007 study (5.6%) than in 2003 (3.5%). This increase occurred mostly in individuals who did not have problems themselves (as measured by the CPGI).
- Adults in Nova Scotia were slightly more likely to contact formal sources of assistance than informal sources such as family, friends, and co-workers (4.6% versus 3.8%). However, the use of help from friends and family was reported twice as often in 2007 (3.8%) as compared to 2003 (1.7%) indicating increased pressure being put on informal support networks.
- Gamblers tended to rely on friends and family most often for help, yet 90% of these high-risk gamblers eventually sought out formal services for assistance.
- It is noteworthy that family physicians, Addiction Services, Gamblers Anonymous (GA) and the Problem Gambling Help Line were each accessed by a similar percentage of adults, of which the majority was Non-Problem gamblers seeking out information to assist them in helping someone else.

Advertising Evaluation

SECTION 7

Most adults taking part in the study felt there was too much advertising for gambling in the province, and that such promotion influences underage involvement in gambling. The majority supported advertising restrictions similar to those in place for alcohol. They also thought that people in Nova Scotia should have more information regarding gambling risk. Only Problem gamblers were less supportive on any of the measures.

- Over half of adults (58.6%) agreed that there was a lot of advertising encouraging people to gamble with a similar proportion (57.8%) indicating that there was too much advertising promoting gambling in Nova Scotia.
- Two-thirds believed that promotional advertising for gambling encourages children and adolescents to start gambling and 90% felt that such ads had at least some influence in promoting underage gambling in the province. One-third felt the advertising impact was strongly influential with adolescents.
- The vast majority (81%) of adults in Nova Scotia believed there should be restrictions on gambling advertisements similar to those on tobacco and alcohol and that more information regarding the risks and problems associated with gambling be made available to the public (84.2%).

Yellow Flag Campaign Evaluation

SECTION 7

Nova Scotia Health Promotion and Protection (NSHPP) developed an evidence-based social marketing campaign intended to prevent and/or reduce risk for gambling problems, especially among young adults 19-34 years. NSHPP's Yellow Flag campaign was launched in the fall of 2006. It consisted of a series of television, radio, and poster ads that addressed high-risk gambling in the province. The ads ran on a limited schedule over the course of one year, ending in September 2007. Up to four months may have passed between the ads airing and respondents answering questions about the advertising. To assess market response toward the campaign as well as obtain input for ongoing policy development and prevention, a series of questions were included in the 2007 adult survey of the GICP.

- Overall, the vast majority (73.7%) responded positively when asked if they had heard or seen any advertising that referred to Yellow Flag moments for gambling. However, three-quarters recalled these promotions only once prompted with a description of the ad.
- The TV ads were recalled most often with 68.4% remembering the television commercials versus 18.7% for the radio ad and 10.0% for the poster.
- Half (57%) of all adults in the current study recalled and liked the Yellow Flag concept, with an additional 6% finding it at least somewhat appealing.
- There was very little negativity engendered by the advertising with only 2.4% reporting that they did not like the Yellow Flag concept.
- Only 5.5% of At-Risk gamblers, one of the key targets for the messaging, tended to dislike the concept with an additional 12.1% only somewhat supportive of the concept. However, 44% of all those scoring At-Risk for gambling problems saw and liked the idea of the Yellow Flag campaign.

- The advertising was considered at least somewhat effective in "grabbing attention" by more than half of adults (56.1%), especially Problem gamblers (68.9%).
- Only 3% of adults did not find the ads particularly effective in getting their attention, primarily Non-Gamblers (5.5%), who were not the target for these ads.
- Again about half of all adults saw the ads and agreed that there should be more advertising like this, although one in 10 of the higher-risk gamblers disagreed, perhaps reflecting their greater sensitivity to the content.
- Adults generally liked the tagline, "Get the Facts, Stay Smart" (51%). The tagline was particularly attractive to Problem gamblers.
- Overall, the Yellow Flag campaign was recalled by 59% of adults. About 49% of those taking part in the study found it to be a helpful campaign in informing people about the risks associated with gambling.
- When considered among those who were exposed to the advertising, the Yellow Flag Campaign was evaluated very favourably:
  - 86.1% liked the Yellow Flag concept;
  - 82.2% felt there should be more advertising like this;
  - 82.2% found the advertising to be helpful in telling them about the risks when gambling;
  - 76.3% thought that the advertising was catchy and cut through the clutter;
  - 65.3% like the tagline with an additional 21% finding it somewhat appealing.

SECTION 8

General Health and Well-Being by Risk for Gambling Problems

The relationship between general health and well-being and risk for problem gambling provides information regarding co-morbidity and also positions prevalence for problem gambling within the context of other community and public health issues (falling under the mandate of Nova Scotia Department of Health Promotion and Protection). In 2007, Problem gamblers were more likely than others to suffer from depression and anxiety and to have experienced problems with debt and finding a job. Rates of smoking were higher among Problem gamblers although there were no differences in rates of self-reported problems for drugs or alcohol by self or others. However, 4.1% or about 32,000 adults in Nova Scotia reported problems over the past year due to someone else's gambling and this rate of problem experienced through others was similar in all risk segments.

- The most commonly reported life issues for adults in Nova Scotia in 2007 were health problems (25.0%), death of a significant person (20.0%), depression (12.6%), anxiety (11.0%), loneliness (10.0%), financial problems and debt (9.6%), and relationship problems (9.0%).
- Compared to 2003, adults across the province were more likely to report relationship problems (7.5% versus 9.0%), higher rates of loneliness or isolation (7.1% versus 10.0%) and higher rates of depression (7.5% versus 12.6%). However, there were lower rates of income loss or job loss (8.0% versus 6.1%), and fewer financial or debt problems (11.9% versus 9.6%).
- Problem and At-Risk gamblers generally had higher rates for all the items measured except health problems, which were reported more often by Non-Gamblers who tended to be older.

- About a quarter of Problem gamblers (23.0%) and At-Risk gamblers (27.5%) had some type of financial problem compared to only about 7.7% for Non-Gamblers and 8.7% for Non-Problem gamblers.
- Income or job-loss were almost three times higher for those scoring at any level of risk for gambling problems (≈ 14.8% -16.5% versus 5.2% - 5.5%) as were work related problems (≈ 13.1% -19.8% versus 2.5% -5.8%).
- Past-year incidence for relationship problems, loneliness, anxiety, and depression increased with risk for problem gambling, with one quarter to one-third of Problem gamblers reporting these issues.
- Almost one quarter of Problem gamblers (23.0%) reported experiencing relationship problems and loneliness in the past year compared to about 5% to 12% for Non-Gamblers and Non-Problem gamblers, and 16% to 19% for those scoring At-Risk.
- There was a strong increase in the percentage of adults agreeing that they set a budget or limits before gambling (2003: 52.4% versus 2007: 74.1%) especially among Problem gamblers (2003: 44.6% versus 2007: 62.3%).
- Almost one-third of Problem gamblers (31.1%) experienced anxiety or panic attacks as compared to 19.8% of At-Risk gamblers and about 10% of Non-Gamblers and Non-Problem Gamblers.
- Problem gamblers were also significantly more likely to have had problems finding a job in the past year than those falling in any of the other CPGI risk segments (14.8% versus 4.3% to 5.5%).

Other Substance Use

- Overall, daily smoking by adults in Nova Scotia declined from 23.5% in 2003 to 18.0% in 2007. This was largely due to a decrease in smoking by Non-Problem gamblers.
- As observed in the previous study, smoking increased with risk for gambling problems. Over half of Problem gamblers (57%) reported smoking on a daily basis.
- Less than 1% (0.7% or 5,500 adults) reported experiencing problems with their own alcohol use and these rates of self-reported problems were only significantly higher among the At-Risk gamblers (3.3%) who tended to be younger than those in the other risk segments.
- Problems due to someone else's alcohol use were substantially higher (7.2%; 55,650 adults) and this rate of exposure through family or close friends did not differ by risk for gambling problems.
- Problems with personal drug use (0.6%) or drug use by others (6.0%) was slightly lower than that noted for alcohol, and again, there were no differences in rates of self-reported problems with drugs by risk for gambling problems.
- While self-reported problems with gambling in the past year (1.4%) were over twice as high as self-reported problems for alcohol (0.7%) or drugs (0.6%), the percentage reporting problems as a result of someone else's use were comparatively lower for gambling, at 4.1% versus 7.2% for alcohol and 6.0% for drugs.
- Overall, 4.1% or ≈ 32,000 adults in Nova Scotia experienced problems in the past year as a result of someone else's gambling and there were no significant differences observed by risk for gambling problems.

SECTION 1: INTRODUCTION AND METHODOLOGY

SECTION 1: INTRODUCTION AND METHODOLOGY

In 1993, the mandate of Addiction Services (formerly Drug Dependency Services) was expanded to include problem gambling treatment, education, and prevention in each of the Health Regions throughout Nova Scotia. Rapid growth in the gambling industry in the early 1990's, in particular following the introduction of government operated video lottery machines in the province, led to greater accessibility to new, more continuous forms of gambling. Along with substantive increases in profitability were increases in the number of Nova Scotians presenting with problems associated with their gambling activity. In recognition of a need for systematic information, a series of gambling prevalence studies were initiated in 1993 to monitor problem gambling in Nova Scotia (Omnifacts Research, 1993; Baseline Research 1996; Focal Research, 2003). The results of the 2003 Nova Scotia Gambling Prevalence Study allowed comparisons of gambling prevalence by type of gambling activity as critical input to management and resource allocation.

In 2005, the Government of Nova Scotia adopted a five-year gambling plan, called A Better Balance: Nova Scotia's First Gaming Strategy [5]. One initiative outlined in the strategy was the commission of another prevalence study to "assess the effectiveness of the strategy in lowering the prevalence of problem gambling and high-risk behaviours". The next wave of study was scheduled for 2008. However, recent studies indicated shifts in the gambling environment, including the increase in on-line wagering opportunities and rise of the "poker craze", have impacted gambling behaviors, especially among young adults in the province.[6] Given that young adults 19-34 years were one of the high-risk groups identified in the 2003 study NSHPP moved up the timing of the prevalence study and expanded the scope of the project to increase the value and application of the project findings.

2007 Nova Scotia Gambling Information Collection Project

There were three components of the 2007 Nova Scotia Gambling Information Collection Project:

1. Adult Gambling Prevalence Study (n=2500). A random representative sample of households (n=1,661) and adults (n=2,500) were obtained for ongoing monitoring and measurement of relevant gambling information in Nova Scotia including: market characteristics; measures of risk and problems associated with gambling; gambling behaviours, attitudes and beliefs; awareness and use of support services; exposure to problem gambling; evaluation of prevention and social marketing; and other health correlates.
2. Adolescent Gambling Study (Youth Survey n=85; Parent Survey n=74). Findings were based on a survey with a sub-sample of youth 13-18 years of age and parents living in the same households identified during the household screening process for the Adult Gambling Prevalence Study. Gambling profiles were developed for youth exploring gambling behaviours, attitudes, and correlates for risk and harm as input to ongoing gambling research and initiatives for adolescents in Nova Scotia.[7]
3. Yellow Flag Post-Campaign Evaluation among Young Adults 19-34 years in Nova Scotia (Prevalence Survey n=430; Supplementary Survey n=240). To assess the impact of the Yellow Flag social marketing campaign among the key target group, results of the Adult Prevalence Study were segmented and profiled only for those young adults 19-34 years taking part (n=430) and compared to Pre-Campaign benchmarks established in 2006 (n=400). In addition, a supplementary survey was conducted in 2007 with 230 randomly selected young adults to obtain a detailed post evaluation of the Yellow Flag social marketing campaign [8].

2007 Adult Gambling Prevalence Study Research Design

The framework for the 2007 Adult Gambling Prevalence Study was based on a two-phase telephone survey with 2,500 adults, 19 years of age or older, living in randomly selected households throughout the province of Nova Scotia. To address the overall goals and objectives for the study, the research design consisted of the following methodology:

- Generation of a sampling frame of randomly selected households throughout Nova Scotia (Total valid numbers = 2,223; Total cooperative contacts= 1,717; Household Response Rate= 77.2%)
- Total number of eligible households identified = 2,167;

[5] Gaming Strategy at http://www.nsgc.ca/gamingStrategy.php visited on 14 Jan 2008

[6] NSHPP Pre-Campaign Gambling Study for Young Adults in Nova Scotia (19-34 years), Focal Research Consultants, 2006 http://www.gov.ns.ca/hpp/gambling/pg-resources.asp

[7] Nova Scotia Adolescent Gambling Report, http://www.gov.ns.ca/hpp/gambling/pg-resources.asp

[8] Yellow Flag Post-Campaign Evaluation Among Young Adults in Nova Scotia, http://www.gov.ns.ca/hpp/gambling/pg-resources.asp

- Administration of a Household Screen to obtain the age and gender for all people (permanent residents of Nova Scotia) living in each randomly selected household (n=1,661);
- Generation of a sampling frame for all qualified adults (19 years of age or older) identified as living in each randomly selected household (n=3,186);
- Administration of the study questionnaire to adults identified in each household (census sampling for all adults identified in randomly selected households: n=2,500, response rate = 78.5%);
- Overall measure of gambling prevalence by using the Canadian Problem Gambling Index (CPGI) (Problem Gambling Severity Index (PGSI) – nine scored items) to identify general risk for problem gambling and problem gambling prevalence;
- Systematic independent measurement of gambling involvement by type of gambling activity (21) available to adults (19 years of age or older) in Nova Scotia, including measurement of self-reported problems by type of gambling;
- Pre-test and preliminary analysis of both household screen (n=141) and respondent questionnaire (n=44);
- 25 hour (5 day) mandatory training course for all project interviewers including; sensitivity training, interviewer protocols, sampling, screener, gambling activity grid and questionnaire briefing, problem gambling referrals and services;
- Specialized training for administering surveys to youth provided in conjunction with the IWK CHOICES Program;
- Maximization of study response rates through sample control, interviewer training and protocols, and quality control procedures;
- Data entry, monitoring, and analysis of household screen data;
- Tracking and management of study response rates by age and gender throughout the study;
- 100% editing of completed questionnaires by senior supervisory personnel;
- Random 15% verification of household screen information (n=252);
- Random 15% re-contact of survey respondents for independent validation of survey responses (standard quality control procedures; n=376);
- Additional re-contact of respondents as required for remedial action including clarification, missing information, data inconsistency (n=232).

Questionnaire Design

The 2007 questionnaires were designed by senior researchers at Focal Research Consultants in consultation with NSHPP. One of the goals of the current study was to assess changes in key tracking measures since the 2003 study as well as incorporate new measures to evaluate the impact of marketing and social marketing initiatives undertaken over the past 4-5 years.

Five survey instruments were produced under the GICP Study:

Household Screen

To determine household composition, including the total number of people living in the household; the number of children (males/females) under 13 years of age and age 13-18 years; number of adults age 19 years of age or older by gender and age category (19-24 years, 25-34 years, 35-44 years, 45-54 years and 55 years or older).

2007 Gambling Information Collection Project Surveys

Adult Survey

Part A – Gambling Involvement Grid measuring detailed play behaviours for 21 types of gambling; administered using a structured Interviewer Booklet.

Part B – General Gambling and Problem Gambling Measures and Correlates including perceptions, attitudes, CPGI scored items, exposure to problem gambling, awareness and use of support services, other substance use, general health, demographics, exposure and attitudes towards gambling advertising, and evaluation of NSHPP's Yellow Flag social marketing campaign for gambling.

Yellow Flag Supplement Survey

Supplementary survey administered only to those participating adults identified as age 19-34 years to determine exposure to gambling advertising, unaided and aided recall and evaluation of the various advertising pieces comprising the Yellow Flag Campaign (television, radio, posters, and website), leisure and recreation activity profiles. (See 2007 Yellow Flag Post-Campaign Evaluation)

Adolescent Survey

Exploratory research and survey with youth age 13-18 years and parents to identify gambling behaviours, attitudes, beliefs, and risk for gambling problems. (See 2007 Adolescent Gambling Exploratory Study).

The Adult Survey questionnaire was divided into the following seven sections:

Section	Description
A. Involvement in Gambling (GRID– Interviewer Booklet)	For each of 21 forms of gambling: Trial (ever played), frequency of play in past year, expenditure (per time or per year), ever overspent time or money, ever experienced problems with time/money spent playing and problem resolution for the various gambling activities (including unregulated gambling). Use of on-line purchasing for regulated lottery (Atlantic Lottery Corporation ALC-PlaySphere.
B. Gambling Attitudes (Statements)	18 statements using a 5 point Likert agreement scale: gambling motivations, beliefs, behaviours, and consequences, as well as personal, domestic and social implications of gambling, use of alternative sources of money for gambling, budgeting.
C. Current Problem Gambling	The Canadian Problem Gambling Index (CPGI) Problem Gambling Severity Index (PGSI) and self-reported gambling problems by type of gambling activity, use of additional sources of funds for gambling and self-rating of problem gambling severity on a 10 point scale.
D. Gambling Support Services	Awareness of assistance/services for Problem Gamblers and/or their families, personal knowledge of Problem Gamblers in Nova Scotia, relationship to Problem Gamblers, use of support services for problem gambling, use of personal support or funds to help self or someone else.
E. Other Related Issues	Smoking, alcohol use, drug use, personal problems, anxiety, depression, financial difficulties, relationship and work problems, general health perceptions.
F. Social Marketing and Prevention	Attitudes towards gambling advertising (amount, impact for youth, restrictions), exposure to promotional advertising versus prevention advertising, aided and unaided recall of Yellow Flag Campaign (NSHPP Gambling Problem Prevention Program), evaluation of Yellow Flag Campaign (television, radio, posters, website).
Z. Demographics	Age, gender, mother tongue, marital status, household composition, education, employment status, household income, influence of religion, area of residence.

Formal pre-testing for the Adult Survey was undertaken from September 19 – October 5, 2007 (Household Screen: n=141 Participant Surveys: n=44). Data collection for the project was conducted from October 5, 2007 through to December 21, 2007 (n=2500). Final questionnaire length ranged from 13 minutes to 50 minutes with an average length of 24.7 minutes per completed survey and approximately 4.5 minutes per completed household screen. Given the complexity of the design, random quality control checks were conducted throughout the study on 24% of all participant surveys (n=608) to ensure established protocols were effective in obtaining the desired information.

Sampling

Population Estimates – Nova Scotia Adults and Households

According to the most recent population estimates, there were approximately 940,700 people living in the province of Nova Scotia; 773,000 adults 19 years or older (82%) and about 167,500 children 18 years of age or younger (18%). The following population characteristics are relevant for household sampling considerations.

- Approximately 98% of people in Nova Scotia (≈ 940,000) were living in private households in the province.
- On average, there were approximately 2.4 people per private household representing 390,000 households in the province.

- The majority of Nova Scotians were living in family households (68%), with, on average, 1.1 children per census family, and 1.8 adults.
- The primary language spoken in the home was English (96%), with only 2% of the population identified as francophone and 2% using other languages.
- Average household incomes are estimated at approximately $60,000 annually although there are regional variations in income across the province.

The initial sampling frame for the Nova Scotia 2007 Gambling Prevalence Study included all residential telephone numbers in Nova Scotia. Focal Research currently uses customized software from ASDE Inc. of Hull, Quebec for sampling purposes. This software, Canada Survey Sampler, is a geographically stratified random sampling program incorporating both listed and unlisted telephone numbers. The software has been further customized to accommodate Focal's strict sampling procedures.

The sampling was conducted over two phases:

1) Household Screen

A random sample of households was first generated in order to create a sampling frame for all adults in each household. The parameters for generating the Household Sample were based on Nova Scotia population statistics (presented above), assuming a minimum response rate of 70%. The data for each household screen was entered into a database identifying all qualified respondents in the household. Each household was assigned a household ID number for tracking purposes and the listing was used to create the sampling frame for the survey of all adults living in the households randomly selected across Nova Scotia.

2) Respondent Survey

Data collection for the Adult Survey was conducted concurrently with the Household Screen. The databases were updated daily to reflect current sample characteristics and completion rates. All adults identified in the household screen were directly contacted to complete a questionnaire. Respondent status was tracked for each adult identified in the household screen.

Project Response Rates

Project response rates were calculated using the Marketing Research Intelligence Association of Canada's (MRIA) Standard Record of Contact for telephone studies.

Household Response Rates

Table 1: 2003 Household Screen Call Disposition Report – Sampling Frame

Total Random Numbers Selected for Samples		(n) 2611
Invalid Sample	Total (Disconnected, not-in-service, changed number)	388
Total Valid Numbers	Total (Eligible household numbers)	2,223
Non-Contacts	Total (No answer and refusals)	506
	No answer (unlimited attempts) Household refusals	44 462
Co-operative Contacts	Total	1717
	Disqualified– ineligible (non-residents) Completed household screens	56 1,661

Response Results for Household Contacts:

Total Unique Numbers Attempted =		2,611
Total Eligible Numbers =	Total Unique Numbers – Invalid Sample =	2,223
Total Asked =	Refusals + Disqualified + Completed Surveys = 462 + 56 + 1661 =	2,179
Response Rate (Households) =	Co-operative Contacts ÷ Total Eligible Numbers = 1717 ÷ 2223 =	77.2%
Refusal Rate (Households) =	Refusals ÷ Total Asked = 506 ÷ 2179 =	23.2%

Respondent Response Rates

Table 2: 2007 Adult Sampling Frame Call Disposition Report – Respondents

Total Adults Identified on Household Screen	n= 3186	%
Non-Contacts (No contact after 7+ attempts)	288	9.0%
Refusals (Declined participation)	398	12.5%
Co-operative Contacts (Completed interviews)	2,500	78.5%

Response Results for Respondent Contacts:

Total Eligible Adults on Sampling Frame =		3,186 Adults
Total Asked =	Refusals + Completed Surveys = 398 + 2500 =	2,898 Adults
Response Rate (Adults) =	Co-operative Contacts ÷ Total Eligible Numbers = 2500 ÷ 3186 =	78.5%
Refusal Rate (Adults) =	Refusals ÷ Total Asked = 398 ÷ 3186 =	12.5%

Table 3: Response Rates for Adults by Gender and Age Categories

	Males	Females	Total Adults
19–24 years	66.4%	63.0%	64.7%
25–34 years	69.4%	79.2%	74.7%
35–44 years	80.4%	83.0%	81.8%
45–54 years	78.2%	80.6%	79.5%
55–64 years	79.3%	82.4%	80.9%
65+ years	76.6%	80.8%	78.9%
Total	76.6%	80.1%	78.5%

Data Collection

The survey was conducted from October 5 to December 21, 2007. Data collection was fully supervised and conducted from Focal Research Consultants' centralized data collection facility in Halifax, Nova Scotia. Each survey was 100% edited for accuracy and completeness. Supervisory staff randomly contacted a minimum of 10% to 15% of each interviewer's surveys to verify responses and ensure that the respondent was comfortable participating in the study. Response rates were maximized by controlling the release of phone numbers to the interviewers and requiring unlimited callbacks to be made on the numbers released, over various days of the week and times of day.

Data entry occurred concurrently with data collection to maximize turn around and allow for preliminary data checks/reviews. A minimum 15% manual quality control check was performed on the entered surveys. In addition, the data were submitted to customized data cleaning programs, which incorporated logic checks as well as out-of-range value checks.

Measurement of Problem Gambling

The Canadian Problem Gambling Index (CPGI) – Problem Gambling Severity Index (PGSI)

The CPGI arose from a collaborative effort among the Canadian Provinces to validate and put into practice a standard instrument for measuring problem gambling in the Canadian general population. In 1997, the Inter-Provincial Task Force on Problem Gambling commissioned the Canadian Centre on Substance Abuse to conceptualize and develop the project. The resulting Canadian Problem Gambling Index (CPGI) was validated in 2001 (Ferris & Wynne, 2001) and found to have good reliability (coefficient alpha =.84; correlation coefficient=.78). The measure has been designed to capture gambling involvement, behavioural indicators of problem gambling, cognition related to problem gambling, consequences of problem gambling, and the environmental factors and correlates of problem gambling. The full survey instrument consists of 30 items assessing gambling participation, problems, correlates, and demographics.

However, identification of risk for problem gambling is assessed using nine scored items comprising the Problem Gambling Severity Index (PGSI) on the CPGI:

#	Thinking about the past twelve months...
1	Have you bet more than you really could afford to lose?
2	Have you needed to gamble with larger amounts of money to get the same feeling of excitement?
3	When you gambled, did you go back another day to try and win back the money you lost?
4	Have you borrowed money or sold anything to get money to gamble?
5	Have you felt that you might have a problem with gambling?
6	Have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?
7	Have you ever felt guilty about the way you gamble, or what happens when you gamble?
8	Has gambling caused you any health problems, including stress or anxiety?
9	Has your gambling caused any financial problems for you or your household?

Each question has four response options including never (scored as 0), sometimes (scored as 1), most of the time (scored as 2), and almost always (scored as 3). To score the CPGI, the nine items are summed to arrive at a total score ranging from value of zero ("0") to 27, and interpreted using the following risk continuum:

CPGI Score	Risk Categories	
	Original Labels	Revised Labels
0	Non-Problem	Non-Problem
1–7	Low Risk	At-Risk
3–7	Moderate Risk	Moderate Problem
8+	Problem Gambling	Severe Problem

In the Ontario Prevalence Study (Wiebe, Single & Falkowski, 2001) and the British Columbia Prevalence Study (Volberg, R.A. & Ipsos-Reid, 2003) the original labels for the four gambling levels identified in the CPGI (Ferris & Wynne, 2001) were modified to reflect differing theories about the progression of gambling problems as measured by the new screen. The revised labels were used both in the 2003 Nova Scotia Gambling Prevalence Study and again in 2007 (Refer to 2003 Nova Scotia Gambling Prevalence Study Section 2: Comparative Gambling Prevalence – Canadian Jurisdictions Using the CPGI, p2-5 for full discussion).

According to the Canadian Problem Gambling Index: User Manual (2001), respondents in each risk category will have the following characteristics[10]:

Non-Problem Gambling: Score of 0

Respondents in this group will have responded "never" to all of the indicators of behavioural problems, although they may well be a frequent gambler with heavy involvement in terms of time or money. The "professional" gambler would fit into this category. This group will not have experienced any adverse consequences of gambling, nor will they agree with the distorted cognition items.

At-Risk (Low-Risk) Gambling: Score between 1 and 2.5

Respondents in this group will have responded "never" to most of the indicators of behavioural problems, but will have one or more "sometimes" or more often responses. This group likely will not have experienced any adverse consequences from gambling.

Moderate Problem (Moderate-Risk) Gambling: Score between 3 and 7.5

Respondents in this group will have responded "never" to most of the indicators of behavioural problems, but will have one or more "most of the time" or "always" responses. This group may or may not have experienced any adverse consequences from gambling.

Severe Problem Gambling (Problem Gambling): Score between 8 and 27

Respondents in this group are those who have experienced adverse consequences from their gambling, and may have lost control of their behaviour. Involvement in gambling can be at any level, but it is likely to be heavy. This group is more likely to endorse the cognitive distortion items.

Statistical Analysis

In the current report, descriptive statistics were used to examine the data from the 2007 Nova Scotia Adult Gambling Prevalence Survey including:

- Chi Square tests for distribution comparisons
- Z-tests for proportions (and adjusted for small sample sizes)
- Z-tests and/or t-tests for mean comparisons
- Mann-U-Whitney tests for median comparisons

[10] Ferris, J., and Wynne, H. (2000), Validating the Canadian Problem Gambling Index: Report on the Pilot Phase of Testing, January 10, 2000. Canadian Centre on Substance Abuse.

Due to sampling techniques used and the response rate achieved, it was unnecessary to weight the data to reflect population statistics. For all analyses, Focal Research used a 95%+ confidence level. However, we believe there is a need to minimize Type 1 (reporting there is a difference when there is not) as well as Type 2 errors (reporting there is not a difference when there is). Therefore, in some cases, differences significant at the 90% confidence interval ($p \leq .10$) are noted in the text to gain additional knowledge and insight.

All statistical analyses were conducted using SPSS version 11.5 & 13.0.

Segmentation Analysis

The primary segmentation analysis undertaken in the 2007 report was a comparison by risk segment for problem gambling as identified using the Problem Gambling Severity Index (PGSI) of the Canadian Problem Gambling Index (CPGI) as well as tracking of changes for key measures over time (2003 versus 2007).

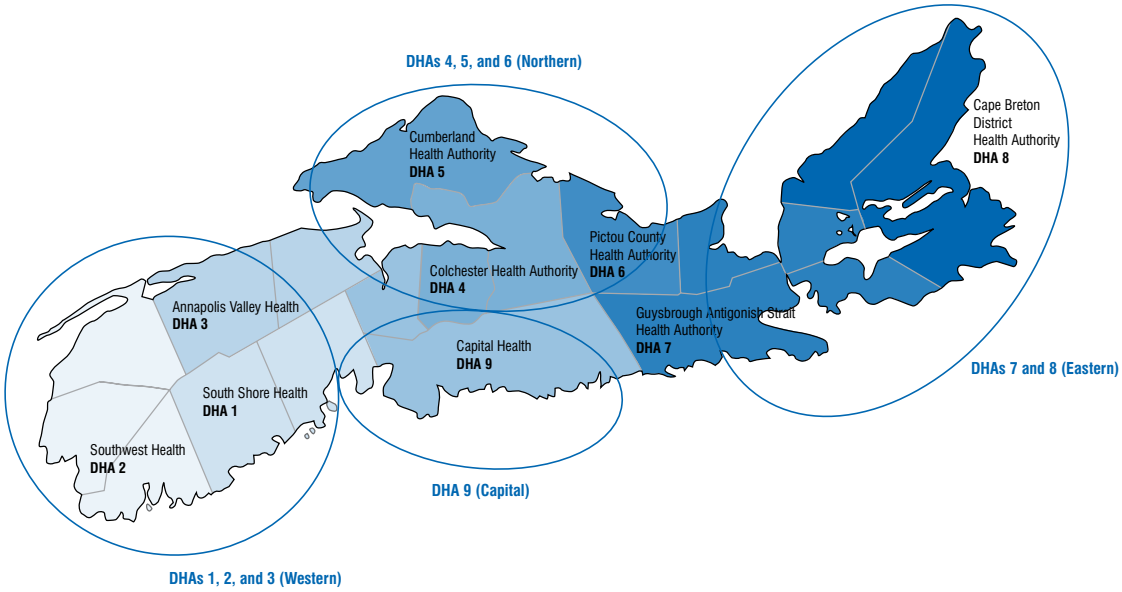
In discussion with NSHPP, there were seven additional segmentations of the data. Four were demographic segmentations, including Addiction Services Shared Service Areas (based on District Health Authorities' geographic regions in the province), gender, age, and annual household income. These primary segmentations are discussed in the current report. Gambling status (based on the respondents' level of involvement in gambling over the past year), Self-Declared Gambling Problems (considers only Past-Year gamblers – Self-Declared Problem versus Non-Problem gamblers), and CPGI classification category comprised the remaining three segmentations.

Shared Service Area

There are nine District Health Authorities in Nova Scotia grouped into four shared service areas:

District Health Authority in 2007	DHA#	Shared Service Area 2003 & 2007	Health Region 1998
South Shore	1	DHAs 1,2 & 3	Western
South West Nova	2		
Annapolis Valley	3		
Colchester East Hants	4	DHAs 4,5 & 6	Northern
Cumberland County	5		
Pictou County	6		
Guysborough Antigonish Straight	7	DHAs 7 & 8	Eastern
Cape Breton	8		
Capital Health	9	DHA 9	Capital

District Health Authorities
Nova Scotia Department of Health- August 2001



Margins of Error

The figures reported in the current study are point estimates only. Depending upon the size of the sample, the amount of variance in the data (e.g., standard deviations for mean estimates) and/or the proportion of the sample indicating a particular response, actual results will fall within a specific range around each point estimate referred to as the margin of error.

The following table presents the population estimates and margins of error for the total sample and for each of the primary segments. As sample sizes for various sub-segments decline, the margin of error surrounding the point estimates increases. This is automatically accounted for in all tests of significance conducted among various groups using a 95% level of confidence ($p \leq .05$).

The margins of error presented in the table are conservative, based on the assumption that the true population value falls at the 50% level. The 50% level is often chosen when the true population estimate is unknown as it represents the point at which the margin of error will be the greatest. As the true value moves away from the 50% level, there is greater accuracy in projecting results to the population and the margin of error surrounding the point estimate becomes smaller.

Table 4: Margins of Error for Primary Report Segmentations

Population Segment	Population (19 years+)*	Percentage of Population	Unweighted Sample Size	Percentage of Sample	Margin of Error (95% C.I.)
Total Adults	≈ 773,000	100%	2,500	100%	± 1.96%
Shared Service Areas (Health Districts)					
DHA 9 (Capital)	≈ 324,660	42%	968	39%	± 3.15%
DHAs 7 & 8 (Eastern)	≈ 83,050	19%	418	17%	± 4.79%
DHAs 4, 5 & 6 (Northern)	≈ 117,280	16%	538	21%	± 4.23%
DHAs 1,2 & 3 (Western)	≈ 170,060	22%	576	23%	± 4.08%
Gender					
Male	≈ 371,000	48%	1,165	47%	± 2.87%
Female	≈ 407,000	52%	1,335	53%	± 2.68%
Annual Household Income***					
<$30,000	≈ 154,600	NA	389	20%	± 4.97%
$30,000–$59,999	≈ 278,280	NA	693	36%	± 3.72%
>$60,000	≈ 340,120	NA	861	44%	± 3.34%
Age**					
19–24 years	≈ 57,265	6.5%	141	5.6%	± 8.25%
25–34 years	≈ 94,300	12.2%	289	11.6%	± 5.76%
35–44 years	≈ 156,150	20.2%	520	20.8%	± 4.30%
45–54 years	≈ 173,925	22.5%	588	23.5%	± 4.04%
55–64 years	≈ 139,140	18.0%	469	18.8%	± 4.53%
65 years or older	≈ 159,250	20.6%	493	19.7%	± 4.41%

*Source: Financial Post Data Group (2007). Canadian Demographics 2003 Toronto: Financial Post;

** Estimates on based on those age 19 years and older living in private households in Nova Scotia (2006 Statistics Canada Census Projections)

***Note: Actual population figures for household income levels were not available. Estimates reflect projections based on Percentage of Sample in order to calculate margins of error.

Note: Population figures in the table above are approximate and reflect the most up to date information available at the time that the methodology of the study was developed. It should be noted that as more current data becomes available such as updated Census data, these numbers may change; therefore all numbers in this report related to the total population are reported as approximate values.

Note: The symbol "≈ " means "approximately equal to", which represents an inexact estimation of a numerical or rational value

Design Considerations and Limitations – Prevalence Studies

There are over 200 reported prevalence studies of problem gambling in the U.S. and Canada (Shaffer, Hall & Vander Bilt, 1997; Shaffer & Korn, 2002). Several problems with estimates derived from such studies have been identified that may serve to over or under-estimate prevalence rates (Walker, 1992; Dickerson, 1993; Thompson et al, 1996). Traditionally, prevalence studies in the general population tend to rely upon telephone methodology. Among limitations associated with such an approach are concerns that low response rates compromise the ability to reach gamblers at home (Lesieur 1994, Shaffer & Korn, 2002). Countering these negative biases may be an upward bias whereby respondents are more likely to exaggerate the incidence of negative behaviours in an anonymous interview situation. Moreover, inconsistent response rates among certain groups in the population may also lead to a biased skew of the sample towards those who are easier to reach by telephone (e.g., women versus men) and/or are more interested in the topic under examination ("gamblers" versus "non-gamblers"). Few of the criticisms surrounding sampling for prevalence studies have been studied directly. As a result, it is difficult to judge the impact of these competing factors on the accuracy of prevalence measures.

Despite varied techniques for reporting response rates and various well-reasoned arguments as to "why" low response rates will have minimal impact on results, in almost all cases it is impossible to either test the veracity of these assumptions or to determine how "representative" the data is. This is of particular concern if the data will be used as a standard for monitoring and assessing changes over time. The stability of problem gambling prevalence measures, with almost uniformly low response rates, using various types of prevalence measures (e.g., SOGS, DSM IV, CPGI) and varying methodology has led some researchers to conclude that disordered gambling "is a robust and reliable phenomenon…that is impervious to some of the weaknesses inherent in many of the research designs reviewed" (Shaffer, Hall, & Vander Bilt, Estimating the Prevalence of Disordered Gambling in the United States and Canada: a Meta Analysis, Harvard Medical School, Division on Addiction, 1997 p. 61). Essentially, Shaffer and his colleagues found that studies utilizing higher quality methodology standards did not generate prevalence estimates that differed in any meaningful way from estimates obtained in poor quality studies. Thus, for simply obtaining an overall estimate of problem gambling in a population, methodology does not appear to be a critical factor. However, in using study results to reliably track changes associated with gambling prevalence, to delineate and assess risk for problem gambling, to identify the impacts of policy or practices, or to interpret the estimates in a meaningful manner, data quality and methodology are of paramount concern.

Another source of error that has been overlooked in the literature occurs when sampling is based on interviewing one adult per household and the estimates are not then adjusted to compensate for this bias in sampling.

Prevalence studies tend to use multistage sampling, often with the aid of a random number generator, frequently selecting the person with the next birthday to randomize selection at the household level. With the number of adults in a household ranging from one to more than ten, not all adults in the households have an equal chance of being selected for the interview. Hence, individuals who live alone are likely to be over-represented in traditional prevalence studies. With the exception of the New Brunswick Seniors Prevalence Study (Schrans, Schellinck, Grace & Walsh, 2002) and the 2003 Nova Scotia Gambling Prevalence Study (Schrans & Schellinck, 2003) there is no evidence of any other prevalence study in the literature that samples all adults in the household, or compensates for the resulting bias at the analysis stage (under-representation of adults living in larger households, and over-representation of those living in single and double adult households)[11] .

This sampling bias has implications for estimates of prevalence rates. For example it was found that if a single adult is interviewed per household using standard sampling techniques (e.g., quota or randomization using next birthday) estimates of prevalence would be inflated (higher than actual) by 23% (Schellinck & Schrans, May 2003)[12].

Currently in Nova Scotia, those living alone (single adults) account for approximately 25% of households, yet they only represent approximately 13% of total adults living in the region. When one adult is randomly selected from a household, the individual living in a single-person household is always selected for participation. Those living alone differ significantly from those living in multi-adult households, especially in terms of gambling behaviours, attitudes, and outcomes. Over-sampling this group can have significant influence on results, artificially inflating the impact of 13% of the population by a factor of 2 (≈ 25% of the sample). The remaining sample is based on the selection of only one adult out of multi-adult households, largely subject to convenience (e.g., those most easily reached and likely to take part). There is no systematic method of gathering or assessing participation (e.g., response rates) for all qualified respondents on the sampling frame in order to examine the potential for bias in the results. Therefore, resulting profiles of gamblers are based on the characteristics of only an unknown portion of those who are qualified to take part. Weighting the sample to adjust

[11] For exception see the Productivity Commission (1999) Australia's Gambling Industries: Inquiry Report (No. 10), Appendix F National Gambling Survey.

[12] Schellinck T., Schrans T., (2003) Surveying All Adults in a Household: The potential for reducing bias in prevalence studies and opportunity to study households with more than one Problem Gambler. Journal of the National Association for Gambling Studies, Vol 15 (1), pp. 51-60.

for over- or under-representation of market characteristics cannot compensate for those "missing" in the data.

An additional shortcoming associated with typical sampling procedures for prevalence studies, is that results cannot be used to calculate and examine the prevalence of problem gambling at a household level. This has implications from a community health perspective in assessing the impact of problem gambling and in determining service and support needs. For example, the 1997-1998 NS VL Regular Players Survey conducted by Focal Research for the Nova Scotia Department of Health, sampled all Regular VL Players in each randomly selected household. It was found that about 30% of regular VL gamblers are living in a household in which at least one other regular player resides. If a Problem VL Gambler was living with another regular VL player, in almost half the cases (43%) both individuals were involved in problem gambling for video lottery (Schellinck & Schrans, 1998)[13]. For input to effective strategy development, planning and management, there is a need to obtain information at a household level as well as at the individual level in order to examine and understand the impact of problem gambling on household units and the community at large.

Methodological rigor and analytical precision are becoming more critical prevalence study requirements as stakeholders seek to use this information for proactive decision-making. In many jurisdictions, at best, goals have been set to reduce risk and problem gambling rates (e.g., incidence rates) and, at least, not to further contribute to problems. Measures need to be stable and sensitive enough to accurately detect changes that occur, that while small at a total population level are significant from a strategic planning perspective (e.g., 25% reduction in problem gambling = .5% drop in population estimate). Increased sample sizes are part of the issue, but it can be cost prohibitive to obtain large enough samples to accurately detect and track changes. However, the additional cost in conducting large-scale random population studies can be offset by ensuring the data has utility beyond accurately "counting cases".

To address many of the shortcomings identified in methodology used for prevalence studies in Nova Scotia and elsewhere, a new approach was adopted for the 2003 Nova Scotia Gambling Prevalence Study and again applied in 2007. The framework used establishes a reliable vehicle for on-going monitoring that minimizes the effects of sampling error and methodology on study results and maximizes the utility of the data as an information resource using a random household sampling technique designed to track and manage response rates by gender and age.

Focal's methodology has been favourably reviewed by key researchers in the area of prevalence including Dr. M. Walker (2003), Dr. M Dickerson (1998, 2003), Dr. H. Shaffer (1999) and the Australian Productivity Commission (1999)[14]. The methodology was endorsed as setting a new standard for gambling prevalence in generating a database of value to a variety of stakeholders (Dickerson & Baron, 2000).

The Problem Gambling Triangulation Measure (PGTM)

In addition to the nine scored items of the Problem Gambling Severity Index (PGSI) of the Canadian Problem Gambling Index the Problem Gambling Triangulation Method (PGTM) was also used to obtain estimates of gambling problems. The PGTM was first developed and tested by Focal Research for use in the 1997/98 Nova Scotia Video Lottery Players Survey. It is grounded in the experiences and psychopathology of gamblers and, therefore, is considered to have excellent face and content validity. The measure was designed after conducting primary research with both social Non Problem Gamblers and those involved in heavy or problematic play. The measurement properties of the PGTM have been assessed and the measure has been found to have very high reliability (Cronbach's Alpha consistently equal to or higher than 0.80). The convergent validity of the measure was verified in the 1997/98 Nova Scotia Video Lottery Players Survey. Problem VL Gamblers consistently scored significantly higher than Non-Problem VL Gamblers on a number of related measures such as patronage at video lottery locations, video lottery expenditure, other gaming expenditure, length of time playing video lottery, chasing behaviour, attitudes and outcomes.

The PGTM has also been validated against the DSM-IV in the 2000 Regular Video Lottery Players Study (Schrans, Schellinck & Walsh, 2000) and found to have a significant level of agreement in that 141 of 181 gamblers were classified similarly.

The inclusion of the PGTM in the 2003 and 2007 Nova Scotia Gambling Prevalence Study allows for ongoing testing and validation of the measure. One component of the problem identification developed by Focal Research is based on individual's self-reports of gambling problems. In the 2003 and 2007 NS Gambling Prevalence Studies this was expanded to include a self-reported measure of problems with time or money spent for each of the gaming activities available in Nova Scotia.

Gambling Expenditures

In most studies based on the use of self-reported survey, estimates of gambling expenditure are highly inaccurate frequently accounting for 60% or less of actual gambling revenues (Azmier 2005). This is largely due to the nature of gambling expenditures and the tendency for gambling prevalence surveys to focus on gathering

[13] 1997/98 Nova Scotia Regular VL Players Survey, Addiction Services, Nova Scotia Department of Health, Focal Research Consultants, Section 3: Problem Player Analysis, pp. 3-34.
[14] Refer to Appendix F of the 1999 Australian Productivity Commission's Report on Gambling Volume 3 for detailed reference to Focal Research's methodology.

general monthly estimates of the amount spent (e.g. 'what' people think they spend) rather than referencing to actual behaviours that may be in memory (e.g. recall of amount spent last time played). In a study examining self-reporting of household purchases in Nova Scotia, individuals were found to have inherently more difficulty in remembering and reporting gambling expenditures than accurately recalling large consumer purchases such as televisions or appliances (MacDonald, McMullan & Perrier, 2004). This is can be attributed to the repetitive nature of the activity, variations in expenditures depending on game outcomes, variations in frequency of involvement across respondents and the relatively smaller amounts associated with per purchase expenditure. To address these issues Focal Research adopted Einstein's method of breaking expenditure into its component parts on a per product basis. This approach has been found to produce overall gambling expenditure estimates that consistently fall within plus or minus five percentage points of actual revenues.

For each product category we determine frequency of play in the last year, the estimated number of times played for that frequency category (e.g. per week/per month/last year) and expenditure per time; ideally actual expenditure for last time played or average per time expenditure for the selected frequency category (e.g. per week/ per month/last year). Using this component information, we then calculate annual, monthly, and/or weekly expenditure estimates for each respondent taking part in the study based on actual recall for most recent purchase activity for each product. For example if an individual gambles on lottery tickets weekly they will report approximately how much they spent on average each time during the past week whereas if they only went to the casino once last year they will report how much they spent during that single visit. Using this approach will likely produce inaccuracies at an individual level. For example, a particular gambler may have played less VLTs and went to the casino fewer times than usual during a particular week or month (e.g. they were starting a new job during the survey time period) so by extrapolating their expenditure over a year the resulting estimate is lower than his/her actual spending. In contrast, with a random sample it can be expected that randomly someone else will have gambled more than usual thereby producing elevated estimates (e.g. their spouse was out of town, they went out more often with friends). However, the derived expenditure estimates are highly accurate at a total aggregate gambling expenditure level that are appropriate for use in segmentation and comparison between key groups of interest (e.g. by CPGI segment; regular versus casual gamblers).

The approach we use also minimizes the impact of variance related to each of the products at a segment level by smoothing it out over all the various products.

All gambling expenditure estimates were queried and collected independently by type of gambling. Due to the small percentage of adults who participate in some forms of gambling such as, VLTs, casino gambling, horse racing, and internet gambling, randomly obtained sample sizes are usually insufficient to adequately represent the variance of expenditures within these player groups. For these gaming activities, there are individuals who tend to spend at extreme levels, thereby contributing a disproportionate amount of the gaming revenues generated in the province. In a random survey of adults, you may pick up some of these individuals or you may not. Moreover, the sample may be randomly skewed towards high spenders for one particular type of gambling and skewed toward low spenders for another. At an aggregate level, when calculating total gambling expenditures, this is not a problem as expenditure estimates assume a normal distribution over the larger sample size. However, it can lead to inaccurate assumptions and misleading information when making comparisons among segments or profiling behaviours within a specific product group.

For example, from previous research in Nova Scotia, including the 1999 Regular VL Player Study, we know that regular monthly VLT players comprise about 3-5% of adults, account for approximately 20-25% of annual VLT gamblers and yet contribute about 96% of monies spent on VLTs. Within the regular VLT player base those scoring for gambling problems represent about 1% of all adults, account for about 15-20% of regular players yet contribute about 50% of all VLT revenues. Therefore with a random sample of 2,800 adults, about 110 could be expected to be regular VLT gamblers of which about 15-20 might be problem gamblers, a sample size too small to account for the necessary variance in the expenditure data despite the level of accuracy of their reporting. This is the reason estimates are unreliable at this sub-product level. For those types of gambling played by a larger percent of the population, a wider cross-section of players tend to be sampled, yielding results that are more accurate.

For the reasons noted above it would be impossible to obtain accurate per gambling product estimates without sufficient over-samples at a per product level to represent the contribution of regular gamblers. Essentially, we would need to a random over-sample of at least 400 regular players per product type to achieve accurate estimates on a per product basis and for some highly skewed products even larger sample may be required to capture the impact of outliers (e.g. Regular Table Gamers). Another problem with gambling expenditures on a per product basis is accounting for the impact of wins on expenditure. For example estimates for lottery tickets generally appear to be higher than actual due to the low probability of randomly sampling 'big winners' in the survey although the occurrence of such big wins serve to bring down per capita estimates of actual expenditure (e.g. one big Lotto 649 win brings down net revenue by millions although actual expenditures by everyone else may be substantially higher than this artificial average reported in sales, thus provincial revenues may not be accurate estimates of per gambler spend). For products like video lottery amounts won are capped at $500 per spin with pay-outs of 90%+ across the board and so this reduced variance in wins among

those taking part in the activity has less impact on estimates of expenditure. However, because regular VLT gambling (3-5%) has a lower base rate in the population as compared to regular lottery ticket play (55%) in a random sample of 2800 there will be less variance accounted for in the sample of ≈100 regular VLT players as compared to ≈1500 regular lottery ticket players and thus less accuracy in estimating VLT expenditures than in estimating lottery ticket revenues. Another problem is that when using standard methods for assessing expenditure data quite often the amounts spent by problem gamblers will be identified as outlier's due to the low prevalence rate of problem gamblers in the population and comparatively high rates of money spent.

Obtaining sufficient samples by product category is not always practical or possible therefore it has become important to ensure prevalence studies, at minimum, are able to produce accurate overall expenditure estimates that can be used for profile and comparison among risk segments and general player groups. By focusing on relevant information for the individual at the time of the survey on a per product basis, we can obtain more accurate reports of overall gambling expenditure (using information in memory, easy to report) that allow for reliable and meaningful comparison by risk and regular versus casual play. Such aggregate estimates are consistently accurate over all our studies (2001 NB Gambling Prevalence, 2003 NS Gambling Prevalence, 2007 NS Gambling Prevalence) however for expenditures at a per product level some will be higher than actual and some will be lower at a category level reflecting this variance in the sample. This high level of accuracy for aggregate level data is far superior to most (if not all) other prevalence studies (Azmier 2005) and allows us to examine and compare revenues by the primary segmentation groups with a higher degree of confidence than would otherwise be the case.

Limitations

The current study was designed to obtain a reliable database of gambling related information for current and future research needs of the Nova Scotia Health Promotion and Protection. Notwithstanding improvements in methodology and survey design, there are limitations associated with the use of self-reported data obtained during telephone surveys. The information in the current study only reflects the participation of those individuals living in private household throughout the province. The inclusion of potentially high-risk populations and/or transient populations is beyond the scope of the current study. While respondents were encouraged and accommodated to complete the survey in privacy, there may be confounding factors impacting full or open disclosure on some survey items such as the Problem Gambling Severity Index.

Report Format

This report has been organized into eight sections based on the objectives of the project.

Section 1: Introduction and Methodology

Section 1 details full background information on the objectives, methodologies, project assumptions, sampling results, response rates, and analysis rationale.

Section 2: Overview of Nova Scotia Gambling Market

Section 2 provides an overview of the gambling market in Nova Scotia, including a summary of the different forms of gambling, trend analysis of wagering activity and revenues (2001-2007), and examination of changes that have occurred between the 2003 and 2007 gambling measurement periods.

Section 3: Comparative Overview of Risk for Gambling Problems in Nova Scotia

Section 3 is a summary of changes in risk and problem gambling prevalence in Nova Scotia (1993, 1996, 2003, 2007); Canadian Gambling Trends 1992-2002 and comparison among provincial risk estimates; and, an overview of CPGI estimates for 2007 in Nova Scotia for total adults and by key population segments.

Section 4: Overview of Gambling in Nova Scotia by Risk for Gambling Problems (CPGI) (2003 versus 2007)

Section 4 tracks and compares gambling behaviours, attitudes, awareness and other related measures in Nova Scotia; participation in gambling, past-year gambling patterns, risk for problem gambling by gambling activity, gambling attitudes, behaviours and other correlates.

Section 5: Profile of Past-Year and Regular Gamblers in Nova Scotia by Risk for Gambling Problems (CPGI) (2003 versus 2007)

Section 5 tracks and compares gambling behaviours, attitudes, awareness and other related measures in Nova Scotia for those who gambled in the 12 months prior to the survey; participation in gambling, regular gambling patterns, risk for problem gambling by gambling activity, gambling attitudes, behaviours, and other correlates.

Section 6: Exposure to Gambling Problems and Awareness & Use of Support Services (2003 versus 2007)

Section 6 tracks and compares exposure to problem gambling for adults living in Nova Scotia at a household, extended family and community level, by type of gambling activity as well as awareness and use of problem gambling services by risk for gambling problems.

Section 7: Advertising Evaluation

Section 7 tracks exposure to promotional versus social advertising for gambling by risk for problem gambling. An evaluation of NSHPP's Yellow Flag campaign was conducted measuring recall and liking for the various ads.

Section 8: General Health and Well-Being (2003 versus 2007)

Section 8 tracks and compares health and life problems, as well as general health status, by risk for gambling problems.

SECTION 2: OVERVIEW OF THE NOVA SCOTIA GAMBLING MARKET

SECTION 2: OVERVIEW OF THE NOVA SCOTIA GAMBLING MARKET

The following section profiles the current gambling market in Nova Scotia as well as market changes that have occurred since the last prevalence study in order to provide contextual background for examining gambling activity and risk for gambling problems in Nova Scotia.

The Gambling Market in Nova Scotia (2007)

Currently, there are seven forms of legalized gambling available in Nova Scotia, including: inter-provincial tickets and lotteries, VLTs, casinos, bingos, charitable lotteries and raffles, First Nation gaming activities and harness racing.

Government operated gambling in the province is restricted to adults 19 years of age or older (with the exception of charity bingo) with licensing, operation and regulation pursuant to the Criminal Code of Canada and the Nova Scotia Gaming Control Act (1994-95). The Gaming Control Act also enacted the creation of two bodies; the Nova Scotia Gaming Control Commission, now known as the Alcohol and Gaming Division of the Department of Labour and Workforce Development and the Nova Scotia Gaming Corporation (NSGC). The Alcohol and Gaming Division is responsible for the licensing and regulation of gaming activity in Nova Scotia, while the NSGC is responsible for the conduct and management of casinos and other lottery schemes on behalf of the Province. The NSGC offers video and ticket lotteries through the Atlantic Lottery Corporation, and the two casinos in the province operated by Great Canadian Gaming Corporation.

First Nation gaming in Nova Scotia is subject to independent agreements with the province administered through the Office of Aboriginal Affairs. These agreements do not fall under the jurisdiction of the Alcohol and Gaming Division or the Nova Scotia Gaming Corporation as enacted in the Nova Scotia Gaming Control Act (1994).

In addition to regulated gambling, adults in Nova Scotia can also access internet gambling sites (originating outside of the province), and participate in private wagering and card games played for money (outside of the casino).

In 2005, the Government of Nova Scotia adopted a five-year Gaming Strategy, called A Better Balance: Nova Scotia's First Gaming Strategy. The main goals of this strategy are to reduce and prevent problem gambling by reducing accessibility and through education[15].

Summary of Key Market Changes 2002 -2007

Since the last gambling prevalence study in 2003, there have been a number of changes in the gambling market.

Key changes include:

- In June 2004, the ticket price for Lotto 6/49, a national lottery draw game, increased from $1 to $2 and the minimum jackpot doubled from $2 million to $4 million.
- In August 2004, ALC introduced PlaySphere in Atlantic Canada, an online internet site to purchase lottery draw and sport lottery games. Recent additions to PlaySphere are interactive games including bingo (iBingo) and poker (Hold 'em Poker);
- July 1, 2005, hours of operation for VLTs in Nova Scotia were reduced with all machines turned off at midnight;
- November 1, 2005, 800 machines were removed from licensed establishments throughout the province with an additional 200 machines withdrawn through attrition effectively reducing the number of government operated machines by 30% (1,000) to a total of 2,234 machines by 2006/07;
- January 1, 2006, the stop button was disabled on VLTs and the speed of machines was reduced by 30%;
- May 31, 2005, Great Canadian Gaming Corporation gained ownership and operation of the Province's two casinos (Halifax and Sydney) in Nova Scotia;
- 2005-06 a number of new casino initiatives were launched including Responsible Gambling Resource Centres (RGRC) at both casinos and the replacement of token-based slot machines with ticket-based machines (Ticket-in/Ticket-out technology (TITO)) where patrons are given bar-coded tickets instead of tokens for redemption of winnings;
- In February 2006, ALC launched Bucko, a new $1 daily draw game with a $20,000 top prize;
- August 2006, NSGC launched a new program with ALC called Support 4 Sport, which branded existing scratch tickets, to provide a suite of lottery ticket products where 100% of the profit is designated to support sports in Nova Scotia. The Support 4 Sport game was officially introduced in May 2007.
- In August 2006, ALC launched GameDay Pick'em Pool, its third sports lottery.
- In 2006/07 live harness races decreased from 110 (2002/03) to 85 races due to the closure of one of the tracks. NSGC subsidy of harness racing increased from $750,000 to $1 million;
- The number of First Nation gaming machines (VLTs) increased slightly from 564 to 575.

[15] Government of Nova Scotia (2006), Gaming Strategy, Retrieved at http://www.gov.ns.ca/hpp/gambling/pg-resources.asp

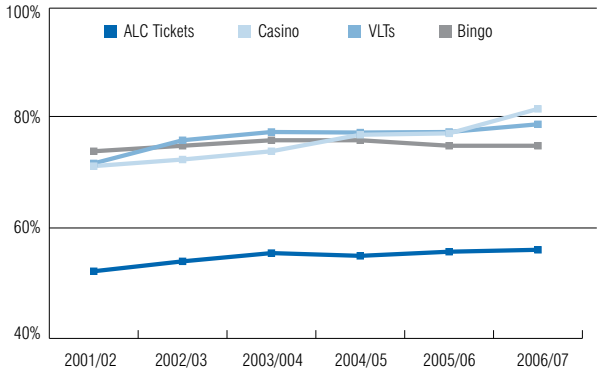
Trend Analysis of Nova Scotia Gambling Expenditure 2002-2007

Table 5: Total Amount Wagered on Regulated Gambling in Nova Scotia (2001-2007) [$ thousands]

	2001/02	2002/03	2003/04	2004/05	20005/06	2006/07
Total Wagered	$1,236,149	$1,444,496	$1,477,579	$1,561,769	$1,503,352	$1,520,949
Prizes	$843,702	$1,035,928	$1,089,025	$1,154,477	$1,109,005	$1,151,579
Gross Revenue	$392,447	$408,568	$388,554	$407,292	$394,347	$369,370
Operating Expenses	$133,827	$134,444	$130,568	$131,645	$93,944	$73,457
Commercial Revenue	$48,792	$52,823	$52,677	$53,154	$85,568	$91,113
Charitable Revenue	$25,342	$24,365	$22,960	$26,960	$28,634	$28,536
Provincial Revenue	$184,486	$196,936	$182,349	$195,533	$186,201	$176,264

Since 2001/02, both the total amount wagered and the prizes cashed out have increased while net gambling revenues have declined. In fact provincial wagering increased by 23.0% over this 6 year period yet the amount of winnings that players were claiming (e.g. amount paid out in prizes) climbed 36.5% moving from an average cash-out rate of 68.2% in 2001/02 to 75.1% by 2006/07. As a result of this increase in prize cash-out there was a significant decline in net revenues of about 5.9% overall. Increases in wagering and especially prize cash-outs in Nova Scotia were consistent over all forms of regulated commercial gambling from 2001/02 to 2006/07, with larger increases in prize cash-outs observed for casino gambling (57.4%), VLTs (37.0%) and, to a lesser extent, ALC lottery tickets (13.2%). This same pattern was not evident for charity tickets and bingo.

Figure 1: Percentage of Prize Cash-outs by type of Gambling (2001-2007)



First Nation Gaming[16]

First Nation gaming in Nova Scotia is subject to independent agreements with the province, administered through the Office of Aboriginal Affairs. These agreements do not fall under the jurisdiction of the Alcohol and Gaming Division and Nova Scotia Gaming Corporation as enacted in the Nova Scotia Gaming Control Act (1994). In 2006/07, reported band revenues from VLTs have doubled to approximately $40 million compared to 2001/02.

In Nova Scotia, First Nation gaming operations are subject to independent agreements with the province that fall outside of the Alcohol and Gaming Division and are regulated by independent band gaming commissions. As of March 2003, 11 of 13 Mi'kmaq communities participated in gambling agreements with the province.[17] In the province, VLTs are rented from the NSGC, through the Atlantic Lottery Corporation (ALC), and service includes access to responsible gambling programs and other supports available to all VL site-holders in the province. In 2001/02, it was reported that there were 407 First Nation video lottery terminals (VLTs) contributing approximately $20 million in band revenues. In 2006/07, the number of First Nation gambling machines was estimated at 575, generating band revenues of approximately $40 million.[18]

The Office of Aboriginal Affairs made commitments in the Nova Scotia Gaming Strategy (2005) to reduce the number of VLTs. According to the Office of Aboriginal Affairs Annual Accountability Report for 2006/07, negotiations are underway with a number of First Nation communities to become more consistent with the Provincial Gaming Strategy.

[16] Office of Aboriginal Affairs (July 31, 2002). Annual Accountability Report, Fiscal Year 2001-02

[17] Office of Aboriginal Affairs (March 7, 2003). Business Plan 2003-04

[18] Office of Aboriginal Affairs (September 21, 2007). Annual Accountability Report, Fiscal Year 2006-07

Harness Racing[19]

Total wagering on harness racing in Nova Scotia for 2006-07 was $7.7 million. About 12% of wagers were generated from live event attendance and 88% originated from telephone (simulcast) wagering. Harness racing is currently subsidized by NSGC at an amount of $1 million and does not contribute to provincial gambling revenues.

Harness racing in Nova Scotia falls under separate gambling legislation (Maritime Provinces Harness Racing Commission Act 1993). Nova Scotia Harness Racing Incorporated (NSHRI) was designated as a crown corporation on April 7, 1999 to manage and administer the Nova Scotia Harness Racing Fund (a fund intended to stimulate and support harness racing in the province). NSHRI is a wholly owned subsidiary of the Nova Scotia Gaming Corporation established "to preserve the horse breeding and harness racing industries, and to encourage betting on horse races".[20] Harness racing has been subsidized since it was introduced and in 2006-07, the races were again supported by government funding in the amount of $1.0 million, with a similar amount budgeted for 2007-08.

In 2003 there were three racetracks in Nova Scotia; Truro Raceway, Inverness Raceway and Tartan Downs. In 2006/07, Tartan Downs was closed and the horses shifted to the remaining two locations.

Total wagering on harness racing in Nova Scotia for 2006-07 was $7.7 million which is substantially lower than the projected target of $13.2 million. This shortfall was attributed to the track closure at Tartan Downs. By 2008, this amount is projected to increase by 10% over 2001 gross wagers of $12.8 million.

NSHRI stated core business goals consist of both the entertainment and horse breeding aspects of harness racing. The former includes live racing as well as the simulcasting of the races at 7 "teletheatre" sites throughout the province (Amherst, Antigonish, Goodwood, Lower Sackville, North Sydney and Sydney (2)). Video lottery terminals are present at the centres as a supplement to revenue-generating capabilities. These terminals are included within the provincial cap of 2,234 VLTs.

ALC Lottery Products[21]

In 2006/07, the total amount wagered on ALC lottery products in Nova Scotia was $215.1 million representing about 14.1% of all gambling wagers in the province. Total wagering on ALC lotteries increased by about 5% or $10.7 million since 2001/02. However, due to increases in the amount paid out in prizes ($14.1 million) there was a decline in gross revenue since the last gambling prevalence study of about $3.4 million. This means that Nova Scotians were spending more on ALC lotteries but that higher prize cash-outs reduced profitability. Despite this decline, expenditure on ALC lottery products contributed $47.6 million in net provincial gambling revenues last year up about $1.5 million compared to 2002.

Inter-provincial tickets and lotteries in Nova Scotia are managed and administered by the Atlantic Lottery Corporation (ALC) under the direction of the Nova Scotia Gaming Corporation (NSGC). In September 1976, ALC was established by the four Atlantic Provinces (Nova Scotia, New Brunswick, Newfoundland and Labrador, and Prince Edward Island) to operate ticket lotteries in each province.

At present, there are about 1,252[22] retail lottery outlets in all of Nova Scotia including Lottery Centre kiosks in malls, convenience stores/ corner-stores, grocery stores, drug stores, gas stations, and, in the case of breakopen tickets, liquor-licensed establishments (e.g., bars).[23]

In August 2004, ALC introduced PlaySphere[24], as an online ticket purchasing service. Patrons can buy draw tickets and sports games from ALC over the internet (described below). In addition to these traditional lottery games, PlaySphere currently offers several interactive games including iBingo (single or multiplayer games), Pick'n Click (a matching game with prizes from $1 to $1,500) and Hold 'em Poker (prizes from free play to $10,000). Players must register and add money to their account to use PlaySphere. Money won automatically goes back into the player's account. PlaySphere includes several responsible gambling options such as self-set weekly spending limits, age controls, and self-exclusion. PlaySphere can also be accessed by cellular phones and PDAs (Personal Data/Digital Assistants). In 2006-07, PlaySphere accounted for sales of $1.8 million in Nova Scotia (up from $1.1 million in 2005-06).[25]

[19] Crown Corporation Business Plans for the Fiscal Year 2007-2008, Nova Scotia Harness Racing Incorporated and Crown Corporation Business Plans for the Fiscal Year 2006-2007, Nova Scotia Harness Racing Incorporated.

[20] Nova Scotia Archives and Records Management. Government Administrative Histories Online http://www.gov.ns.ca/nsarm/gaho/authority.asp?ID=82. Retrieved January, 2008.

[21] Nova Scotia Annual Gaming Report 2001-2002, Nova Scotia Environment & Labour, Alcohol and Gaming Authority, Provincial Gaming Activity: ALC Lotteries, p.24.

[22] Nova Scotia Gaming Corporation (December 2007). Fact Sheet on Gambling. Retrieved at: http://www.nsgc.ca/ files/factsongambling/Gambling%20in%20NS.December%202007.pdf NSGC

[23] Atlantic Lottery Corporation. Regional Economic Benefits. Retrieved on December 17, 2007 at http://www.alc.ca/English/AboutALC/GivingBack/

[24] Atlantic Lottery Corporation. Home Page. Retrieved at http://www.alc.ca/English/ on January 25, 2008.

[25] Atlantic Lottery Corporation. Raising our game. 2006-07 ALC Financial Update. Retrieved at http://www.alc.ca/ English/AboutALC/AnnualReport/Images/ALCAnnualReport2006-07.pdf

Atlantic Lottery products consist of the following types of ticket games[26]:

- On-line lottery ticket draw games, such as Lotto 6/49 and Lotto Super 7 (which are national weekly and semi-weekly draw games administered by Inter-provincial Lottery Corporation (ILC)), and provincial tickets such as TAG, Atlantic 49 and Atlantic Payday.[27] There are now two daily draws, Keno Atlantic (introduced in 2001) and Bucko (2006). Games are dependent upon random computer generated outcomes for specified "draw schedules". Tickets are purchased and can be validated by accessing centrally linked electronic terminals at the retail location or online via PlaySphere. Until 1981, the only tickets offered in the province were bi-weekly, weekly, or special occasion draw games, typically at a cost of $1.00 to win top prizes of $100,000 or less. In 1982, national Lotto 6/49, a pari-mutuel type draw game[28] , was launched which allowed for larger jackpots ($1 million and jackpot "roll-overs" for reduced odds of winning (≈ 1:13,983,816 for winning the top prize; 1:54 odds of winning anything)). As of June 2004, its price was increased to $2 per line in order to offer larger jackpots. The minimum jackpot amount was raised to $4 million (from $2 million). In 1994, Lotto Super 7, a national draw game, reached the jackpots levels of $17 to $22 million on occasion at a ticket cost of $2.00 (approximate odds of winning top prize ≈ 1:20,963,833; odds of winning any prize 1:5.887). Both national games offer players options to purchase add-on provincial games (e.g., TAG, Twist). Bucko is a $1 daily draw with jackpots of $20,000 (approximate odds of winning the jackpot ≈ 1:749,398, odds of winning any prize 1:4.5).[29]
- Instant lottery tickets (Scratch 'n Wins or "extended play" tickets) at various price points from $0.50 breakopens (redeemable only at retail purchase-site), to $20 special tickets, with a core product line of tickets including Lotto Bingo, Crossword, Set For Life, and other seasonal and special-themed offerings. The tickets are pre-printed so consumers can determine game outcomes immediately upon purchase or validate instantly on-line to determine any winnings. Tickets are typically displayed on counter top units at the cash register area of participating retailers. Instant games were introduced in Nova Scotia in 1983 at the $1.00 price point. The first $2.00 ticket was offered in 1988, and extended-play versions of the instant games were launched in 1991 with Lotto Bingo. By 1996, the extended-play instant ticket line included a wide variety of games based on new and familiar themes, including Crossword, Monopoly, Auto Plus, "Trucks & Bucks" and others designed to provide greater play value and entertainment to consumers. In 2006-07, ticket prices range from $1 to $10.[30] Odds of winning for most tickets range from about 1 in 3 for any prize to 1:1,000,000 for top prizes. The exception is the Scratch 'n Win Lotto 649 where there is a winner on every ticket. Therefore, compared to lottery draw tickets, the instant games offer better odds of winning for reduced amounts of top prizes.
- Sport Select sports lottery includes three products: Pro·Line, Over/Under and GameDay, which allow gamblers to wager amounts of $2-$25 on selected sport outcomes (e.g., Baseball, Hockey, Basketball, and Football). Sport Select Pro·Line has been available in Nova Scotia since September 1994, with Over/Under introduced in August 2002, and GameDay in August 2006. Pro·Line and Over/Under are available via PlaySphere. Similar to promotional offers for lottery ticket games, ALC offers sports lottery gamblers chances to win merchandise and other prizes based on the amounts wagered on Sport Select games.

[26] Atlantic Lottery Corporation. ALC Annual Reports, 2005/06 and 2006/07. Retrieved at http://www.alc.ca/ English/AboutALC/AnnualReport/.

[27]Atlantic Lottery Corporation. ALC Products. Retrieved at http://www.alc.ca/English/ALCProducts/ on January 2, 2008.

[28]Pari-mutuel refers to a system of betting in which the winners share in the total amount wagered. In the case of Lotto 6/49, a $4 million minimum jackpot is currently guaranteed and can "roll-over" (accumulate) over draws for which the top prize is not won. Players can pick their own numbers so prize amounts associated with selected numbers are shared among all qualified winners. Top prizes are paid out for matching 6 of 6 numbers, excluding the bonus number. Based on total wagers, declining amounts are paid out for matching fewer numbers down to 3 out of 6 numbers drawn.

[29]Atlantic Lottery Corporation. ALC Products. Retrieved at http://www.alc.ca/English/ALCProducts/ JackpotsDraws/Bucko

[30]Atlantic Lottery Corporation. ALC Products. Retrieved at http://www.alc.ca/English/ALCProducts.

Trend Analysis of Expenditure for ALC Lotteries in Nova Scotia 2002-2007

Table 6: ALC Lottery Wagering and Expenditure in Nova Scotia (2001-2007) [$ thousands]

	2001/02	2002/03	2003/04	2004/05	20005/06	2006/07
Total Wagered	$204,421	$212,259	$206,281	$200,471	$210,677	$215,124
Prizes	$106,637	$113,698	$114,641	$109,964	$117,603	$120,750
Gross Revenue	$97,784	$98,291	$91,640	$90,507	$93,074	$94,374
Operating Expenses	$33,672	$34,533	$34,732	$37,141	$36,308	$32,178
Commercial Revenue	$18,022	$18,718	$18,484	$17,292	$17,112	$14,507
Charitable Revenue	$44	$39	$35	$50	$53	$46
Provincial Net Revenue	$46,046	$45,001	$38,389	$36,024	$39,601	$47,643

Trend analysis of annual sales for ALC lottery products reveals that market response for key measures has fluctuated by small amounts over the past six years. Total wagers increased in 2002/03 over 2001/02 by $7.8 million and then declined over the next two years until a jump of $10.2 million in 2005/06 and another $4.4 million in 2006/07. Similar ups and downs can be seen for gross revenues and provincial net revenues, yet prize cash-outs as a percentage of wagers has increased steadily since 2001/02 (52.2% versus 56.1%). Therefore in 2006/07, total wagering was up but due to higher prize pay-outs gross revenues generated by ALC lotteries in Nova Scotia were lower than was the case five years ago (2001/02: $97.7 million versus 2006/07: $94.4 million). However, due to reductions in operating expenses and commercial revenue, the amount returned to the province has not changed appreciably.

Video Lottery Terminals[31]

In 2006/07, the total amount wagered on VLTs reached $717.2 million representing the largest amount wagered among all forms of gambling available in Nova Scotia and comprising 47.2% of total gambling wagers in the province. Overall, VLTs generate 57% of net provincial gambling revenues providing $95.7 million for the government as well as $25 million for commercial operators and $5.5 million in charitable revenues. Wagering on VLTs has declined over the past two years since changes were introduced. These include removing the stop button and reducing the number of machines (-1,000), speed of play (30%), and hours of operation (midnight). The amount of money cashed out of VLTs has steadily increased over the past 6 years from 71.8% to 78.9% resulting in lower revenues.

Video lottery terminals (VLTs) are operated by the Atlantic Lottery Corporation with a total number of 2,234 terminals located at 412 liquor-licensed retail sites throughout the province (exclusive of First Nation Gaming sites). VLTs were legalized in Nova Scotia in May 1991 and moved under government operation in order to address the proliferation of "gray" market non-regulated gambling devices in the province. Originally, the machines were widely distributed among various types of establishments, including corner stores. In 1993, VLTs were restricted to age-controlled liquor licensed establishments including licensed restaurants, bars, pubs, and legions. Since the previous prevalence study in 2003, four initiatives were implemented in an attempt to decrease harms associated with playing VLTs. These included reduced hours of VLT operation (turned off at midnight - July 1, 2005), the removal of 1,000 VLTs starting with 800 in November 2005 and the remaining 200 by attrition, disabling the stop button feature and reducing the speed of VLT play by 30% in January 2006.[32]

Trend analysis of VLT gambling in Nova Scotia reveals a steady increase in total wagers from 2001/02 to 2004/05 (up $319 million; 42%) followed by a decline of $75 million in 2005/06 and a further drop of about $102 million in 2006/07. This represents a decrease of 19.8% in total wagering since the hours of operation, speed of play, and number of machines was reduced. Surprisingly, net revenue declined even more strongly by 24.4% due to an increase in cash-out rates (percent of winnings cashed out as a percent of amounts wagered). In Nova Scotia, in accordance with Gaming Control Act regulations, the payout percentage for VLTs must not go below 80%. Currently, VLTs have a prize payout of 93-95%. This number does not refer to the amount paid out in prizes but rather to the percentage of "winnings" that are accrued during play as a percentage of total "wagers". This amount is higher than the actual cash-out percentage because "consumers play the prizes they win in order to extend their

[31] Annual Gaming Reports 2006-2007, Nova Scotia Environment and Labour, Alcohol and Gaming Authority, Provincial Gaming Activity: Video Lottery Terminals p.15, and Nova Scotia Gaming Corporation Fact Sheet at Nova Scotia Gaming Corporation. (December, 2007). Gambling in Nova Scotia Fact Sheet. Retrieved at http://www.nsgc.ca/files/gamblingFacts.php on January 15, 2008 .

[32] Leaving Nothing to Chance: Nova Scotia Annual Gaming Report 2006-2007, Nova Scotia Environment and Labour, Alcohol and Gaming Authority. Research Highlights, p. 13.

play".[33] In the past, the actual amount cashed out of the machines in winnings (prize cash-out) has typically been about 70%, regardless of payout percentages set for the machines. However, over the past five years, cash-out rates have steadily increased from 71.8% of the total VLT wager in 2001/02 to 78.9% in 2006/07.

Trend Analysis of VLT Expenditure in Nova Scotia 2002-2007

Table 7: VLT Gambling Wagering and Expenditures in Nova Scotia (2001-2007) [$ thousands]

	2001/02	2002/03	2003/04	2004/05	20005/06	2006/07
Total Wagered	$575,750	$767,519	$821,481	$895,076	$819,962	$717,153
Prizes	$413,162	$585,615	$638,418	$694,847	$637,757	$565,849
Gross Revenue	$162,588	$181,904	$183,063	$200,229	$182,205	151,304
Operating Expenses	$16,300	$24,792	$25,858	$26,397	$28,330	$24,704
Commercial Revenue	$28,404	$32,145	$32,779	$34,756	$30,706	$25,401
Charitable Revenue	$6,371	$7,022	$6,554	$6,521	$5,777	$5,496
Provincial Net Revenue	$111,513	$117,945	$117,872	$132,555	$117,392	$95,703

Casino Gambling[34]

In 2006/07, the total amount wagered in casinos in Nova Scotia was $489 million representing about 32.2% of all gambling wagers in the province. This was an increase of about $133.1 million (37.4%) over 2001/02. However, due to increases in the amount of money cashed out in prizes the actual revenue generated by casino gambling has declined by almost 12% over the same period. Casino gambling accounted for about 18% of provincial net gambling revenues ($31 million) and generated $51 million (before expenses, which can significantly reduce revenue) for Great Canadian Gaming Corporation who owns and operates the casinos in Nova Scotia.

Currently, there are two permanent casino venues (Halifax and Sydney) in Nova Scotia owned and operated by Great Canadian Gaming Corporation (GCGC). Prior to May 2005, Park Place Entertainment operated both venues on behalf of NSGC. Collectively, these sites offer patrons access to over 1,000 slot machines (Halifax: ≈ 714 slots; Sydney: ≈ 337 slots) and about 53 different tables games (Halifax: 40; Sydney: 13). Casino gambling in the province was first introduced in 1994, with the Halifax Interim Casino opening June 1, 1994 followed by the Sydney Casino, August 1, 1994. Both casinos are open seven days a week (excluding four statutory holidays) and in Halifax, the casino was open 24 hours per day.[35]

In 2005, the casinos introduced new regulations and made renovations to their facilities ($22 million). These changes included the following:

- Token-based slot machines have been replaced with ticket-based machines (Ticket-in/Ticket-out technology (TITO)) where patrons were given bar-coded tickets. This system makes it easier for users to have breaks and is compatible with card-based systems expected to be used in the future
- New poker tables
- New multi-denominational slots that range from $0.01 to $1 machines
- Digital surveillance systems replaced video-based system
- Different food and beverage offerings, and live entertainment venue.[36]

Starting in 2005, Responsible Gambling Resource Centers (RGRC) were introduced at both casinos. The centers are managed by staff trained in addictions and crisis management from Shepell FGI and are intended to provide information to patrons about how the games work, problem gambling risks, and other resources.

Trend analysis for casino gambling revealed that total wagers from 2001/02 to 2005/06 remained fairly steady but increased sharply in 2006/07 (up 31.8% since 2005/06).

In contrast, prize cash-outs increased steadily every year from 2001/02 through 2005/06 although consistent with wagering there was a strong increase from 2005/06 to 2006/07.

Net provincial revenues also fluctuated somewhat over the past six years achieving a high of $32.5 million in 2002/03.

[33] Atlantic Lottery Corporation. ALC Products. Retrieved at http://www.alc.ca/English/ALCProducts/VideoLottery on January 15, 2008.

[34] Leaving Nothing to Chance: Nova Scotia Annual Gaming Report 2006-2007, Nova Scotia Environment and Labour, Alcohol and Gaming Authority, Provincial Gaming Activity: Casinos p. 17.

[35] In April 2008, Great Canadian Gaming Corporation reduced the hours of operation for the Halifax Casino and made changes to the number of slot machines and table games at both Casinos.

[36] Leaving Nothing to Chance: Nova Scotia Annual Gaming Report 2006-2007, Delivering the Business Results, p. 8, and Nova Scotia Gaming Corporation (December 15, 2005). Media Release: Nova Scotia Government Approves Changes to Province's Casino Regulations. Retrieved at https://www.nsgc.ca/pdf/press/ AmendmentstoC_diaRelease12_15_05.pdf

In 2007, net provincial revenues were lower at $31.5 million despite the fact that wagering in the province was up by $122.5 million. Again, this was entirely due to an increase in the amount of prizes being paid out (2003: $266.7 million versus 2007: $399.7 million) with operating and commercial expenses actually decreasing by almost $10 million over the same period (2003: $67.4 million versus 2007: $57.9 million).

In July 2005, changes were made to the operating contract whereby GCGC assumed responsibility for the operating expenses previously shared with NSGC and, in exchange, more of the gross revenue (55.5%) was allocated to GCGC.

Regardless of these changes in reporting, since 2001/02 the total amount wagered at the two casinos in Nova Scotia increased 37% ($133.1 million) while gross revenue declined by 12% ($12.6 million) entirely due to an increase of 57% in the amount being cashed out as prizes ($145.7 million).

Over the past six years, the amount of prizes cashed out at the two casinos has steadily climbed from 71.3% to 81.7% of total wagers. As a result casino gambling accounts for about one-third of the wagers in Nova Scotia yet only contributes 18% of provincial net gambling revenues ($31.5 million) generating about $51.2 million in commercial revenue for Great Canadian Gaming Corporation.

Trend Analysis of Casino Expenditure in Nova Scotia 2002-2007

Table 8: Casino Gambling Wagering and Expenditures in Nova Scotia (2001-2007) [$ thousands]

	2001/02	2002/03	2003/04	2004/05	20005/06	2006/07
Total Wagered	$356,005	$366,604	$356,255	$366,391	$371,077	$489,109
Prizes	$253,988	$266,718	$269,890	$281,397	$285,689	$399,705
Gross Revenue	$102,017	$99,886	$86,365	$84,994	$85,388	$89,404
Operating Expenses	$74,612	$65,785	$60,293	$58,336	$19,808	$6,671
Commercial Revenue	$1,989	$1,621	$1,334	$1,076	$37,735	$51,205
Provincial Net Revenue	$25,416	$32,480	$24,738	$25,582	$27,845	$31,528

Note: The introduction of TITO in 2006/07 likely resulted in a significant increase in the amount recorded as wager and cash out (or prizes) at the casinos. This is due to wagers being recorded each time a ticket is deposited into a slot machine. Caution should be taken in interpreting wagers from this time period.

Bingo[37]

In 2005/06, the last commercial bingo operator closed leaving only charitable bingos in Nova Scotia. In total, approximately $67.4 million was wagered on bingos in 2006-07, accounting for 4.4% of gambling wagers in the province. In 2005, NSGC introduced Superstar Bingo, an electronically linked option to support charitable bingos, reportedly generating $1.9 million in wagers and about $485,000 in charitable revenues. Although the Alcohol and Gaming Division is responsible for oversight of charitable gaming in Nova Scotia, Superstar Bingo falls solely under the jurisdiction of ALC.

Bingos in Nova Scotia are under the jurisdiction of the Alcohol and Gaming Division. In 1995, Nova Scotia introduced Bingo Regulations that included a rule prohibiting the issuance of any new commercial bingo licenses, but did allow existing operators to be "grandfathered" for continued operation. In 2003, there were only three commercial bingo operators in the province, all of whom closed down by 2005/06. In 2001/02, commercial bingos accounted for only about 0.2% of the total amount wagered in Nova Scotia. In contrast, charitable bingo activity was substantially higher accounting for 6.9% of the total wager. Despite this advantage for charitable bingo, overall bingo wagers have dropped by about 22.8% since 2001/02 to $67.4 million in 2006/07 fiscal year.

Charitable bingos continue to play a fundraising role for churches, minor league sports, legions and various other community groups throughout the province. In 2006/07, the Alcohol and Gaming Division issued 274 charitable bingo series licenses. Over half (57%) of these licensees reported total wagers of more than $150,000. Media bingo (TV or radio bingo) is part of the mix for charitable fundraising with 32 media bingos in operation throughout the province accounting for total wagers of about $6.6 million (approximately 10% of total bingo wagers).

In an attempt to help support charitable bingo, NSGC introduced Superstar Linked Bingo in 2005. ALC electronically links multiple bingo halls allowing for larger jackpots. This initiative generated $1.9 million in 2006-07 with approximately 50% going in prizes and 25% returned as charitable revenue ($485,300)[38]. As well, any profits after expenses are given back to the charity. Although the Alcohol and Gaming Division is responsible for oversight of charitable gaming in Nova Scotia, Superstar Linked Bingo falls solely under the jurisdiction of ALC and, therefore, is not included in the table below.

The trends for bingo gambling are quite straightforward. From 2001/02 until 2006/07, there has been a steady decline in the amounts wagered, cashed-out in prizes, and returned as charitable, commercial, or provincial revenue.

[37] Leaving Nothing to Chance: Nova Scotia Annual Gaming Report 2006-2007, Nova Scotia Environment and Labour, Alcohol and Gaming Authority, Provincial Gaming Activity: Bingo p. 21.

[38] Atlantic Lottery Corporation. Rasing our game. 2006-07 ALC Financial Update. Retrieved at http://www.alc.ca/English/AboutALC/AnnualReport/Images/ALCAnnualReport2006-07.pdf

Trend Analysis of Bingo Expenditure in Nova Scotia 2002-2007

Table 9: Bingo Gambling Wagering and Expenditures in Nova Scotia (2001-2007) [$ thousands]

	2001/02	2002/03	2003/04	2004/05	20005/06	2006/07
Total Wagered	$87,254	$84,853	$75,817	$73,076	$72,290	$67,359
Prizes	$64,149	$63,522	$57,548	$55,583	$54,298	$50,429
Gross Revenue	$23,105	$21,331	$18,269	$17,493	$17,992	$16,930
Operating Expenses	$7,460	$7,301	$6,685	$6,148	$5,937	$5,500
Charitable Revenue	$13,872	$12,303	$10,325	$10,197	$10,950	$10,356
Commercial Revenue	$377	$339	$80	$30	$15	$ –
Provincial Net Revenue	$1,396	$1,388	$1,179	$1,118	$1,085	$1,074

Charity Raffles and Draws[39]

In 2006/07, charitable lotteries in Nova Scotia accounted for only 2.1% of all gambling wagers in the province ($32.2 million) and produced $12.6 million in charitable revenues. Amounts wagered on charitable lotteries more than doubled over the past 5-6 years, with corresponding increases of approximately 150% in charitable and provincial revenues.

Similar to charitable bingos, the Alcohol and Gaming Division is also responsible for licensing charity lotteries and raffles. In 2006/07, 1,128 charitable ticket licenses were issued and reported upon, with the vast majority (93.5%) reporting ticket sales of $50,000 or less. There were however 12 games that generated sales of over $300,000, collectively achieving total ticket sales of $18.1 million.

Trends for charitable gaming show a steady increase in all measures over time. Total wagered, prizes, net revenue and charitable revenue have almost tripled in the past six years. Unlike trends observed for regulated commercial gambling there were no noteworthy changes in prize cash-outs for charitable lotteries with approximately 46% of wagers paid out in prizes in 2006/07 versus 45.3% in 2001/02.

Trend Analysis of Charitable Lotteries Expenditure in Nova Scotia 2002-2007

Table 10: Charitable Lotteries Wagering and Expenditures in Nova Scotia (2001-2007) [$ thousands]

	2001/02	2002/03	2003/04	2004/05	20005/06	2006/07
Total Wagered	$12,719	$13,261	$17,745	$26,755	$29,346	$32,204
Prizes	$5,766	$6,105	$8,528	$12,686	$13,658	$14,846
Gross Revenue	$6,953	$7,156	$9,217	$14,069	$15,688	$17,358
Operating Expenses	$1,783	$2,033	$3,000	$3,623	$3,561	$4,404
Charitable Revenue	$5,055	$5,001	$6,046	$10,192	$11,854	$12,638
Provincial Net Revenue	$115	$122	$171	$254	$273	$316

Gambling Wagers and Revenues in Nova Scotia – 2001/02 versus 2006/07

Public accountability and responsibility requires all stakeholders to evaluate gambling revenue issues in a fair, balanced, and informed manner, recognizing the various contributing factors, characteristics, and consequences, both positive and negative, of industry expansion and growth.[40]

To assess changes in gambling prevalence between the previous measure obtained in 2003 and the current prevalence estimates, it is necessary to have an understanding of relevant market changes or conditions that may be influencing results. One such important consideration is gambling expenditures and revenues generated by gambling activity.

[39] Nova Scotia Annual Gaming Report 2006-2007, Nova Scotia Environment and Labour, Alcohol and Gaming Authority, Provincial Gaming Activity: Charitable Ticket Lotteries p. 24

[40] NSHPP (2003). Nova Scotia Gambling Prevalence Study, Final Report, Focal Research Consultants, p. 22

Absolute amounts wagered, amounts spent (losses) and net revenue/profitability are important inputs in interpreting prevalence study results and vice versa; prevalence and social research study are important inputs in interpreting market performance. Market figures are accurate, verifiable numbers; cold, hard facts that all stakeholders need to know and understand. However, for each dollar of gambling revenue, there are also social and human costs that must be considered.[41]

For example, strong continued growth in gambling revenue, profitability and associated employment can be considered as a positive indicator for revenue generation. Perceptions of these gains alter dramatically if the growth (higher per capita expenditure) is also associated with a decline in general gambling participation rates (fewer people spending more); the disproportionate contribution of small groups of individuals (VLT and casino gamblers versus lottery Ticket players); and/or an increase in the proportion of disposable household income spent on gambling among those in the lowest income segments. "Growth" that comes at the expense of potentially vulnerable populations or creates other social or related costs, has implications for the stability, sustainability and ethics of further expansion. Conversely, some types of gambling may pose low risk to gamblers.

Total Nova Scotia Gambling Wagers (2001/2002 versus 2006/2007)[42]

In Nova Scotia, gambling wagers have increased by 23.0% since the last gambling prevalence study was conducted in 2003. In 2006/07, Nova Scotians bet $1.5 billion dollars on gambling, the majority of which was wagered on VLTs (47.2%) and casino gambling (32.2%).

Table 11: Total Amounts Wagered on Regulated Gambling in Nova Scotia by Type of Gambling (2002 vs. 2007

Type of Gaming	2001/2002		2006/2007		Difference	
	$ (000)	%	$ (000)	%	$ (000)	%±
ALC Lottery Sales	204,421	16.5%	215,124	14.1%	10,703	+5.2%
Video Lottery	575,750	46.6%	717,153	47.2%	141,403	+24.6%
Casinos	356,005	28.8%	489,109	32.2%	133,104	+37.4%
Total Bingo	87,254	7.1%	67,359	4.4%	–19,895	–22.8%
Charitable Bingo	85,208	6.9%	67,359	4.4%	–17,849	–20.9%
Commercial Bingo	2,046	0.2%	0	0%	–2,046	–100%
Charitable Lotteries	12,719	1.0%	32,204	2.1%	19,485	+153.2%
Totals	1,236,149	100%	1,520,949	100%	284,800	+23.0%

**Note: refers to total wagered in NS before prizes, expenses, commissions are paid out*

According to the most recent gambling figures available in the province (2006-2007 Nova Scotia Annual Gaming Report), a total of $1.5 billion was wagered on regulated gambling in Nova Scotia in 2006/07. This was an increase of 23.0% from the total amount wagered in 2002 (≈ $1.2 billion).

The increase in wagering was largely due to response towards casino gambling and video lottery. These two types of gambling collectively accounted for 79.4% of all gambling wagers in the province during fiscal year 2006/07 and 96.4% of the growth in total amounts wagered between 2002 and 2007 (Table 11).

In contrast, due to the absence of commercial bingo in Nova Scotia in 2005-2006, wagering on bingo has declined overall. Wagering on charitable bingos also dropped from about $85 million in 2002 to $67 million in 2007 (down 20.9%).

Although wagering on ALC lotteries increased by 5.2% compared to provincial wagering at the time of the last gambling prevalence study in 2003, traditional lotteries only accounted for 14% of total gambling wagers in 2006/07 versus 16% five years earlier.

The average amount wagered on regulated gambling activities in Nova Scotia has increased from approximately $1,720.00 per adult in 2001/02 ($1,236 billion/≈ 720,000 adults) to ≈ $2,000 per adult in 2006/07 ($1.520 billion/≈ 773,000 adults).

[41] Azmier J. (2000). Gambling in Canada: Triumph, Tragedy, or Tradeoff? Canada West Foundation.

[42] The figures are obtained or derived based on the wagering activity reported in the Nova Scotia Annual Gaming Report 2001-2002 and 2006-2007 produced by the Nova Scotia Alcohol and Gaming Authority and do not include First Nations gaming (VLTs), or harness racing wagers.

Total Nova Scotia Gross Gambling Revenues (2001/2002 versus 2006/07)

Despite an increase in wagering, gross gambling revenues (amount wagered less prizes paid out) in Nova Scotia have decreased by 5.8% since 2001/02. With the exception of charitable lotteries, there was a decline in gross revenue for all other types of gambling. Expenditures on charitable lotteries increased by about 150%, although this category only comprised 5% of the total amount spent on regulated gambling. In contrast, gross revenues for casinos dropped by 12.4%, VLTs by 6.4%, and even ALC lottery revenues (sales after prizes) fell by 3.5%. As noted previously, these declines were entirely due to an increase in the percentage of wagers being cashed out in prizes rather than due to a decline in the amounts being wagered.

Table 12: Gross Revenues (Amounts Spent) on Regulated Gambling in Nova Scotia by Type of Gambling (2002 vs. 2007)

Type of Gaming	2001/2002		2006/2007		Difference	
	$ (000)	%	$ (000)	%	$ (000)	%±
ALC Lottery Sales	97,784	24.9%	94,374	25.5%	–3,410	–3.5%
Video Lottery	162,588	41.4%	151,304	41.0%	–11,284	–6.9%
Casinos	102,017	26.0%	89,404	24.2%	–12,613	–12.4%
Total Bingo	23,105	5.9%	16,930	4.6%	–6,775	–29.3%
Charitable Bingo	22,468	5.7%	16,930	4.6%	–5,538	–24.6%
Commercial Bingo	637	0.2%	0	0%	–637	–100%
Charitable Lotteries	6,953	1.8%	17,358	4.7%	10,405	+149.6%
Totals	392,447	100%	369,370	100%	–23,077	–5.8%

**Note: Refers to total amount spent by adults in NS after prizes are paid out (i.e. amount wagered – prizes paid out).*

Total amounts wagered are useful for comparing relative gambling activity but these numbers do not necessarily represent actual expenditure figures or the "amount lost" by those collectively engaged in the activity. In order to compare expenditure on each activity over the two measurement periods, it was helpful to examine gross gambling revenues; that is, *the amount wagered less the amount paid back out in winnings (prize cash-out)* (See Table 12). This represents the collective amount of money spent and lost by gamblers in Nova Scotia.

In total, the amount spent (less prizes) on the various gambling activities available in Nova Scotia has decreased by 5.8% since 2002. In 2006/07, approximately $369.4 million was generated in gross revenues once gambling prizes were paid out. This amount was about $23.1 million lower than in 2001/02 even though wagering was up by $284.8 million over the same period. Based on this information it can be derived that, despite higher wagering activity, the average amount 'lost' (amount wagered less prizes) per adult in Nova Scotia declined to ≈ $478 per adult in 2006/07 ($369,370/≈ 773,000 adults) compared to approximately $545.00 in 2001/02 ($392,447/ ≈ 720,000 adults).

The percentage decline in gross revenues (wagers less prizes) was largest for bingo (29.3%), however, this result was consistent with overall declines in wagering (22.8%) and the elimination of the commercial bingo market.

For other government operated gambling there were significant drops in gross revenue despite the fact that the amounts being wagered were up for each commercial form of gambling. Casino gambling exhibited the largest decline in gross revenues of 12.4% over the past five years, followed by video lottery (6.9%) and ALC lottery ticket products (3.5%).

In terms of absolute dollars, casino gambling was down by $12.6 million and VLTs $11.2 million whereas ALC lottery games were down $3.4 million.

Total Nova Scotia Net Provincial Revenues (2001 – 2002 versus 2006/2007)

Since 2002, there has been a 4.5% decrease in gambling profitability in the province of Nova Scotia primarily due to the drop in net revenue coming from VLTs. While VLTs have continued to be the most profitable form of gambling generating $95.7 million or 54% of the total provincial take for gambling, net profits had decreased since 2002 (-$15.8 million). Net provincial revenue increased for casino gambling up about $6.1 million (24.5%), and, to a lesser extent, ALC lotteries up $1.5 million (3.5%). Despite its low contribution to provincial revenue, the profitability of charitable lotteries increased by 175% compared to 2002.

Table 13: Total Net Revenue to the Province of Nova Scotia by Type of Gambling (2002 vs. 2007)

Type of Gaming	2001/2002		2006/2007		Difference	
	$ (000)	%	$ (000)	%	$ (000)	%±
ALC Lottery Sales	46,048	25.0%	47,643	27.0%	1,595	+3.5%
Video Lottery	111,513	60.4%	95,703	54.3%	–15,810	–14.2%
Casinos	25,416	13.7%	31,528	17.9%	6,112	+24.5%
Total Bingo	1,396	0.8%	1,074	0.61%	–322	–30.0%
Charitable Lotteries	115	0.1%	316	0.18%	201	+174.8%
Totals	184,488	100%	176,264	100%	–8,224	–4.46%

**Note: Refers to total amount of net revenue to the province of Nova Scotia after prizes, operating expenses, retailer commissions, and other associated costs are removed.*

Differences in operating costs, licensing agreements, retailer commissions, and other associated factors influence the amount of revenue returned to the province by the various types of gambling activities. This information is an important consideration in terms of cost-benefit considerations in assessing the impact of various forms of gambling and the implications of any changes in product design and delivery. Therefore, net revenue contribution was also examined to assess any changes in profitability since 2002.

There has been a drop of about $8 million (4.5%) in net provincial gambling revenues between 2001/02 and 2006/07. In 2001/02, about 47% of gross gambling revenue (amount after prizes are paid out) was taken in as net revenue by the province. In 2007, this proportion stayed about the same (48%). This means that in 2007, almost $176 million went to provincial coffers with about $193 million paid out in operating costs, retailer commissions or private profits. Analysis regarding economic benefits in Nova Scotia derived from gambling in terms of operating costs, employment and other associated industry activity is beyond the goals of the current overview. However, it can be assumed that a significant proportion of the $193 million in operating costs paid out from regulated gambling in the province is contributing to the provincial economy. Moreover, almost half of the revenue generated is directly contributed to the province as net income.

In 2001, gambling contributed 5.6% of provincially sourced revenues, exceeding the amounts taken in by Corporate Income Tax (5.5%), Liquor Commission profits (4.5%), and the Tobacco Tax (2.5%) in the province.[43] In 2007, gambling contribution to the provincial revenues is 4%, which is higher than amounts received from Tobacco Tax (3.4%), similar to Liquor Commission profits (4.4%) but lower than Corporate Tax contribution (9%).[44] However, gambling continues to be a significant source of provincial revenue to the province of Nova Scotia.

Based on the figures reported by the Alcohol and Gaming Division in the Annual Nova Scotia Gaming Reports, for 2001/02 versus 2006/07, it can be estimated that there was a 4.5% decrease in profits or net revenues to the province. Compared to 2002, the profitability of charitable lotteries, casinos, and ALC lottery games has increased by 175%, 24%, and 4%, respectively in 2007. Video lottery, Nova Scotia's highest revenue-generating form of gambling, accounted for 54% of total net gambling revenue, but its contribution of $95 million fell below the amount of $111.4 million produced in 2002 (14.2% decline).

Compared to ALC lotteries, casino gambling in Nova Scotia generates more than double the amounts wagered and similar gross revenue (amount wagered less prizes) yet contributes only about two-thirds of the net revenue received from ALC lotteries ($31.5 million versus $47.6 million). Regardless, net revenues for casino gambling have increased $6 million (24%) since 2002. In contrast, ALC lottery net revenues registered only a slight increase of about $1.6 million (+4%).

All commercial bingo operators closed in 2004/05, contributing to a significant drop in bingo revenues in 2007. Charitable bingos yielded $1 million in revenues, 30% less than that of 2002. Though profitability of charitable lotteries has substantially increased, its contribution to provincial revenue is small (.2%). Conversely, bingo and charitable lotteries combined were contributing to not-for-profit charitable and community groups (approximately $1.5 million in 2002 and $1.4 million in 2007).[45]

Given the increase observed in gambling wagering and reductions in profitability since the last prevalence study conducted in Nova Scotia (2003), it is important to obtain reliable information to assess how these changes are associated with risk for gambling related problems as input to ongoing planning and management of gambling in the province.

[45] Province of Nova Scotia, Public Accounts, Schedule of Revenue for the Fiscal Year Ended March 31, 2001.

[44] Province of Nova Scotia, Public Accounts, v. 1 Consolidated Financial Statements for the Fiscal Year Ended March 31, 2007.

[45] Nova Scotia Annual Gaming Report 2006-2007, Nova Scotia Environment and Labour, Alcohol and Gaming Authority, Provincial Gaming Activity: Charitable Ticket Lotteries p. 24

SECTION 3: COMPARATIVE OVERVIEW OF RISK FOR GAMBLING PROBLEMS IN NOVA SCOTIA

SECTION 3: COMPARATIVE OVERVIEW OF RISK FOR GAMBLING PROBLEMS IN NOVA SCOTIA

Section 3 profiles risk for gambling problems among adults in Nova Scotia for 2007 according to the scored items (Problem Gambling Severity Index (PGSI)) of the Canadian Problem Gambling Index (CPGI). The findings were compared over time within Nova Scotia as well as positioned among risk measures for eight other Canadian provinces using the CPGI in general population surveys.

In Section 3, risk for gambling problems was examined under three primary areas:

- Comparison of risk for problem gambling in Nova Scotia over the four prevalence studies (1993, 1996, 2003, 2007);
- Comparison of risk for problem gambling in Nova Scotia among Canadian provincial jurisdictions using the CPGI;
- Profile of risk for problem gambling in Nova Scotia (2007)
  - Overview of risk in the general population
  - Demographic profile of risk

Comparative Analysis of Nova Scotia Problem Gambling Prevalence

Compared to prevalence estimates obtained using the South Oaks Gambling Screen (SOGS), use of the Canadian Problem Gambling Index (CPGI) consistently produces lower population estimates of problem gambling and excludes a "pathological" gambling category. However, the CPGI does yield higher rates of "At-Risk" estimates by distinguishing between "Non-Problem" and "Low Risk" gambling. Ideally, this increases the sensitivity of the measure in meeting objectives for prevention as well as treatment.

The use of standardized prevalence measures are intended to allow for cross-jurisdictional comparisons among different populations and to provide baseline data that can be tracked over time to monitor changes related to gambling interventions, policy, or practices. In 1993 and 1996, the South Oaks Gambling Screen (SOGS) was the measure used to determine estimates of problem gambling in Nova Scotia. Despite its wide use as a standardized screen, there were a number of criticisms surrounding the use of SOGS in general population-based surveys (Dickerson & Baron, 2000, Nova Scotia. Department Of Health & Focal Research, 1998; Abbott & Volberg, 1999; Schaffer et al, 1997; Volberg & Banks, 1990). In particular, concerns were expressed surrounding the lack of validation in non-clinical application and the level of "false positives" identified in such studies potentially inflating prevalence estimates. Finally, the value of using SOGS in generating useful social and public health policy had also been called into question, and it had been suggested that future research for problem gambling move towards a more practical assessment of disordered gambling (Schaffer et al, 1997; Dickerson & Baron, 2000).

A new measure, the Problem Gambling Severity Index (PGSI) of the Canadian Problem Gambling Index (CPGI), specifically designed and validated for population surveys, was used in the 2003 and 2007 Nova Scotia Prevalence Studies. The CPGI measure was developed in 2000 from a collaborative effort among the Canadian provinces to validate and put into practice a standard instrument for measuring problem gambling in the Canadian general population (Ferris & Wynne, 2001). The CPGI, being designed for use in broad based population surveys, does not incorporate estimates of pathological gambling but rather focuses on estimates of risk for problem gambling consistent with community health objectives surrounding both prevention and treatment.

In Nova Scotia there have now been four prevalence studies undertaken to measure gambling problems; 1993, 1996, 2003, and 2007. The studies conducted prior to 2003 used the SOGs. In other Canadian jurisdictions adopting the CPGI for measurement of risk for problem gambling, tracking of gambling prevalence was adjusted to yield more meaningful comparisons with SOGs based estimates. For comparative purposes, the results of all four studies in Nova Scotia were re-classified under "risk for Problem Gambling" consisting of three primary categories: "Non-Problem"; "At-Risk" and "Problem".[46]

Table 14: Definition of SOGs versus CPGI Segments for Identifying Risk for Problem Gambling

	SOGS (1993 & 1996)	CPGI (2003 & 2007)
Non-Problem	Non-Gamblers & Non-Problem (Score 0-2)	Non-Gamblers & Non-Problem (Score 0)
At-Risk	Problem (Score 3-4)	At Risk (Score 1- 2)
Problem	Probable & Pathological (Score 5+)	Moderate + Severe Risk (Score 3+)

[46] See Section 1: Methodology of the 2003 Nova Scotia Gambling Prevalence Study http://www.gov.ns.ca/hpp/gambling/pg-resources.asp

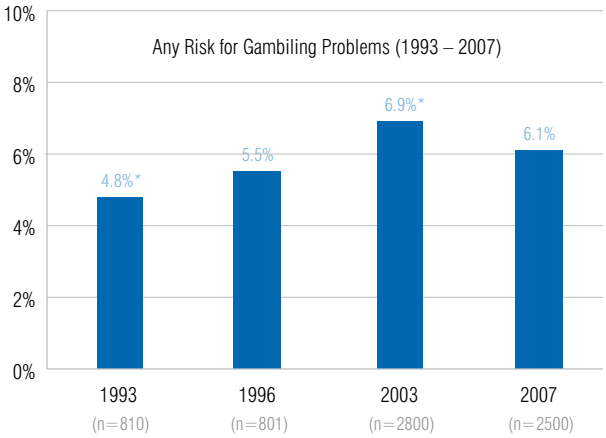
Table 15: Modified Comparative Summary of Risk for Problem gambling: 1993 – 2007

	Risk For Gambling Problem			
	1993 (SOGS) (n=810)	1996 (SOGS (n=801)	2003 (CPGI (n=2,800)	2007 (CPGI (n=2,500)
Non-Problem/Non Gamblers	95.2%	94.5%	93.2% ↓	93.9%
At-Risk	≈ 3.1%	≈ 3.6%	≈ 4.8% ↑	≈ 3.6% ↓
Problem (Moderate – Severe/Pathological)	≈ 1.7%	≈ 1.9%	≈ 2.1%	≈ 2.5%

↑↓ *Indicates the direction of a significant percentage change over time (minimum p <.05 for one-tailed test; p<.10 for two-tailed test).*

Based on non-problem versus risk criteria, it can be estimated that the proportion of those scoring at any level of risk for problem gambling has changed significantly over time.

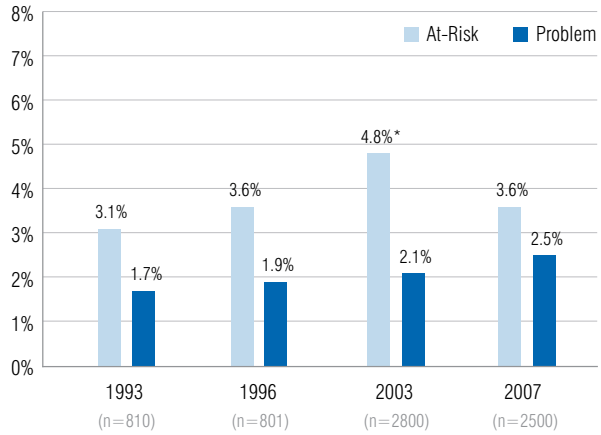
Figure 2: Percentage of Adults at Any Risk for Gambling Problems 1993, 1996, 2003 & 2007



** Indicates a significant difference between two study periods at minimum 95% + C.I. (p <.05).*

- In 2003, the percentage of adults in Nova Scotia identified as being at any level of risk for developing problems with gambling ("At-Risk" + "Problem") increased significantly from 4.8% of the population (± 1.24%) in 1993 to 6.9% by 2003 (± .94%).
- In 2007, there was a slight drop in risk estimates (2003: 6.9% versus 2007: 6.1%), although the change did not reach statistical significance. In fact, risk estimates in 2007 did not differ significantly from any of the previous measures. Part of this finding is due to lower sample sizes for the 1993 and 1996 surveys yielding reduced sensitivity in measuring and detecting changes over-time.

Figure 3: Percentage Scoring At-Risk versus Moderate + Problem (1993-2007)



** Indicates a significant difference between two study periods at minimum 95% + C.I. (p <.05).*

- The percentage scoring at any level of risk did not differ from 2003 (6.9%) to 2007 (6.1%), nor did the percentage scoring for problem gambling (2003: 2.1% versus 2007: 2.5%). However, there was a significant drop found in the percent scoring in the At-Risk category for gambling problems (CPGI score=1-2; 2003: 4.8% versus 2007: 3.6%, p<.05).
- The proportion of the population in Nova Scotia identified as At-Risk for having gambling problems reached a high in 2003 (4.8%) but by 2007 has fallen back to pre-2003 levels (3.1%-3.6%).
- In contrast, those scoring at problem levels has not changed significantly but, over time, appears to be slowly moving upward (1993: 1.7 versus 2007: 2.5; p=.19)

Canadian Problem Gambling Prevalence

The rapid growth of gambling in Canada over the past 14 years is almost entirely accounted for by the introduction of VLTs, casino gambling and the distribution of slot machines outside of casino locations, primarily outside of the Atlantic region.

Canadian Trends in Gambling 1992 – 2007 (Statistics Canada)[47]

Over the past 14 years, there has been about a 392% increase in net revenue from gambling in Canada (1992: ≈ $2.7 billion to 2006: $13.3 billion) accompanied by the creation of approximately 30,000 new jobs (1992: ≈ 11,000 to 2006: ≈ 40,000) or a 264% increase in the number of people directly employed in the gambling industry during this same period. Despite the fact that gambling still only accounted for a small portion of total provincial revenues, the overall contribution of this growth industry has moved from a 1.9% share of total provincial revenues to 5.5% by 2005, representing an increase in net provincial profits of $5.4 billion from 1992 to 2005.

In 1992, traditional government-run lotteries accounted for 90% of gambling revenues, hitting a high of $2.8 billion around 1994, and holding steady from that point on. Following the dramatic rise in revenue contribution from VLTs and casino gambling, by 1998, lotteries only represented 35% of all gambling revenues and declined further to 25% by 2006. In late 1996, casino revenues began outperforming VLTs and surpassed revenues for traditional lottery products by 1998. In 2006 casino gambling brought in about $4.4 billion accounting for 33% of all non-charity net gambling revenues in Canada, followed by lotteries (25%), VLTs (23%) and slot machines located outside casino locations (19%).

While lotteries have generally been stable over the past 10 years, horse racing (pari-mutuel betting) has been declining (1992: $530 million, 2006: $387 million) and, although Statistics Canada does not directly report revenue numbers for bingo (given the charitable status for many of such operators), there has also been a downward trend noted for participation rates in bingo.

Undoubtedly, primary gambling growth was attributable to the widespread distribution of electronic gambling machines (VLTs and slot machines inside and/or outside casinos), which collectively accounted for at least two-thirds of revenues and profits in Canada in 2006. While this growth in gambling revenues and job creation appears to be a positive outcome, it is critical that such growth is evaluated in terms of costs at an individual and community level.

Comparative Gambling Prevalence – Canadian Jurisdictions Using CPGI

In Canada and abroad there has also been an increase in efforts to assess and address the public and community health impacts accompanying rapid growth in gambling. Since the development and validation of the Canadian Problem Gambling Index (CPGI) in 2000/01 (Ferris & Wynne, 2001), 9 provincial jurisdictions in Canada have conducted at least one general population gambling prevalence survey using this new measure; Ontario (Wiebe, Single & Falkowski, 2002, Wiebe, Mun & Kaufman, 2005), New Brunswick (Schrans, Schellinck & Focal Research Consultants, 2001), Manitoba (Addiction Foundation of Manitoba, Patton et al, 2002), Alberta (Smith & Wynne, 2002), Saskatchewan (CCSA, Wynne, 2002), British Columbia (Volberg, R.A. & Ipsos-Reid, 2003), PEI (Doiron & Nicky 1999; Doiron, 2005), Newfoundland (Market Quest Research Group, 2005), Nova Scotia (Schrans, Schellinck & Focal Research Consultants, 2003, 2007) and Canada (CCHS 1.2, 2002). This report only includes studies published as of the data collection of this report. Studies published after December 2007 are not included.

Canadian Prevalence Estimates Using CPGI[48]

Quebec is the only Canadian province that has not conducted a population survey using the CPGI to measure gambling problems. Among the other nine provinces, Nova Scotia (6.1%), New Brunswick (8.1%), and especially Prince Edward Island (2.8%) were found to have lower rates of adults scoring at any level of risk for problem gambling. However, in terms of problem gambling there were few differences. Rates of Moderate+ problems in Nova Scotia (2.5%) only differed significantly from findings for British Columbia (4.6%), Alberta (5.2%) and Saskatchewan (5.9% ±.%) but was similar to the remaining five provinces. There were no significant differences in the percentage of adults scoring as Severe Problem gamblers in any of the provinces except British Columbia (.4% versus .9%–1.4%).

[47] Source: Statistics Canada - Gambling (May, 2007), Perspectives on Labour and Income (Catalogue no. 75-001-XIE).

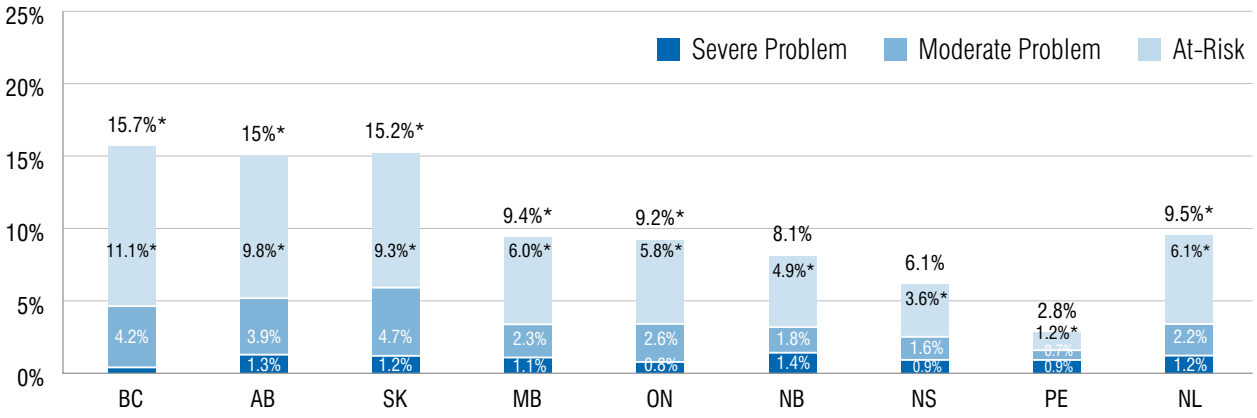
[48] British Columbia's Gambling Prevalence Study was conducted in 2002 prior to widespread expansion of gambling in this province especially for higher risk forms such as casino gambling, slot machines, and electronic bingo. Therefore, estimates of risk in BC are likely dated and should be treated with caution. New research in BC raises problem levels to a rate similar to other provinces.

Table 16: Comparative Canadian Prevalence Estimates for Risk of Problem Gambling Using the CPGI

	BC 2002 n=2500	AB 2002 n=1804	SK 2001 n=1848	MB 2001 n=3119	ON[49] 2005 n=3604	NB 2001 n=800	NS 2007 n=2500	PE 2005 n=1000	NL 2005 n=2596	Canada 2002 n=24997
Non-Gamblers	15.0	18.0	13.4	15.0	36.6*	12.0	13.0	18.1	15.6	24.2
Non-Problem Gamblers (CPGI = 0)	69.3	67.0	71.4	75.6	54.1*	79.9	80.9	79.1	74.9	71.0
At-Risk Gamblers (CPGI = 1-2)	11.1*	9.8*	9.3*	6.0*	5.8*	4.9*	3.6*	1.2*	6.1*	2.8
Moderate Problem Gamblers (CPGI = 3-7)	4.2*	3.9	4.7*	2.3	2.6	1.8	1.6	0.7	2.2	1.5
Severe Problem Gamblers (CPGI = 8+)	0.4*	1.3	1.2	1.1	0.8	1.4	0.9	0.9	1.2	0.5
Total Problem	4.6*	5.2*	5.9*	3.4	3.4	3.2	2.5*	1.6*	3.4	2.0

** Indicates significant differences at minimum 95% + confidence interval (p <.05)*

Figure 4: Comparative Risk for Problem Gambling by Province Using Modified CPGI Labels

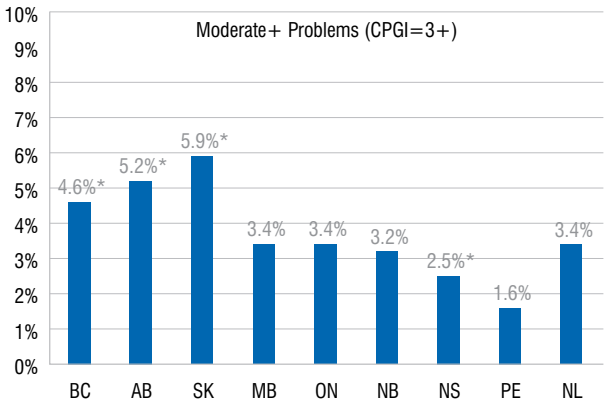


** Indicates a significant difference between Nova Scotia and the other provinces at minimum 95% + C.I. (p <.05).*

[49] The proportion of Non-Gamblers and Non-Problem gamblers identified in the most recent study in Ontario (Wiebe, Mun & Kauffman , 2005) differed strongly from previous findings in 2002 as well as from results for other jurisdictions. Given a low survey response rate, only 27.8% of eligible respondents participated in the study, there are concerns as to the 'representativeness' of the data. It has been argued that due to the low base rate of gambling problems in the population estimates of risk are less likely to be affected by low response rates (Volberg, R.A. & Ipsos-Reid, 2003). Therefore, for the purpose of this study discussion is limited to results surrounding risk estimates only in Ontario. See Wiebe, Mun & Kauffman (2005) Gambling and Problem Gambling in Ontario for further information surrounding this issue.

- According to the most recent CPGI prevalence estimates available for each participating province, Prince Edward Island (PEI) had the lowest overall risk (2.8%), followed by Nova Scotia (6.1%) and then New Brunswick (8.1%).
- Risk estimates were significantly higher in Western Canada (British Columbia: 15.7%; Alberta: 15.0; Saskatchewan: 15.2%), with Ontario (9.2%), Manitoba (9.4%) and Newfoundland & Labrador (9.5%) falling midway between.
- The percent of adults scoring At-Risk for gambling problems (CPGI=1-2) is significantly lower in Nova Scotia (3.6%) than elsewhere in Canada except PEI (1.2%).

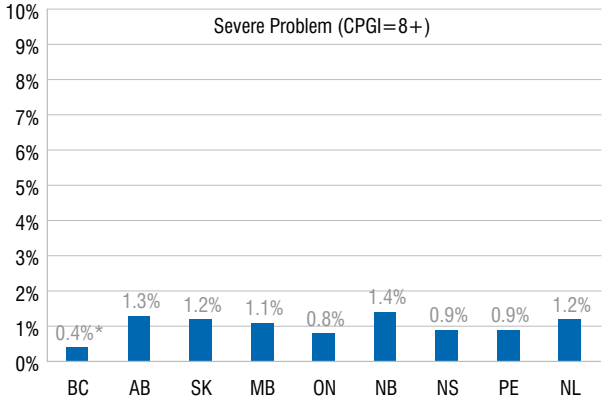
Figure 5: Comparative Risk for Problem Gambling by Province Using Modified CPGI Labels



**Indicates a significant difference between Nova Scotia and the other provinces at minimum 95% + C.I. (p < .05).*

- Rates of Moderate+ Problem gambling (CPGI score = 3+) did not differ as widely among the provinces. The percentage scoring for Moderate+ Problems was significantly lower in Nova Scotia (2.5%) than in British Columbia (4.6%), Alberta (5.2%), or Saskatchewan (5.9%) but did not differ much from any of the other five provinces.

Figure 6: Comparative Risk for Severe Problem Gambling by Province (CPGI Score 8+)



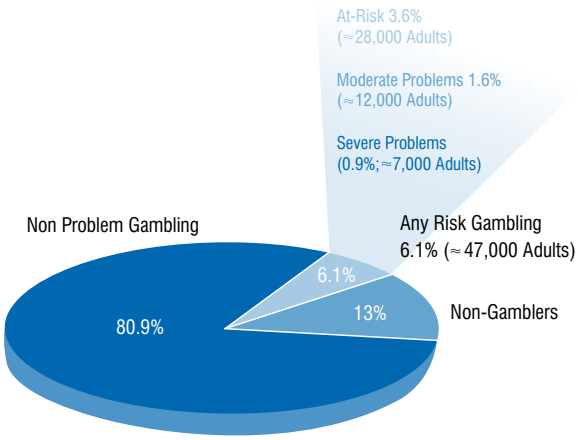
** Indicates a significant difference between provinces at minimum 95% + C.I. (p <.05).*

- Although there were differences in those scoring for Moderate+ Problems, it is noteworthy that there was no significant difference in Severe Problem Gambling estimates among any of the provinces with the exception of British Columbia (.4%).

2007 Overview of Risk for Problem Gambling in Nova Scotia

Based on the Canadian Problem Gambling Index, it was estimated that approximately 6.1% (± .94%) or about 47,000 adults in Nova Scotia were at any level of risk for problem gambling. About one-third of those at any level of risk (2.5%; ≈ 19,000 adults) were scoring at problem levels, with 1.6% (±.49%) scoring for Moderate Problems and .9% (±.37%) identified as Severe Problem gamblers.

Figure 7: 2007 Nova Scotia Gambling Prevalence by Canadian Problem Gambling Index (CPGI) Classification – Total Adults (19 years or older) (n=2,500).



- Gambling continues to be a popular activity in Nova Scotia with 87% of all adults having wagered on at least one game of chance during the 12 months preceding the 2007 survey.
- According to scoring using the nine-item Problem Gambling Severity Index (PGSI) of the Canadian Problem Gambling Index (CPGI), it can be estimated that, over the past year, the majority of adults in the province of Nova Scotia were engaged in some form of gambling and scored at Non-Problem gambling levels (80.9%, ± 1.54%).[50]
- However, there is 6.1% (± .94%) of the adult population, representing about 47,000 adults in the province, scoring at some level of risk for problem gambling with well over one-third of these same people characterized as gambling at Moderate (1.6% of adults, ± .49%) to Severe Problem levels (.9% of adults, ± .37%).
- Thus, collectively, 2.5% (± .61%), or approximately 19,000 adults in Nova Scotia were scoring at problem gambling levels in 2007

Risks for Problem Gambling in Nova Scotia by Key Population Segments

To describe demographic and other related characteristics associated with risk for problem gambling in Nova Scotia those adults taking part in the study were segmented into four groups based on their score on the nine-item Problem Gambling Severity Index (PGSI) of the Canadian Problem Gambling Index (CPGI): Non-Gamblers (no gambling in past year), Non-Problem Gamblers (CPGI=0), At-Risk gamblers (CPGI=1-2) and, Problem gamblers (CPGI=3+).[51]

Table 17: Population estimates in Nova Scotia by gambling risk segments

	Risk Category				
	Non-Gamblers	Non-Problem Gamblers	At-Risk Gamblers	Problem Gamblers	Total Adults
Percentage of Population					
2003	***10.7%***	***82.4%***	***4.8%***	***2.1%***	100%
2007	***13.0%***	***80.9%***	***3.6%***	***2.5%***	100%
Population Estimates					
2003	≈ 79,000	≈ 605,000	≈ 35,000	≈ 15,000	≈ 734,000
2007	≈ 100,000	≈ 625,000	≈ 28,000	≈ 19,000	≈ 773,000
Margin of Error around the estimates					
2003	±1.14%	±1.41%	±0.79%	±0.53%	N/A
2007	±1.32%	±1.54%	±0.73%	±0.61%	N/A
Sample Size					
2003	n=299	n=2311	n=134	n=56	2,800
2007	n=326	n=2022	n=91	n=61	2,500
Maximum Margin of Error within each subgroup (50%point estimate)					
2003	± 5.67%	± 2.04%	± 8.47%	± 13.10%	±1.85%
2007	± 5.43%	± 2.18%	± 10.27%	± 12.55%	±1.96%

Note: Population estimates are often updated. Should updates be made available from Statistics Canada, all population estimates will need to be recalculated.

In discussion with NSHPP, there were four strategic demographic segments identified for detailed profiling and comparison between 2003 and 2007: Shared Service Area (Health Districts), gender, age, and household income. In addition, risk segments were examined for nine other demographic characteristics for 2007 only: education, marital status, work status, occupation category, household composition, urban versus rural place of residence, presence of children in the household and number of people in the household.

To assess risk for problem gambling associated with each of the population characteristics, two measures were calculated:

- Profile of Risk for Problem Gambling by Key Demographic Segments (See Table 17)
- Penetration of Risk for Problem Gambling Within Key Demographic Segments (See Table 18).

[50] The figures reported in the current study are point estimates. Actual estimates will fall within a specified range around each point referred to as the margin of error (±%) that are applicable at the 95% Confidence Interval. For critical indices (gambling prevalence), the margins of errors at the 95% confidence level are included to illustrate the range of the estimate in generalizing to the population.

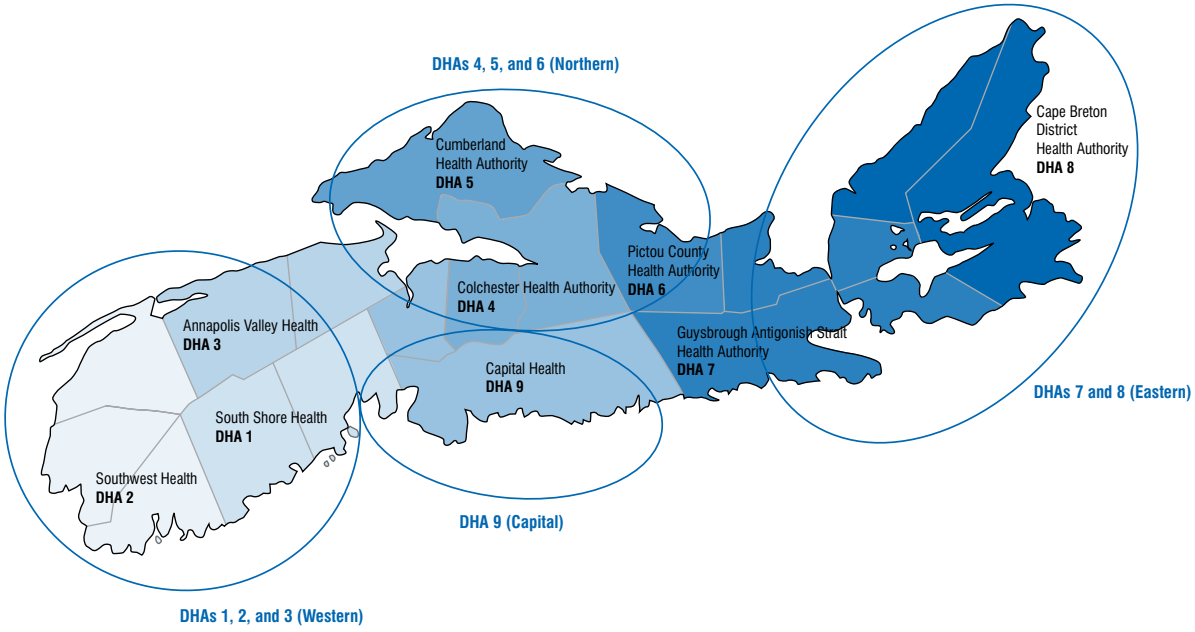
[51] The sample size for those scoring as Severe Problem gamblers (CPGI score 8+; n=22) was too small to yield reliable estimates for meaningful comparison across various sub-segments in the population. Therefore, scores for Moderate and Severe Problem gamblers were combined (Score 3+)

Profile of Risk Segments refers to the percentage of adults in each Risk Segment that also fall into each identified demographic segment. This allows for a comparison of the profile of adults in each of the various risk groups (Non-Gamblers; Non-Problem gamblers; At-Risk gamblers; Problem gamblers; and Total Adults) in terms of Shared Service Area (where they live), Gender, Age, and Household Income. This is useful in testing and identifying differences among the Risk Segments.

Penetration of Risk Segments refers to the percentage of adults in each demographic category that fall into each of the four Risk Segments. This allows for a comparison of risk within the key demographic groups identified. This is useful for determining differences in risk for problem gambling among certain demographic groups in the population.

Risk for Gambling Problem by Shared Service Area

The prevalence rates for risk and for gambling problems were comparable across the District Health Authorities in Nova Scotia. Except for an increase in the problem gambling rate in the Northern District, there were no changes from 2003 prevalence estimates.



- There were few differences observed in gambling risk among the four Shared Service areas in the nine District Health Authorities (DHAs) in Nova Scotia.
- One notable difference was a significantly higher proportion of Non-Gamblers residing in DHAs 1, 2 & 3 (Western) as compared to other regions in the province (18.8% versus ≈ 8.1% to 14%). The proportion of Non-Problem gamblers was also lower in DHAs 1, 2 & 3 (75.9%) than in the other regions (≈ 80% to 85%).
- In contrast, adults living in Eastern Nova Scotia (DHAs 7 & 8) were more likely than those living elsewhere in the province to have taken part in some type of gambling activity in the last year (91.9% versus 81.2% – 88.9%).
- Although adults living in DHAs 1, 2 & 3 were less likely to take part in gambling activities, the percentage scoring at any level of risk is similar in all the Addiction Services Shared Service Areas.
- In 2007, there were no significant differences in the prevalence of problems or risk for problems among any of the four areas, nor were there any differences observed for those living in urban versus rural areas of the province.

Figure 8: Risk for Gambling Problems by Shared Service Area (2007; n=2500)

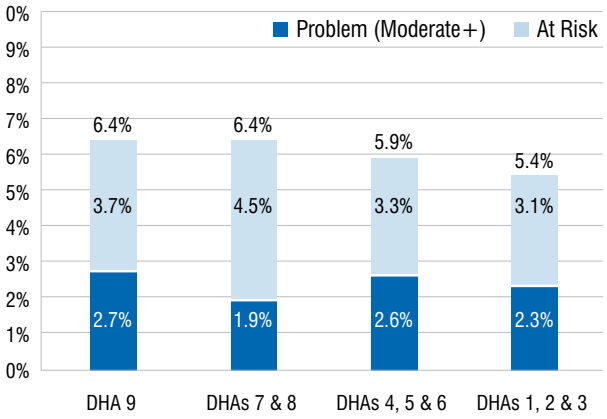
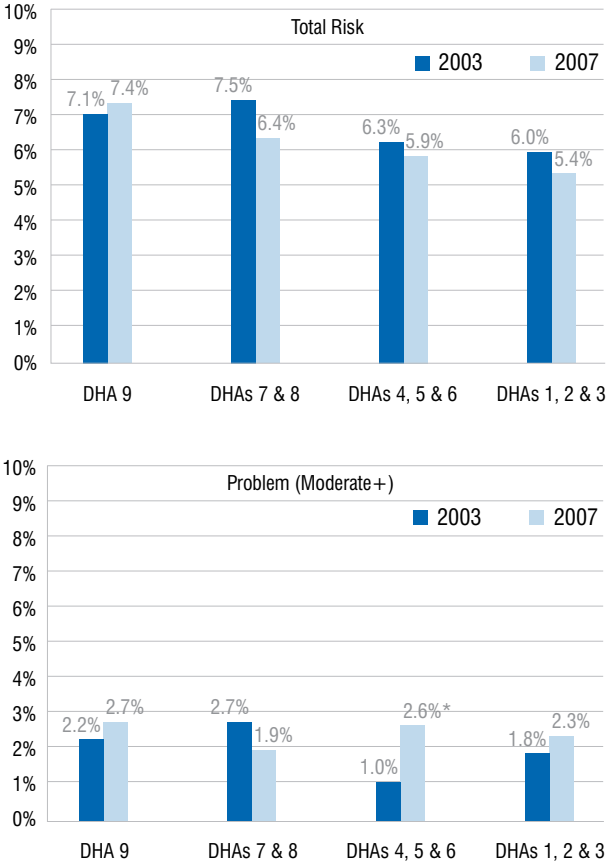


Figure 9: Comparison of Risk for Gambling Problems by Shared Service Area (2003 vs. 2007)



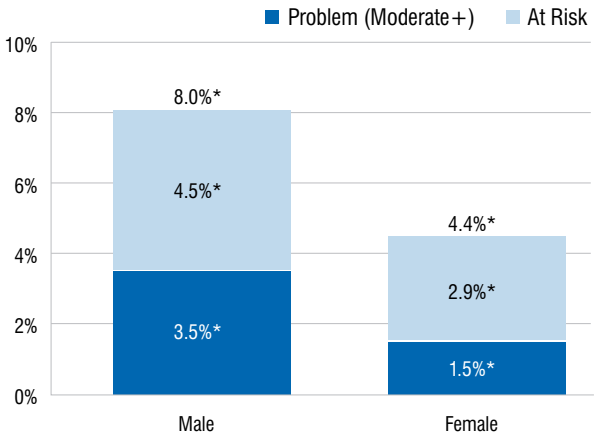
**indicates a significant difference between measurement periods at minimum 95% + C.I. (p <.05).*

- There were very few changes in risk of gambling in the DHAs from 2003 to 2007. The only exception was a significant increase in the total number of Problem gamblers in the Northern District (DHAs 4, 5 & 6; 2003: 1% versus 2007: 2.6%; p<.05).

Risk for Gambling Problem by Gender

As was the case in 2003, risk for gambling problems was almost twice as high among men (8%) in Nova Scotia as compared to women (4.4%), yet women still comprised about one-third of those identified as having gambling problems.

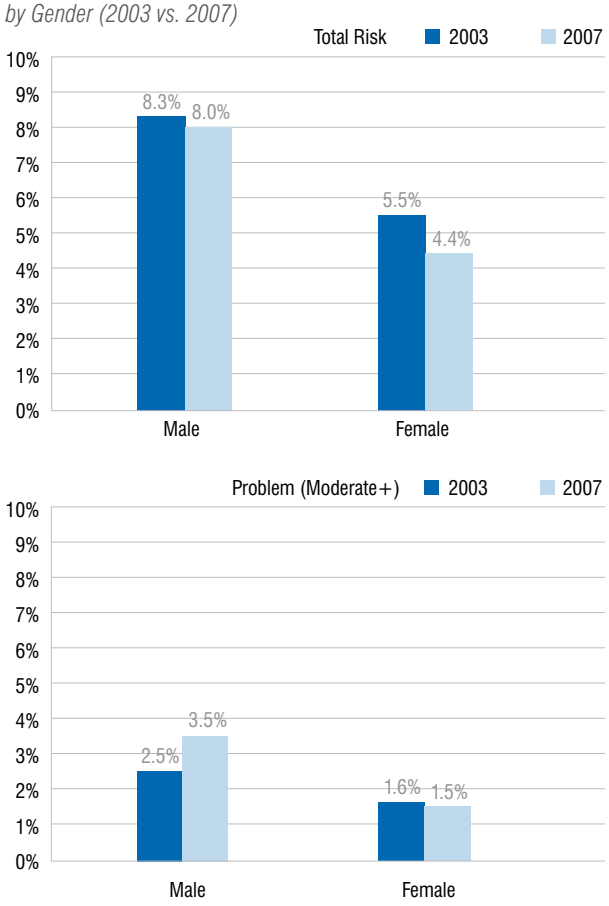
Figure 10: Risk for Gambling Problems by Gender (2007; n=2500)



** indicates significant differences between genders at minimum 95 + C.I. (p <.05).*

- Men and women in Nova Scotia were equally likely to have gambled in the last year but for men, the overall risk for problem gambling was almost two times greater (8.0% versus 4.4%). Men across the province have higher rates of those scoring At-Risk (4.5% versus 2.9%) or for problem gambling (3.5% versus 1.5%).
- Despite the skew towards males, women still comprised about 43% of all adults identified as being at some level of risk for gambling problems and one-third of those problem gamblers in the province.
- There were no significant changes in risk among men and women since the 2003 study. Males continued to report higher risk and problems for gambling in both 2003 and 2007.

Figure 11: Comparison of Risk for Gambling Problem by Gender (2003 vs. 2007)

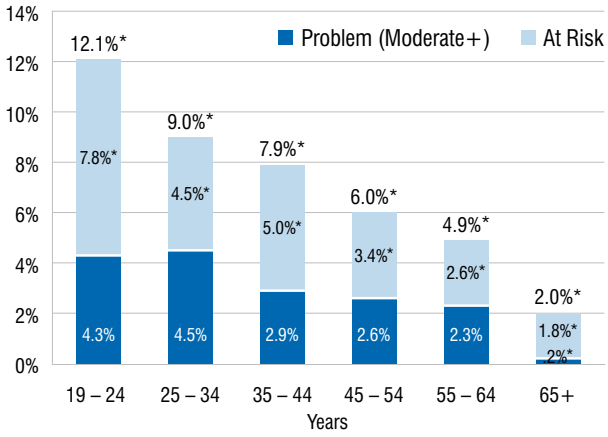


** Indicates significant differences between measurement periods at minimum 95% + C.I. (p <.05).*

Risk for Gambling Problem by Age

Risk for gambling problems decreased with age with those aged 19-24 having the highest levels of any risk (12.1%) declining to 2% among those over 65 years of age. In contrast, problems were similarly high among 19-34 year olds (≈ 4.4%) but there were no differences in the percentage scoring for gambling problems among those age 35-64 years of age (≈ 2.3-2.9%). Those 65 years of age or older was the only age group to have significantly lower levels of problem gambling (.2%). The evidence suggests that increased risk observed among younger adults in Nova Scotia in 2003 has translated into increased rates of problem gambling as these adults aged.

Figure 12: Risks for Gambling Problems by Age Category (2007; n=2500)



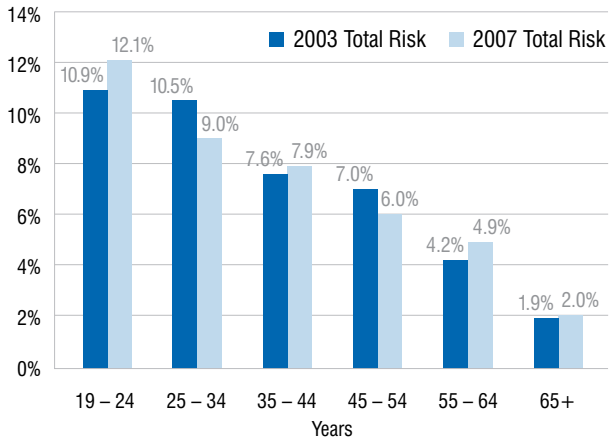
** Indicates significant differences among age groups at minimum 95 + C.I. (p <.05).*

- There was a strong relationship between age and risk for gambling problems; risk for gambling problems declined with age. However, gambling problems were highest among those under 35 years of age (≈ 4.3% - 4.5%) but did not differ significantly among those aged 35 to 64 years (2.9% to 2.3%). Only adults over 65 years of age had significantly lower rates of gambling problems (.2%).
- Increased risk among the young adults in Nova Scotia was first identified in 2003 and most likely reflected lifestyle characteristics and current distribution strategies for gambling in the province. For example, younger adults in Nova Scotia were more likely to socialize in venues or situations (e.g. bars, clubs, licensed establishments, casinos, university or college functions) that exposed them to higher risk forms of gambling (VLTs, poker games, sports betting, casino gambling) and to be comfortable with technology and or other higher risk forms of gambling delivery including gambling machines, internet, mobile phones.
- Of particular interest was whether increased rates of risk for gambling problems observed among young adults, would be associated with increased rates of gambling problems over time as they aged. In other words, do higher rates of gambling risk identified among young adults lead to higher rates of gambling problems over time?
- In Nova Scotia, the 25-34 age cohort (those born 1973-82) came of legal age to gamble and drink during a period of rapid gambling expansion, especially for continuous gambling options including increases in electronic gambling machines (VLTs, slots) and the opening of the casinos in the province.

When this group was younger (i.e. aged 19-24 years) they were identified as having high risk for gambling problems in previous research in 1998[52] and the 2003 Gambling Prevalence Study. In 2007 the majority of the 25-34 year old age cohort was married or living in a common-law relationship (67%), close to half had children under 19 years of age living in their household, over two-thirds were employed in fulltime jobs (70%). Thus, gambling problems can be expected to have more significant consequences at a personal, household, and community level than would be the case for when they were younger.

- To assess changes in risk and gambling problems over time, results for 2003 and 2007 were compared across the six primary age categories.

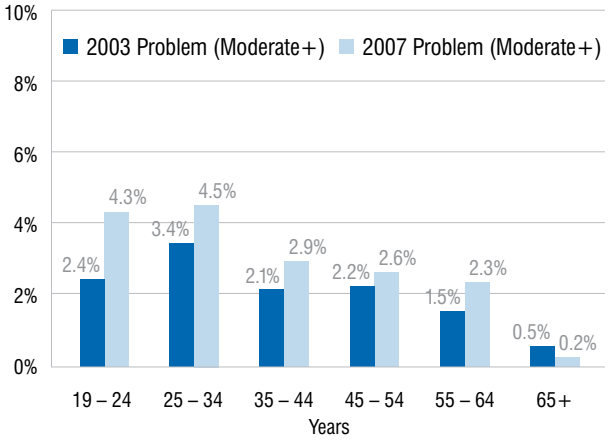
Figure 13: Comparison of Total Risks for Gambling Problem among Age Categories (2003 vs. 2007)



** Indicates significant differences between measures at minimum 95 + C.I. (p <.05).*

- The pattern of decreased risk as a function of increased age was found to be consistent in both 2003 and 2007 and did not differ significantly between the two measurement periods.

Figure 14: Comparison of Gambling Problems among Age Categories (2003 versus 2007)



**Indicates significant differences between measures at minimum 95 + C.I. (p <.05).*

- While there were no significant differences between the two studies in overall risk or for gambling problems for any of the age categories, the pattern of gambling problems seems to be changing.
- As noted previously, young adults (19 to 24 year olds) had the highest level of any risk for gambling problems. As this age cohort has continued to grow older, an elevated trend for problem gambling has emerged. Problem gambling rates were slightly yet consistently higher in all age categories under 65 years in 2007 than in 2003.
- In 2003 the prevalence of problem gambling was significantly lower for older adults over 55 years of age (<55 yrs: 2.1%-3.4% versus 55 yrs+: 0.5% - 1.5%). Four years later, this pattern was extended so that only adults 65 years old or older have significantly lower problem gambling rates (<65 years: 2.3%-4.5% versus 65 years +: 0.2%).
- The evidence suggests that increased risk previously observed among younger adults in Nova Scotia has translated into increased prevalence for problem gambling as these adults aged.
- Part of the reason behind comparatively lower rates of problem gambling among the oldest seniors in the province was due to the fact that older adults were simply less likely to take part in gambling activities (75% versus 90% to 92%). Lower participation rates among seniors may reflect access issues; the lack of mobility of many seniors and lack of access to gambling opportunities may be protective factors in reduced risk and gambling problems for seniors.

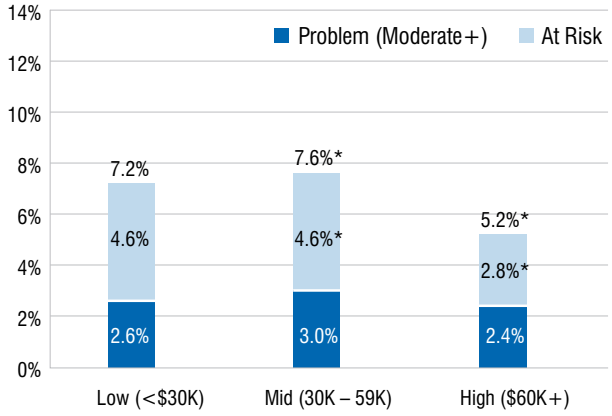
[52]1998 Nova Scotia Regular VL Players Study, Nova Scotia Department of Health, Final Report Focal Research Consultants.

However, if accessibility is improved such as having buses bring seniors to gambling facilities or facilitating gambling from home, seniors may be especially vulnerable to gambling problems given co-occurrence of other high risk factors among older adults including isolation, loneliness, death of spouse or partner, medication interactions and available time and resources.

Risks for Gambling By Household Income

Unlike 2003, income levels were a factor in gambling risk in the current study. While those living in the higher income households ($60,000+/year) were more likely to gamble, risks for gambling problems were significantly higher for those living in households with incomes under the $60,000 level, although the percentage identified as problem gamblers was similar over all income categories.

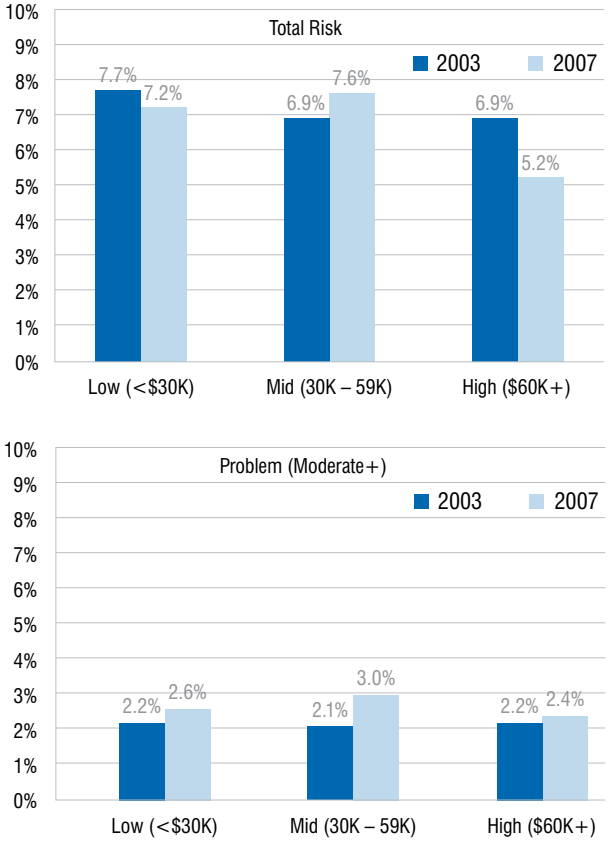
Figure 15: Risks for Gambling Problems by Income (Total Adults; n=2500)



**Indicates significant differences among income groups at minimum 95 + C.I. (p <.05).*

- In contrast to findings in 2003, there were differences in risk observed by annual household income in the 2007 study.
- Although the majority of people in all income brackets had gambled in the 12 months preceding the survey, the likelihood of having taken part in some type of gambling activity increased with annual household income (Low: 83.0%; Mid: 89.3%; High: 92.6%).
- For those in the highest income bracket ($60,000+), this increased involvement did not translate into greater risk. In fact, overall risk levels were significantly lower in the higher income category (5.2%) compared to those with household incomes under $60,000 per year (≈ 7.6%).
- However, despite increased risk associated with lower annual household income, there were no differences in the percent of adults scoring for gambling problems in any of the income segments.

Figure 16: Comparison Risk for Gambling Problems among Income Categories (2003 vs. 2007)



**Indicates significant differences between measurement periods at minimum 95% + C.I. (p <.05).*

- The only significant difference between 2003 and 2007 was a decrease in those scoring At-Risk for gambling problems among those making more than $60,000 per year (2003: 4.7% versus 2007: 2.8%).

Risks for Gambling By Other Demographic Characteristics

While gambling problems can happen to anyone, there were specific population segments in Nova Scotia that were found to be at elevated risk. In some cases high-risk segments were quite small in the population and, therefore, did not have a strong impact on overall profiles for of those scoring At-Risk; such as those who are disabled, students, unemployed, those who are separated from a spouse or partner. These groups comprised a

small proportion of all problem gamblers yet due to their unique characteristics (including higher risk for gambling problems) may require specialized attention.

In other cases (e.g. planning purposes) it is also helpful to know general profiles of those experiencing problems; even though married adults were found to be at lower risk for gambling problems this group still comprised almost half of all those people At-Risk or scoring for Problem Gambling in Nova Scotia.

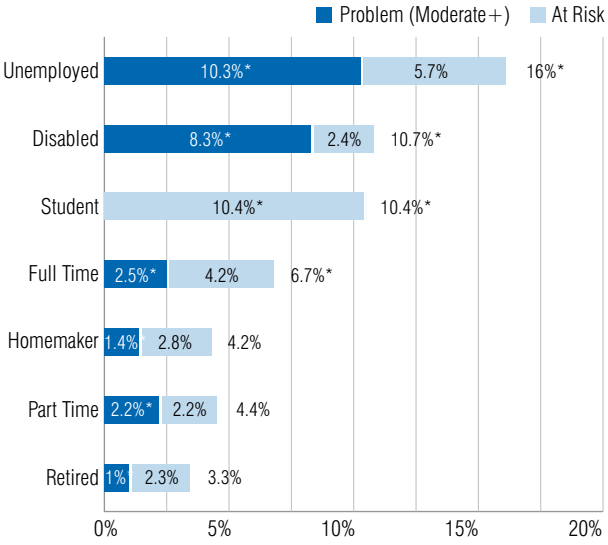
To gain additional insight about the profile of those scoring at risk for gambling problems in Nova Scotia the findings for 2007 were also examined by education, marital status, work status, type of occupation, area of residence (urban, rural), children in household, number of people in household and household composition.

Education

- Education was a factor for participation in gambling as well as risk for gambling problems although rates of problem gambling did not differ significantly among any of the education categories.
- Individuals with the highest (Post Graduates: 83.2%) and lowest education levels (< High School: 79.1%) were least likely to have taken part in any gambling activities over the past year compared to about 90% of those with at least a high school diploma.
- Post-graduates not only reported lower involvement levels in gambling (83.2%) but also tended to have fewer scoring as At-Risk gamblers (1.9%) or for any level of risk (3.8%).
- While those who had less than high school education were significantly less likely to take part in gambling in the 12 months prior to the survey, 6.2% of this group had some level of risk for problems, and among those who did gamble, 3.8% scored for gambling problems.
- Those with incomplete or partial post-secondary education had among the highest rates of those at any level of risk for problems (10.6%). Risk has typically been high among students and yet students were found to comprise only a minority of this group (≈ 12%) suggesting that those who failed to complete post-secondary education (e.g. drop-outs) have additional risk beyond that identified for students.

Work Status

Figure 17: Risks for Gambling Problems by Work Status (Total Adults; n=2500)



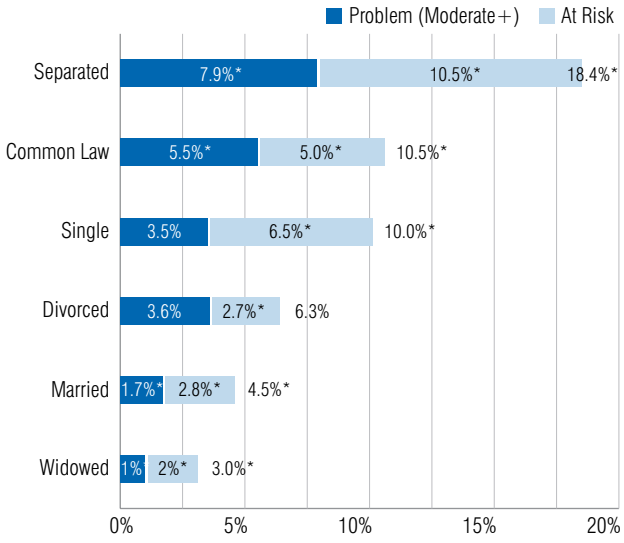
**Indicates significant differences among work status groups at minimum 95 + C.I. (p <.05).*

- Rates of gambling problems were significantly higher for individuals who were unemployed (10.3%) and disabled (8.3%) compared to problem rates of 1.0 to 2.5% for employed individuals, students, homemakers, and retirees.
- Students were more likely to gamble (92.5%) and had the highest levels of risk (10.4%).
- There were no differences in risks or gambling problems among any of the four occupational categories (White Collar, Grey Collar, Blue Collar, and Income Supported).

Marital Status & Household Composition

- While all of the "household" factors were significantly related to involvement in gambling, only marital status and the number of people contributing to household income were related to risk for gambling problems.
- Prevalence rates for being At-Risk for gambling problems was higher for those living in one-person income households (5.2%) than for those in two-person income households (3.2%).

Figure 18: Risk for Gambling Problem by Marital Status



**Indicates significant differences among work status groups at minimum 95 + C.I. (p <.05).*

- Individuals who were separated had both the highest rates of risk (10.5%) and the highest rates of gambling problems (7.9%). This suggests that being in the midst of relationship problems may be a time when people are particularly vulnerable to gambling problems. Conversely, gambling problems may be playing a role in some relationship problems or breakdowns.
- Interestingly, the same pattern was not seen with those who were divorced. Adults who were divorced had comparably lower rates of risk (2.7%) and problems (3.6%).
- The lifestyle characteristics of young adults may help explain the higher rates of risk for problems among those who were single / never married (6.5%) as over half were under 35 years of age.
- Those involved in formal marriages, either currently or in the past, tended to have lower rates of risk and gambling problems compared to those having less stable relationships.

How to Read the Profile Table 18:

The "Profile Table" shows the percentage of adults in each Risk Segment (Non-Gamblers; Non-Problem; At-Risk; Problem; and Total Adults) that fall into each of the demographic categories.

The Risk Segment and Total Adult columns each sum to 100% for each demographic variable (Shared Service Area, Gender, Age, and Income).

Comparisons are made among the Risk Segments (comparing numbers in each column horizontally) to determine if the distributions of demographic characteristics are different for those in each risk segment (i.e., Do Problem gamblers live in different areas of the province than Non-Problem or At-Risk gamblers?)

An asterisk (*) is used to indicate that there is a significant difference for that particular demographic characteristic among the Risk Segments (at a minimum 95% confidence level, $p<.05$, Chi square). This does not tell the reader how the distributions differ, only that there are differences.

Bold italic text is used to highlight the actual figures which are contributing to the differences observed (two-tailed z-tests for proportions, $p<.05$). This illustrates the primary distinctions between the group responses and assists in identifying patterns in the data.

How to Read the Penetration Table 19:

Penetration measures the percentage of adults in each demographic category (e.g. Shared Service Area, Gender, Age, Income, Education and Marital Status) that fall into the 4 CPGI Risk Segments for problem gambling.

Each demographic sub-segment is summed across the row to equal 100%. Therefore, the comparisons (test of significance) are conducted between the rows vertically. This means that the reader must compare numbers in the same columns. For example, the percentage of Problem gamblers in DHA 9 compared to DHAs 7&8.

Asterisks (*) are used to indicate that there is a significant difference in risk for problem gambling associated with the demographic characteristic being measured (at a minimum 95% confidence level, $p<.05$, Chi-square). This does not tell the reader which categories within that demographic characteristic differ, only that there are differences.

Again ***Bold italic text*** is used to highlight the actual figure(s) which are contributing to the differences observed (two-tailed z-tests for proportions, $p<.05$). This highlights the primary distinctions between the demographic groups.

Profile Risk for Gambling Problem by Key Population Segments

Table 18: Profile of Risk for Gambling Problem by Key Population Segments

			Risk Category		
	Non-Gamblers (n=326)	Non-Problem (Score=0) (n=2022)	At-Risk (Score 1-2) (n=91)	Problem (Score 3+) (n=61)	Total Adults (n=2500)
% of Adults in NS	13%	80.9%	3.6%	2.4%	100%
Shared Service Area (Health Districts): ***					
DHA 9 (Capital)	***32.8%***	***39.5%***	39.6%	42.6%	38.7%
DHAs 7 & 8 (Eastern)	***10.4%***	***17.7%***	***20.9%***	13.1%	16.7%
DHAs 4,5 & 6 (Northern)	23.6%	21.2%	19.8%	23.0%	21.5%
DHAs 1,2 & 3 (Western)	***33.1%***	21.6%	19.8%	21.3%	23.0%
Total	100%	100%	100%	100%	100%
Gender: ***					
Male	***46.9%***	***45.5%***	***57.1%***	***67.2%***	46.6%
Female	***53.1%***	***54.5%***	***42.9%***	***32.8%***	53.4%
Total	100%	100%	100%	100%	100%
Age: ***					
19-24 years	***4.6%***	***5.4%***	***12.1%***	***9.8%***	5.6%
25-34 years	***8.0%***	11.7%	14.3%	21.3%	11.6%
35-44 years	***12.9%***	21.6%	28.6%	24.6%	20.8%
45-54 years	***15.0%***	***24.9%***	22.0%	***24.6%***	23.5%
55-64 years	***21.8%***	18.5%	***13.2%***	18.0%	18.8%
65 years or older	***37.7%***	17.8%	9.9%	1.6%	19.7%
Total	100%	100%	100%	100%	100%
Annual Household Income: ***					
<$30,000 (Low)	***20.2%***	***14.6%***	19.8%	16.4%	15.6%
$30-59,999 (Mid)	***22.7%***	28.0%	35.2%	34.4%	27.7%
$60,000 + (High)	***19.6%***	***37.2%***	***26.4%***	***34.4%***	34.4%
Don't know/ refused	***37.4%***	20.2%	18.7%	14.8%	22.3%
Total	100%	100%	100%	100%	100%
Education: ***					
Less than Grade 12	***38.7%***	***21.8%***	***20.9%***	29.5%	24.1%
High School Grad	***15.0%***	***20.0%***	19.8%	19.7%	19.3%
Some University/College	9.5%	10.6%	15.4%	14.8%	10.7%
University/College Grad	***28.5%***	***41.3%***	***40.7%***	31.1%	39.4%
Post Grad	8.3%	6.3%	3.3%	4.9%	6.4%
Total	100%	100%	100%	100%	100%

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test.*
(*) Asterisks indicate that a particular demographic characteristic contributes to significant difference among gambling risk segments.
- (p<0.10) ** -95%+C.I. (p<0.05) * -99%+C.I. (p<0.01).*

Table 18 continued: Profile of Risk for Gambling Problem by Key Population Segments

	Risk Category				
	Non-Gamblers (n=326)	Non-Problem (Score= 0) (n=2022)	At-Risk (Score 1-2) (n=91)	Problem (Score 3+) (n=61)	Total Adults (n=2500)
Marital Status:***					
Single/never married	***16.0%***	***15.1%***	***28.6%***	***23.0%***	15.9%
Common-Law	***4.6%***	8.9%	12.1%	19.7%	8.7%
Married	***60.7%***	***62.9%***	***47.3%***	***42.6%***	61.5%
Separated	***1.2%***	***1.3%***	***4.4%***	***4.9%***	1.5%
Divorced	4.3%	4.4%	3.3%	6.6%	4.4%
Widowed	***13.2%***	7.3%	4.4%	3.3%	7.9%
Total	100%	100%	100%	100%	100%
Work Status: ***					
Full time	***33.1%***	53.4%	59.3%	52.5%	50.9%
Part time	9.8%	9.3%	5.5%	8.2%	9.2%
Unemployed	2.8%	3.2%	5.5%	***14.8%***	3.5%
Student	1.5%	2.7%	***7.7%***	–	2.7%
Homemaker	7.7%	5.5%	4.4%	3.3%	5.7%
Retired	***40.8%***	***22.9%***	***15.4%***	***9.8%***	24.6%
Disabled	4.3%	3.0%	2.2%	***11.5%***	3.4%
Total	100%	100%	100%	100%	100%
Occupation Category: ***					
White Collar	13.2%	16.8%	16.5%	13.1%	16.2%
Grey Collar	***13.5%***	25.2%	30.8%	26.2%	23.9%
Blue Collar	***16.3%***	***20.7%***	17.6%	21.3%	20.0%
Income Supported	***57.1%***	37.3%	35.2%	39.3%	39.9%
Total	100%	100%	100%	100%	100%
Area of Residence:					
Urban	46.3%	48.1%	46.2%	57.4%	48.0%
Rural	53.7%	51.9%	53.8%	42.6%	52.0%
Total	100%	100%	100%	100%	100%
Number of People in Household: ***					
One person	***20.2%***	***13.1%***	17.6%	***9.8%***	14.1%
Two people	***50.6%***	***44.2%***	***39.6%***	42.6%	44.8%
Three people	***13.2%***	***18.0%***	18.7%	19.7%	17.4%
Four people	***12.0%***	18.0%	18.7%	21.3%	17.3%
Five + people	***4.0%***	***6.8%***	5.5%	6.6%	6.4%
Total	100%	100%	100%	100%	100%
Number of Children in Household: ***					
No children	***82.5%***	68.5%	67.0%	63.9%	70.2%
One or more children	***17.5%***	31.5%	33.0%	36.1%	29.8%
Total	100%	100%	100%	100%	100%

Table 18 continued: Profile of Risk for Gambling Problem by Key Population Segments

	Risk Category				
	Non-Gamblers (n=326)	Non-Problem (Score=0) (n=2022)	At-Risk (Score 1-2) (n=91)	Problem (Score 3+) (n=61)	Total Adults (n=2500)
Household Composition: ***					
One adult, no children	***20.2%***	***13.1%***	17.6%	***9.8%***	14.1%
Two adults, no children	***50.0%***	***43.0%***	***37.4%***	42.6%	43.7%
Three+ adults, no children	12.3%	12.4%	12.1%	11.5%	12.3%
One adult, with children	1.5%	2.5%	3.3%	1.6%	2.4%
Two adults, with children	***14.1%***	23.4%	27.5%	26.2%	22.4%
Three+ adults, with children	***1.8%***	***5.6%***	***2.2%***	***8.2%***	5.0%
Total	100%	100%	100%	100%	100%
Number of People Contributing to Household Income: ***					
One person	22.4%	***19.4%***	***28.6%***	19.7%	20.1%
Two people	***37.1%***	57.2%	48.4%	60.7%	54.3%
Three people	1.8%	2.4%	1.1%	4.9%	2.3%
Four + people	1.2%	***0.8%***	***3.3%***	–	1.0%
Don't know/ refused	***37.4%***	20.2%	18.7%	14.8%	22.3%
Total	100%	100%	100%	100%	100%

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test.*
(*) Asterisks indicate that a particular demographic characteristic contributes to significant difference among gambling risk segments.
- (p<0.10) ** -95%+C.I. (p<0.05) * -99%+C.I. (p<0.01).*

Penetration of Risk for Gambling Problem by Key Population Segments

Table 19: Penetration of Risk for Gambling Problem by Key Population Segments

	Risk Category				
	Non-Gamblers (n=326)	Non-Problem (n=2022)	At-Risk (n=91)	Problem (n=61)	Total Adults (n=2500)
% of Adults in NS	13.0%	80.9%	3.6%	2.4%	100%
Shared Service Area (Health Districts): ***					
DHA 9 (Capital n=968)	***11.1%***	82.5%	3.7%	2.7%	100%
DHAs 7 & 8 (Eastern n=418)	***8.1%***	85.4%	4.5%	1.9%	100%
DHAs 4,5 & 6 (Northern n=538)	***14.3%***	79.7%	3.3%	2.6%	100%
DHAs 1,2 & 3 (Western n=576)	***18.8%***	***75.9%***	3.1%	2.3%	100%

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test.*
(*) Asterisks indicate that a particular demographic characteristic contributes to significant difference among gambling risk segments.
- (p<0.10) ** -95%+C.I. (p<0.05) * -99%+C.I. (p<0.01).*

Table 19 continued: Penetration of Risk for Gambling Problem by Key Population Segments

	Risk Category				
	Non-Gamblers (n=326)	Non-Problem (n=2022)	At-Risk (n=91)	Problem (n=61)	Total Adults (n=2500)
Gender: ***					
Male (n =141)	13.1%	***78.9%***	***4.5%***	***3.5%***	100%
Female (n= 1335)	13.0%	***82.6%***	***2.9%***	***1.5%***	100%
Age: ***					
19-24 years (n=141)	***10.6%***	***77.3%***	***7.8%***	4.3%	100%
25-34 years (n=289)	***9.0%***	***82.0%***	***4.5%***	4.5%	100%
35-44 years (n=520)	***8.1%***	***84.0%***	***5.0%***	2.9%	100%
45-54 years (n=588)	***8.3%***	***85.7%***	***3.4%***	2.6%	100%
55-64 years (n=469)	***15.1%***	***80.0%***	***2.6%***	2.3%	100%
65 years + (n=493)	***24.9%***	***73.0%***	***1.8%***	***0.2%***	100%
Annual Household Income: ***					
<$30,000 (Low n=389)	***17.0%***	***75.8%***	4.6%	2.6%	100%
$30-$59,999 (Mid n=693)	***10.7%***	***81.7%***	***4.6%***	3.0%	100%
$60,000+ (High n=861)	***7.4%***	***87.3%***	***2.8%***	2.4%	100%
Don't know/ refused (n=557)	***21.9%***	***73.4%***	3.1%	1.6%	100%
Education: ***					
Less than Grade 12 (n=603)	***20.9%***	***73.0%***	3.2%	3.0%	100%
High School Grad (n=483)	***10.1%***	83.6%	3.7%	2.5%	100%
Some University/College (n=268)	***11.6%***	79.9%	***5.2%***	3.4%	100%
University/College Grad (n=984)	***9.5%***	84.9%	3.8%	1.9%	100%
Post Grad (n=161)	***16.8%***	79.5%	***1.9%***	1.9%	100%
Marital Status: ***					
Single/Never Married (n=397)	***13.1%***	***76.8%***	***6.5%***	***3.5%***	100%
Common-Law (n=218)	***6.9%***	***82.6%***	***5.0%***	***5.5%***	100%
Married (n=1538)	***12.9%***	***82.6%***	***2.8%***	***1.7%***	100%
Separated (n=38)	***10.5%***	***71.1%***	***10.5%***	***7.9%***	100%
Divorced (n=110)	***12.7%***	80.9%	***2.7%***	3.6%	100%
Widowed (n=197)	***21.8%***	***75.1%***	***2.0%***	***1.0%***	100%
Work Status: ***					
Full time (n=1273)	***8.5%***	***84.8%***	4.2%	***2.5%***	100%
Part time (n=230)	***13.9%***	***81.7%***	2.2%	***2.2%***	100%
Unemployed (n=87)	***10.3%***	***73.6%***	5.7%	***10.3%***	100%
Student (n=67)	***7.5%***	82.1%	***10.4%***	–	100%
Homemaker (n=143)	***17.5%***	***78.3%***	2.8%	***1.4%***	100%
Retired (n=616)	***21.6%***	***75.2%***	2.3%	***1.0%***	100%
Disabled (n=84)	***16.7%***	***72.6%***	2.4%	***8.3%***	100%

Table 19 continued: Penetration of Risk for Gambling Problem by Key Population Segments

	Risk Category				
	Non-Gamblers (n=326)	Non-Problem (n=2022)	At-Risk (n=91)	Problem (n=61)	Total Adults (n=2500)
Occupation Category: ***					
White Collar (n=406)	***10.6%***	83.7%	3.7%	2.0%	100%
Grey Collar (n=597)	***7.4%***	85.3%	4.7%	2.7%	100%
Blue Collar (n=500)	***10.6%***	83.6%	3.2%	2.6%	100%
Income Supported (n=997)	***18.7%***	***75.7%***	3.2%	2.4%	100%
Area of Residence:					
Urban (n=353)	12.6%	81.0%	3.5%	2.9%	100%
Rural (n=1299)	13.5%	80.8%	3.8%	2.0%	100%
Number of People in Household: ***					
One Person (n=353)	***18.7%***	***75.1%***	4.5%	1.7%	100%
Two People (n=1120)	14.7%	79.7%	3.2%	2.3%	100%
Three People (n=435)	9.9%	83.4%	3.9%	2.8%	100%
Four People (n=432)	9.0%	84.0%	3.9%	3.0%	100%
Five+ People (n=160)	8.1%	86.3%	3.1%	2.5%	100%
Number of Children in Household: ***					
No children (n=1754)	***15.3%***	***79.0%***	3.5%	2.2%	100%
One or more children (n=746)	***7.6%***	***85.4%***	4.0%	2.9%	100%
Household Composition: ***					
One adult, no children (n=353)	***18.7%***	***75.1%***	4.5%	1.7%	100%
Two adults, no children (n=1093)	***14.9%***	***79.6%***	3.1%	2.4%	100%
Three+ adults, no children (n=308)	***13.0%***	***81.2%***	3.6%	2.3%	100%
One adult, with children (n=59)	***8.5%***	***84.7%***	5.1%	1.7%	100%
Two adults, with children (n=561)	***8.2%***	***84.5%***	4.5%	2.9%	100%
Three+ adults, with children (n=126)	***4.8%***	***89.7%***	1.6%	4.0%	100%
Number of People Contributing to Household Income: ***					
One Person (n=503)	***14.5%***	***77.9%***	***5.2%***	2.4%	100%
Two People (n=1358)	***8.9%***	***85.1%***	***3.2%***	2.7%	100%
Three People (n=58)	***10.3%***	82.8%	1.7%	5.2%	100%
Four+ People (n=24)	16.7%	70.8%	12.5%	–	100%
Don't know/ refused	***21.9%***	***73.4%***	***3.1%***	1.6%	100%

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test.*
(*) Asterisks indicate that a particular demographic characteristic contributes to significant difference among gambling risk segments.
- (p<0.10) ** -95%+C.I. (p<0.05) * -99%+C.I. (p<0.01).*

SECTION 4: 2007 MEASURE OF GAMBLING IN NOVA SCOTIA BY RISK FOR GAMBLING PROBLEMS (CPGI)

SECTION 4: 2007 MEASURE OF GAMBLING IN NOVA SCOTIA BY RISK FOR GAMBLING PROBLEMS (CPGI)

Section 4 provides a general overview of current involvement in gambling activities in Nova Scotia for all adults and by risk for problem gambling (CPGI). This information is intended to position prevalence results within the context of gambling behaviour, at large, in the population. Changes are examined between 2003 and 2007.

Each item measured in the survey for the 2007 Adult Gambling Prevalence Study was profiled by risk for gambling problems based on the four primary CPGI classifications. As was the case for examining demographic characteristics in Section 3 of the report, those adults taking part in the study were segmented into four groups based on their score on the nine-item Problem Gambling Severity Index (PGSI) of the Canadian Problem Gambling Index (CPGI): ***Non-Gamblers*** (no gambling in past year), ***Non-Problem gamblers*** (CPGI=0), ***At-Risk gamblers*** (CPGI=1-2) and, ***Problem gamblers*** (CPGI=3+):

CPGI Score		Risk Categories
0	Did not gamble in past 12 months	Non-Gambler
0	Gambled in past 12 months	Non-Problem
1-2	Gambled in past 12 months	At-Risk
3+	Gambled in past 12 months	Moderate + Problem

The results were compared among risk categories (tests of significance between risk categories) as well as compared for changes over time (test of significance between 2003 versus 2007).

Table 20: Sample Estimates and Margin of Error by Gambling Risk Segments

	Risk Categories				
	Non-Gamblers	Non-Problem Gamblers	At-Risk Gamblers	Problem Gamblers	Total Adults
Percentage of Population:					
2003	***10.7%***	***82.4%***	***4.8%***	***2.1%***	***100%***
2007	***13.0%***	***80.9%***	***3.6%***	***2.5%***	***100%***
Sample Size:					
2003	n=299	n=2311	n=134	n=56	2,800
2007	n=326	n=2022	n=91	n=61	2,500
Maximum margin of error within each subgroup (50% point estimate):					
2003	±5.67%	±2.04%	±8.47%	±13.10%	±1.85%
2007	±5.43%	±2.18%	±10.27%	±12.55%	±1.96%

All adults participating in the survey were asked for detailed play behaviours for 21 different types of gambling activities available in Nova Scotia.

Gambling Activities Measured:	
Lottery Tickets: • Daily Draws • Weekly or Semi-Weekly Draws • Scratch 'n Wins • Breakopens	Casino Gambling: • Slots • Table Games • Poker
Sports Betting: • ALC Sport Lottery • On-Line Sports Betting • Other Sports Bets/Pools	Poker Games (non-casino) • Online • At bars • With friends and family
Charity Raffles/Draws	Games of skill (e.g. personal bets, wagers)
50/50 Draws/Office Pools	Internet Gambling: • Wagering or betting • Not playing for money
VLTs	Horse Racing (e.g. Harness)
Bingo	Others (not mentioned above)

For each activity, the information gathered included:

- Trial (ever played)
- Regular play patterns (ever and current regular)
- Frequency of play/purchase in the last year (daily, weekly (1+ times/wk), monthly (1+ times/month), occasionally (< than once/month), rarely (once-twice/year), seasonally, did not play/purchase in last year)
- Number of times played/purchased per week, per month or per year
- Amount spent per time (or per year)
- Number of times played/purchased in last month
- Ever spent more time or money when gambling
- Ever experienced problems with amount of time or money spent and whether or not problems had been resolved (Self-reported problems with time or money spent gambling).

This information was used to derive overall gambling profiles and expenditure estimates as well as detailed profiles for each gambling activity for adults and by risk for problem gambling.

General Gambling Involvement

Although the percentage of adults who gambled in the past year has dropped slightly (2003: 89% versus 2007: 87%) gambling continued to be a pervasive activity with 94% of adults surveyed having gambled at least once in their lifetime and the vast majority having wagered money in the past year (87%).

Adults are more likely to be involved in gambling on a regular (54%) rather than casual (33%) basis with 95% of gambling revenues in the province coming from those who gamble regularly each month. More importantly, it appears that about 40% of gambling expenditures (losses) were continuing to come from those who scored at some level of risk for problem gambling (6.1% of adults in the province).

Table 21: General Participation in Gambling by Risk for Gambling Problem (CPGI)

	Risk Category				
	Non-Gamblers 2003 (n=299) 2007 (n=326)	Non-Problem 2003 (n=2311) 2007 (n=2022)	At-Risk 2003 (n=134) 2007 (n=91)	Problem 2003 (n=56) 2007 (n=61)	Total Adults 2003 (n=2800) 2007 (n=2500)
Ever Gambled:					
2003	***69.9%***	100%	100%	100%	96.8%
2007	***51.5%*** ↓	100%	100%	100%	93.7% ↓
Gambled in Last Year:					
2003	N/A	100%	100%	100%	89.3%
2007	N/A	100%	100%	100%	87.0% ↓
Gambling Status in Past Year:					
Casual Gamblers:					
2003	N/A	***40.2%***	14.9%	7.1%	34.0%
2007	N/A	***39.8%***	20.9%	14.7% ↑	33.3%
Regular Gamblers:					
2003	N/A	***59.8%***	85.1%	92.9%	55.3%
2007	N/A	***60.1%***	79.1%	85.3%	53.6%
Regular Monthly Gamblers (1+ times per month):					
2003	N/A	***25.1%***	21.8%	***14.3%***	22.0%
2007	N/A	23.1%	25.3%	14.8%	20.0% ↓
Regular Weekly Gamblers (at least 1+ times per week)					
2003	N/A	***34.7%***	***63.3%***	***78.6%***	33.3%
2007	N/A	***37.0%***	***53.8%***	***70.5%***	33.6%

Bold italic text *indicates significant differences among risk segments within each measurement period (minimum p <.05 for one-tailed tests; p<.10 for two-tailed test).*

↑↓ *Arrows indicate the direction of significant change within each risk segment over measurement periods (2003 vs. 2007) (minimum p <.05: one-tailed test; p<.10 for two-tailed test). Results suppressed due to small sample sizes (e.g. n<20).*

Table 22: Average Gambling Expenditure and Number of Gambling Activities by Risk (2003 vs. 2007)

	Risk Category				
	Non-Gamblers 2003 (n=299) 2007 (n=326)	Non-Problem 2003 (n=2311) 2007 (n=2022)	At-Risk 2003 (n=134) 2007 (n=91)	Problem 2003 (n=56) 2007 (n=61)	Total Adults 2003 (n=2800) 2007 (n=2500)
Average Expenditure:					
Total Adults					
2003	$0.00	***$427.07***	***$1,787.47***	***$6,981.41***	$577.66
2007	$0.00	***$457.73***	***$2,255.76***	***$6,413.87***	$608.82
Total Gamblers (played in last year)					
2003	N/A	***$427.07***	***$1,787.47***	***$6,981.41***	$646.72
2007	N/A	***$457.73***	***$2,255.76***	***$6,413.87***	$700.11
Casual Gamblers					
2003	N/A	***$64.52***	***$218.65***	–	$70.48
2007	N/A	***$79.86*** ↑	***$276.68*** ↑	–	$87.92 ↑
Regular Gamblers (play 1+ times per month)					
2003	N/A	***$670.79***	***$2,062.70***	***$7,463.56***	$1,001.47
2007	N/A	***$707.67***	***$2,778.01***	***$7,452.87***	$1,080.39
Average Number of Activities Played:					
Average number played per year					
2003	N/A	***3.65***	5.63	6.09	3.40
2007	N/A	***3.30*** ↓	5.53	5.75	3.01 ↓
Average number played regularly					
2003	N/A	***1.00***	***2.13***	***2.80***	0.99
2007	N/A	***0.96***	***1.79*** ↓	***2.44***	0.90 ↓

Bold italic text *indicates significant differences among risk segments within each measurement period (minimum p <.05 for one-tailed tests; p<.10 for two-tailed test).*

↑↓ *Arrows indicate the direction of significant change within each risk segment over measurement periods (2003 vs. 2007) (minimum p <.05: one-tailed test; p<.10 for two-tailed test). Results suppressed due to small sample sizes (e.g. n<20).*

- Similar to results elsewhere in Canada, it can be estimated that almost all adults in Nova Scotia have wagered money on a game of chance at some time (93.7%) with 87.0% having taken part in some type of gambling activity within the twelve months preceding the survey.
- There was a small yet significant decline in the percentage of adult Nova Scotians who have ever gambled (2003: 97% versus 2007: 94%) or gambled in the last year (2003: 89% versus 2007: 87%).
- Despite these small declines, the amount spent on gambling remained stable. On average adults were spending about $700 per gambler over the last year (representing gambling expenditures of ≈ $609 per adult in Nova Scotia).
- Over half of all adults (53.6%) were taking part in gambling on a regular basis each month, with more than one-third typically gambling once a week or more. The percentage playing on a regular weekly basis remained stable at 34% but there was a small dip in regular monthly gamblers (2003: 22.0% versus 2007: 20.0%)
- Based on reported play behaviours, it was calculated that Regular Gamblers (playing 1+/month) spent just over $1,000.00 per year and accounted for 95% of gambling revenues in the province of Nova Scotia in 2007. These findings were almost identical to results in 2003.
- In contrast, the one-third of adults who gambled on an occasional basis throughout the year spent about $88 annually on gambling and contributed only 4.9% of revenues. This was a significant increase over $70 spent on average by casual gamblers in 2003.

Figure 19: Gambling Status and Revenue Contribution (2007)

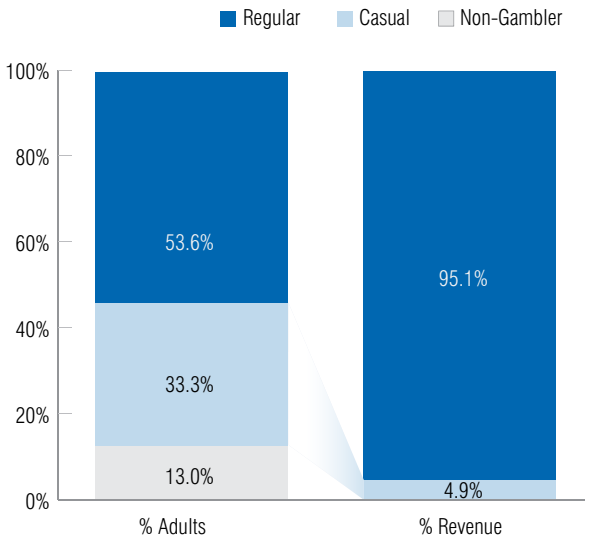
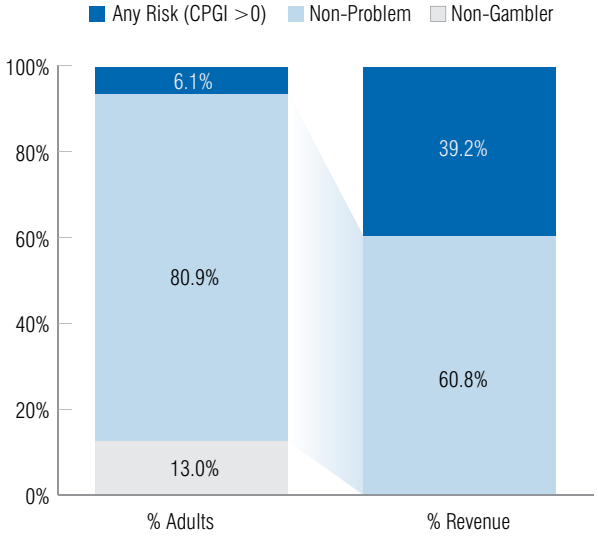


Figure 20: Risk for Gambling Problems and Revenue Contribution (2007)



Gambling Involvement by Risk for Gambling Problems

Frequency of play increased with risk for problem gambling. Those showing no problems with their gambling were more likely to be playing at casual levels (39.8%), least likely to gamble on a regular weekly basis (37%), and generally taking part in fewer different games. Expenditures among regular gamblers also increased with risk; Problem gamblers were losing over 10 times the amount of money lost by Non-Problem gamblers.

- Expenditures were also examined as a function of the CPGI risk classifications. Consistent with self-reported gambling involvement, this breakdown revealed that those scoring at any level of risk for gambling problems in Nova Scotia comprised 6.1% of adults in Nova Scotia but accounted for 39.2% of the gambling losses.
- Calculations based on reported play suggested that those who were classified as Non-Problem gamblers spent $458 per year, whereas At-Risk gamblers spent almost five times that amount ($2,256), and those scoring for Moderate to Severe Problems spent $6,414 yearly, a rate three times that of At-Risk gamblers and 14 times higher than Non-Problem gamblers.
- Not surprisingly, frequency of gambling differed significantly by risk for gambling problems. Adults who took part in gambling and were not triggering for any risk of developing problems were more likely to report casual play patterns (39.8%) than either At-Risk (20.9%) or Problem gamblers (14.7%).
- Conversely, those at any level of risk for problem gambling were significantly more likely to be involved in regular monthly playing patterns (79.1% to 85.3%) as compared to Non-Problem gamblers (60.1 %).
- Problem gamblers (70.5%) were significantly more likely to gamble on a regular weekly basis than other gamblers (At-Risk: 53.8%, Non-Problem: 37.0%). The same patterns were found in 2003. Therefore, simple frequency of play appears to be a strong indicator of an individual's risk for experiencing problems and contributes in part to the differences observed in expenditure among the various risk segments.
- While both At-Risk and Problem gamblers tended to wager on about 5 to 6 different types of gambling activities throughout the year, Non-Problem gamblers were involved in only about three different types.
- Even among those who gambled regularly, expenditure levels were over four times as high for At-Risk gamblers (≈ $2,778/year) versus Non-Problem (≈ $708/year), and more than 10 times higher among those scoring for Problem Gambling (≈ $7,453/year).

Changes in Gambling Participation Rates

Participation rates in gambling were slightly lower in 2007 than 2003. The decline was widespread, affecting most gambling activities with the exception of lottery draws and casino gambling, other than slot machines. The increase in lottery draws was due to a large jump in daily draw usage.

While there has been a small drop in the number of adults gambling in 2007 as compared to 2003, the amounts spent appeared to have increased, offsetting any significant drops in overall expenditures.

For example, the percentage of adults gambling in the past year decreased from 89.3% in 2003 to 87.0% in 2007. However, the average amount spent in the past year per adult did not differ significantly (2003:$577/adult versus 2007: $609/adult).

Table 23: Past-Year Participation Rates (1996, 2003 & 2007)

Type of Gambling	1996 (n=801)	2003 (n=2800)	2004 (n=2500)
Any Gambling	***92%***	***89%↓***	***87%↓***
Lottery Draws	73%	***74%***	***78% ↑***
Charity Raffles/Draws	***68%***	***65%↓***	***50%↓***
Instant Tickets (Scratch'n Wins, breakopens)	65%	***50%↓***	52%
VLTs	21%	***19%***	***14%↓***
Casino Slots	***29%***	***22%↓***	***16%↓***
Casino Other	***6%***	***4%↓***	4%
Bingo	14%	***15%***	***12%↓***
ALC Pro Line	5%	***5%***	***4%↓***

Bold italic text *indicates significant differences over time at 95% + confidence interval p <.05: one-tailed test).*

↑↓ *Arrows indicate the direction of change.*

- The decline in gambling participation rates was widespread with drops in participation rates occurring for most types of gambling activities.
- From 2003 to 2007, participation rates for casino slots dropped from 22% to 16% and rates for VLTs declined from 19% to 14%. Participation in non-commercial, charitable gaming also declined with a slight drop for bingo (15% to 12%) and a substantial decline in past-year participation rates for charity raffles & lotteries (65% to 50%).
- There was no change in the percentage of adults who participated at least once in other casino games (excluding slots) (4%) and instant lottery ticket purchases (52%) as compared to 2003.
- The only increase in participation rates occurred for ALC lottery draws (2003: 74% versus 2007: 78%). This increase was largely in response to purchasing of daily lottery draw tickets. In 2003, only 6.4% of adults had bought daily lottery tickets but by 2007, more than double that number (13.8%) had taken part in one of the daily lottery draws.

Self-Reported Problem Gambling

Overall, 2.3% ±.0.59% adults in Nova Scotia reported ever having a problem with the amount of time or money spent on gambling with more than half of these same people (1.4%, ±.0.46%) reporting current problems. While just over half of those scoring at problem levels on the CPGI self-reported problems with gambling activities, less than 10% of those scoring At-Risk reported a problem positioning this group as a key target for prevention efforts in order to avoid the development of negative consequences.

For each form of gambling measured in the survey, all respondents who have ever tried the activity were asked a series of questions regarding problems experienced with the amount of time or money spent on the activity. [53]

[53] For a detailed rationale as to the selection of "time" and "money" as principal designations for defining problems, readers are referred to the 1997/98 NS VL Players Survey and 2000 Regular VL Players Follow-Up Study conducted by Focal Research Consultants for the Nova Scotia Department of Health (www.gov.ns.ca/hpp/gambling/pg-resources.asp). The definitions were developed and tested by Focal Research for use as one of three measures comprising the PGTM (Problem Gambling Triangulation Method for problem gambling identification). The measure was designed after conducting primary research with both social non-Problem gamblers and those involved in heavy or problematic play. The questions were not intended to identify or diagnose problem gambling but rather were clear concise terms, easily and consistently understood by respondents and, therefore, were able to be systematically applied to each of the various types of gambling activities measured as a relative measure of "problems" associated with each form of gambling.

Table 24: Self-Reported Gambling Problems by CPGI Risk for Gambling Problem (2003 vs. 2007)

	Risk Category				
	Non-Gamblers 2003 (n=299) 2007 (n=326)	Non-Problem 2003 (n=2311) 2007 (n=2022)	At-Risk 2003 (n=134) 2007 (n=91)	Problem 2003 (n=56) 2007 (n=61)	Total Adults 2003 (n=2800) 2007 (n=2500)
Ever experienced a problem					
2003	***0.7%***	***0.9%***	***9.0%***	***66.1%***	2.5%
2007	***0.9%***	***0.8%***	***5.5%***	***55.7%***	2.3%
Currently experiencing a problem					
2003	N/A	***0.1%***	***3.0%***	***55.4%***	1.4%
2007	N/A	***0.3%***	***3.3%***	***42.6%***	1.4%

Bold italic text *indicates significant differences among risk segments within each measurement period (minimum p <.05 for one-tailed tests; p<.10 for two-tailed test).*

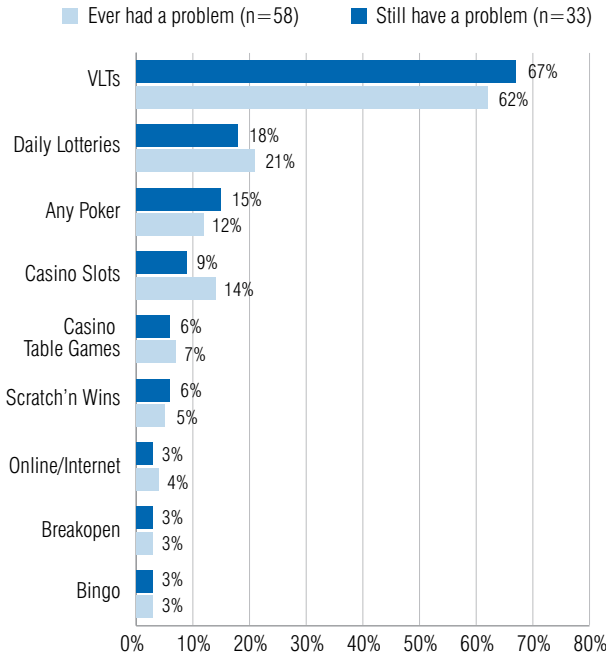
- Overall, 2.3% (±.59%) of adult respondents, representing about 18,000 adults across the province, self-reported that either now, or at some time in the past, they have had a problem with the amount of time or money spent on gambling.
- More than half of these same people (1.4%, ±.46%) reported current problems, suggesting that about 10,000 adults in Nova Scotia have ongoing, personal concerns surrounding some aspect of their gambling.
- Just under half (43%) of those who felt they have ever had a problem with any form of gambling (1.1% of adults; n=21) also believed that they had successfully resolved the issue, representing about 8,000 adults across the province who self-reported having overcome a problem with at least one form of gambling.

Type of Gambling Activity Associated with Self-Reported Gambling Problems

Video lottery terminals (VLTs) continued to be cited as the principal source of gambling problems in the province mentioned by two-thirds of those self-reporting a gambling problem. However, in 2007, there has been a shift towards negative impacts associated with ALC daily lottery products and commercial poker in addition to slots and casino table games. Problems with Internet gambling were only mentioned by 4% of those who have ever experienced problems.

All those who self-reported any gambling problems, now or in the past, were asked what types of gambling were associated with problems. There were 58 individuals that self-reported having ever experienced a problem with their gambling, 33 of whom were continuing to have trouble with at least one form of gambling.

Figure 21: Type of Gambling for Past and Current Self-Reported Gambling Problems (2007)



Ever Had a Gambling Problem (Self-Reported; n=58)

- Similar to 2003, the vast majority (81%) of those who self-reported having ever had a problem with gambling were associating the problem with only one form of gambling (1.9% of adults), 10% indicated problems with two types of gambling activities (.2% of adults), and only 9% (.2% of adults) reported problems with 3 or more forms of gambling.

- As was the case in 2003, those self-reporting having ever had a gambling problem were most likely to cite the involvement of VLTs (62%).
- However, in 2007 daily lotteries moved ahead of slots in second position. Approximately one in five people who self-reported any gambling problems specifically mentioned difficulties at some time with play of ALC's daily lottery ticket games, Bucko or daily Keno (21%).
- Slots (14%), any poker (12%), casino table games (7%), and Scratch 'n Win lottery tickets (5%) were also associated with problems.
- Other forms of gambling mentioned by less than 5% of those who had problems were on-line gambling (4%), sports betting (4%), ALC breakopen tickets (3%) and bingo (3%).

Currently Have a Gambling Problem (Self-Reported; n=33)

- Current gambling problems in Nova Scotia were even more strongly skewed towards a single type of gambling activity; 85% of those who reported having an ongoing gambling problem cited only one type of gambling as being associated with problems for them (1.2% of adults). This again suggests that, in Nova Scotia, adults' perceptions about their own gambling problems tend to be more "activity" specific rather than general in nature.
- Again, video lottery (67%) was cited as the principal cause of ongoing gambling problems in the province at a rate even higher than that noted by those having ever had a problem (62%). This was only one of two forms of gambling which was skewed towards current problems, suggesting that this is a more difficult gambling problem for gamblers to overcome. In fact, among those who have ever had a problem with video lottery the majority (61%) continue to experience problems.
- Daily lotteries (18%) followed closely by poker (15%) were mentioned most often after VLTs as being associated with current gambling problems in the province.
- Slots (9%), casino table games (6%), and ALC Scratch 'n Win instant lottery tickets (6%) were also mentioned by those who reported ongoing gambling problems.
- Only 3% mentioned any of the other forms of gambling including internet, sports betting, breakopens, or bingo.

Self-Reported Gambling Problems by CPGI Segment

- Just over half of those scoring at problem levels on the CPGI also self-reported having *ever* had a problem with gambling at some time, with just under half (42.6%) reporting *current* problems with some type of gambling.
- This is in strong contrast to self-reported problems by adults falling in the other CPGI risk segments. Only 5.5% of At-Risk gamblers had ever felt they were having a problem related to their gambling, with the majority (60%) of these same adults (3.3% of all those scoring At-Risk) reporting ongoing concerns.
- Less than 1% of Non-Problem gamblers and Non-Gamblers felt that they had ever had a problem with the amount of time or money spent on any gambling activity and almost none of these same individuals were reporting any current problems (0.3% of Non-Problem gamblers).
- However, 76% of Problem gamblers who self-reported having ever had a problem with their gambling were continuing to struggle with the issue.

Table 25: Risk for Gambling Problem (CPGI) by Self-Reported Problems and Resolution (2007)

	Risk Category				
	Non-Gamblers	Non-Problem	At-Risk	Problem	Total Adults
Ever had a gambling problem					
(n=58)	5.2%	27.6%	8.6%	58.6%	100%
Have solved a past problem					
(n=23) ▼	13.0%	43.5%	8.7%	34.8%	100%
Continue to have a current problem					
(n=35)	N/A	17.1%	8.6%	74.3%	100%

▼*Due to small sample sizes (n<30), results should be treated with caution.*

Self-reported gambling problems were examined by the CPGI Risk Segments.

- Adults scoring at problem levels on the CPGI comprised about 58.6% of all those who reported having ever had a problem with any form of gambling, and represented 74.3% of those adults currently identifying some aspect of their gambling as problematic. This suggests that the CPGI is an effective screen in identifying most of those who are already concerned about a gambling problem.
- However, one-quarter of people who currently believe they are having problems with some form of gambling were only scoring as Non-Problem or At-Risk levels on the CPGI. This means that about one in every four people self-identifying gambling problems in Nova Scotia are not being picked up by conventional screens such as the CPGI. Thus reliance on such screens may overlook a significant group of people having problems with their gambling.

Involvement by Type of Gambling Activity

For each gambling activity measured in the study, participants were questioned to obtain detailed play behaviours. For each activity tried, respondents were asked whether or not they had ever experienced any problems with the amount of time and/or money spent on the gambling activity, whether or not they had successfully resolved their problems, and either how long ago the problem was resolved or the length of time they had been experiencing problems with this form of gambling.

Table 26: Gambling Involvement by Type of Gambling Activity (Total Adults)

	Total Adults					
2003 (n=2800) 2007 (n=2500)	Ever Gambled on Activity	Gambled in Last Year	Regular Monthly Gambling	Regular Weekly Gambling	Ever Had a Problem	Current Problem
Any Game of Chance:						
2003	96.8%	89.3%	55.3%	33.3%	2.5%	1.4%
2007	93.7% ↓	87.0% ↓	53.6%	33.6%	2.3%	1.4%
Lottery Tickets Total:						
2003	88.2%	79.1%	44.5%	25.8%	0.8%	0.5%
2007	85.7% ↓	77.6%	44.8%	25.5%	0.7%	0.4%
Daily Lottery						
2003	9.0%	6.4%	2.1%	1.1%	0.1%	–
2007	19.4% ↑	13.8% ↑	3.9% ↑	1.7% ↑	0.5% ↑	0.2% ↑
Weekly Lottery Draws						
2003	81.1%	71.4%	37.4%	22.0%	0.3%	0.2%
2007	78.8% ↓	69.9%	39.4%	23.2%	<0.1% ↓	<0.1% ↓
Scratch'n Win						
2003	62.1%	48.4%	15.4%	5.7%	0.4%	0.3%
2007	61.1%	49.8%	12.4% ↓	3.6% ↓	0.1% ↓	0.1%
Breakopens						
2003	26.3%	14.2%	3.4%	1.1%	0.1%	–
2007	23.2% ↓	12.0% ↓	2.0% ↓	0.7%	0.1%	<0.1%
Sports Betting Total:						
2003	19.1%	10.8%	2.2%	1.3%	0.1%	<0.1%
2007	11.7% ↓	6.9% ↓	2.6%	2.0%↑	0.1%	<0.1%
ALC Sport Select						
2003	7.7%	4.5%	1.6%	0.9%	0.1%	–
2007	7.3%	3.8%	1.8%	1.3%	<0.1%	<0.1%

↑↓Arrows indicate the direction of significant change within each risk segment over measurement periods (2003 vs. 2007) (minimum p <.05: one-tailed test; p<.10 for two-tailed test).

Table 26 Continued: Gambling Involvement by Type of Gambling Activity (Total Adults)

	Total Adults					
2003 (n=2800) 2007 (n=2500)	Ever Gambled on Activity	Gambled in Last Year	Regular Monthly Gambling	Regular Weekly Gambling	Ever Had a Problem	Current Problem
Other Sports Betting						
2003	14.3%	7.5%	0.7%	0.4%	0.1%	–
2007	6.2% ↓	3.8% ↓	0.9%	0.7%	–	–
Online Sports Betting						
2003	–	–	–	–	–	–
2007	0.6%	0.2%	–	–	<0.1%	–
Any Casino Gambling:						
2003	45.6%	23.3%	1.9%	0.8%	0.6%	0.4%
2007	45.6%	17.2% ↓	0.8% ↓	0.2% ↓	0.4%	0.2%
Slot Machines at Casino						
2003	44.2%	22.2%	1.6%	0.6%	0.4%	0.3%
2007	42.8%	15.5% ↓	0.8% ↓	0.2% ↓	0.3%	0.1%
Casino Table Games (including poker games)						
2003	10.6%	4.4%	0.4%	0.2%	0.3%	0.1%
2007	10.7%	3.6%	0.1% ↓	–	0.2%	0.1%
Video Lottery						
2003	36.7%	19.0%	5.1%	1.8%	1.3%	0.8%
2007	30.5% ↓	13.6% ↓	3.6% ↓	1.3%	1.4%	0.9%
Bingo						
2003	55.6%	15.3%	5.5%	2.9%	0.5%	0.1%
2007	42.7% ↓	11.6% ↓	4.3% ↓	2.9%	0.1% ↓	<0.1%
Charity Raffles/Draws						
2003	78.2%	64.5%	7.6%	0.9%	–	–
2007	61.5% ↓	50.5% ↓	5.8% ↓	1.9% ↑	–	–
Poker (non-Casino)						
2003	–	–	–	–	–	–
2007	17.2%	8.9%	2.0%	0.8%	0.2%	0.2%
Poker games online						
2003	–	–	–	–	–	–
2007	1.0%	0.4%	0.2%	0.2%	<0.1%	<0.1%
Poker games at bars						
2003	–	–	–	–	–	–
2007	1.1%	0.6%	0.2%	0.1%	<0.1%	<0.1%
Poker games with friends/family						
2003	–	–	–	–	–	–
2007	16.5%	8.5%	1.8%	0.5%	0.1%	<0.1%

↑↓Arrows indicate the direction of significant change within each risk segment over measurement periods (2003 vs. 2007) (minimum p <.05: one-tailed test; p<.10 for two-tailed test).

Table 26 Continued: Gambling Involvement by Type of Gambling Activity (Total Adults)

	Total Adults					
2003 (n=2800) 2007 (n=2500)	Ever Gambled on Activity	Gambled in Last Year	Regular Monthly Gambling	Regular Weekly Gambling	Ever Had a Problem	Current Problem
Games of Skill						
2003	9.6%	4.6%	0.8%	0.6%	–	–
2007	4.2% ↓	1.8% ↓	0.3% ↓	0.1% ↓	–	–
50/50 Draws						
2003	55.1%	39.3%	12.9%	7.1%	–	–
2007	47.3% ↓	34.0% ↓	8.7% ↓	5.0% ↓	–	–
Horse Racing/Harness Racing						
2003	12.9%	1.3%	–	–	–	–
2007	11.1% ↓	1.3%	0.3%	0.2%	–	–
Internet Betting/Gambling						
2003	0.4%	0.2%	–	–	–	–
2007	0.4%	0.2%	–	–	–	–

↑↓ Arrows indicate the direction of significant change within each risk segment over measurement periods (2003 vs. 2007) (minimum p <.05: one-tailed test; p<.10 for two-tailed test).

Lottery Tickets Overall

- Atlantic Lottery Corporation (ALC) lottery tickets were by far the most popular game of chance in Nova Scotia and were associated with the majority (77.6%) of gambling over the past year. Lottery tickets also accounted for most of the regular involvement in gambling; 44.8% of adults purchased at least one ALC lottery-type ticket regularly each month, a rate that was at minimum 5 times higher than for any other form of gambling. Most popular of these were the weekly lottery draws where rates of regular play were at least twice as high as compared to any other gambling activity available in Nova Scotia.
- Collectively, about 0.7% (± .33%), representing about 5,250 adults in Nova Scotia, reported having ever experienced any problems with the amount of time or money being spent playing any lottery ticket games with .4% continuing to have problems.

Weekly Draw Tickets

- Despite the fact that weekly draw ticket games have the highest rates of trial (78.8%), yearly participation rates (69.9%), and regular play (39.4%), less than 0.1% (± .12%) of adults indicated that they have ever had a problem with this type of gambling.

Daily Draw Tickets

- Findings for daily lottery draws were in sharp contrast to results for weekly lottery draws. In the current study, 19.4% of adults in Nova Scotia had tried a daily lottery draw ticket as compared to only 9.0% in 2003) with almost 14% reporting any purchases in the past twelve months. About one in five of those who have ever tried the games had taken up regular playing patterns of at least once a month or more. Over the past year, 3.9% of adults were purchasing daily lottery draws on a regular monthly basis with 1.7% taking part every week.
- The percentage of adults reporting they had experienced problems with play of daily lotteries increased strongly since 2003 moving from 0.1% to 0.5% of the adult population, or almost 4,000 adults in the province. Just under half of these people (0.2%) reported that they were continuing to have difficulties with the amount of time and money they were spending on this form of gambling. In fact, over two-thirds of all reported problems with lottery ticket purchases were attributed to the daily draw products positioning this as a higher-risk lottery ticket product.

Scratch 'n Wins

- In 2003 Scratch 'n Win instant lottery games were found to pose greater risk to consumers than weekly draw type tickets, although a similar percentage of adults in the province were self-identifying problems with either type of ticket game (0.1% for both). Compared to lottery draws, fewer adults purchased the instant games in the past year (49.8% versus 69.9%) and only a third of the adults reported regular monthly purchasing (12.4% versus 39.4%), yet the percentage of adults reporting problems was comparable.
- While the number of adults buying instant tickets over the past year was similar in 2003 (48.4%) and 2007 (49.8%), regular purchasing patterns have fallen off with only 12.4% purchasing regularly each month versus 15.4% in 2003 and regular weekly play down to 3.6% from 5.7% in 2003.

- The percent of adults reporting problems with this form of gambling has also declined from a high of 0.4% in 2003 to only 0.1% in 2007.

Charity Raffles and Draws

- Charity raffles/draws were the second most commonly reported game of chance with half of adults having purchased such tickets in the past year (down from 64.5% in 2003). However, these tickets were played regularly each month by only a small percent of adults in the province (5.8%), and, as was the case in 2003, no adults in the current study reported having trouble with this type of gambling activity.

50/50 Draws

- A similar pattern has emerged for charitable tickets and 50/50 draws; 50/50 draws were participated in by a relatively high percentage of the population each year (34.0%) but were not associated with any problems.
- Regular play of 50/50 draws is down compared to 2003 (13.7%, versus 20.0%). Since regular play was most strongly associated with problem development, as these informal types of gambling become more accessible on a regular basis, risk for problems may also increase. However, at present, even relatively high participation rates for 50/50 type draws has not translated into problems for those taking part in the activity.

Casino Gambling

- The next most popular form of gambling in Nova Scotia was casino gambling (17.2%) with slot machines accounting for the vast majority of participation at casinos over the past year (15.5% of adults). In contrast, only 3.6% of adults took part in any table games at a casino.
- The percentage of adults who have ever tried slot machines exceeded that observed for video lottery (42.8% versus 30.5%). Past-year participation rates for slot machines (15.5%) were higher than those for VLTs (13.6%) and bingo (11.6%). However compared to both video lottery (3.6%) and bingo (4.3%), rates of regular monthly gambling for casino table games (.1%) or slots (.8%) were significantly lower.
- There were declines reported in the percentage of adults taking part in casino gambling in the past year (2003: 23.2% versus 2007: 17.2%) largely due to a 30% drop in participation rates for slot machine gambling (2003: 22.2% versus 2007: 15.5%). The percentage of adults gambling regularly declined by at least half for both slots and table games, with less than 1% visiting a casino at least once per month for gambling purposes.
- Despite lower regular involvement by adults, approximately 0.4% or ≈ 3,000 adults reported problems with their casino gambling at some time, with half indicating that they were continuing to struggle with their casino gambling problems.
- The majority of the problems experienced in casinos were driven by slot machines (0.3%), primarily due to higher participation rates for the machines over table games. Those gambling at casino table games were even more likely to have experienced problems but comprised a smaller proportion of the population at large, due to fewer people taking part in the activity (0.2% of adults reported ever having a problem).

Video Lottery

- Participation in video lottery in Nova Scotia has significantly decreased since the 2003 study with about 30% having ever tried the machines (down from 36.7%), 14% having played in the last year (down from 19.0%) and 3.6% playing on a regular and continuous monthly basis over the past year (down from 5.1%).
- Regardless, VLT participation continued to be associated most strongly with self-reported problems in terms of the amount of time and/or money being spent. In 2007, 1.4% (or 10,500) of adults reported gambling problems with VLTs. This rate of self-identified problem gambling was almost three times as high as for any other single type of gambling in the province, including casino gambling in general (0.4%), slot machines specifically (0.3%) and daily draw tickets (0.5%).

Bingo

- Although just under half (42.7%) of all adults had played bingo at some time in the past, only 11.6% took part in the last year with 4.3% playing regularly each month. These numbers were all significantly lower than the involvement rates in 2003. Past rates of self-reported problems (i.e. ever had a problem) with bingo were very low (0.1% of adults).

Sports Betting

- Collectively, approximately 11.7% of adults in Nova Scotia had ever wagered on either ALC's sports lottery (7.3%), on-line sports betting (.6%) or other non-regulated sports betting, including pools and personal/private wagers (6.2%).
- In the past year, 6.9% participated in this type of gambling with very little overlap between those responding to the ALC product (3.8%) versus other sports betting (3.8%), suggesting that these two types of sports betting were targeting distinct groups in the population.
- Of interest was a significant decrease in non-regulated sports betting since 2003 with past-year participation rates dropping almost by half (2003: 7.5% versus 2007: 3.8%). In 2007, the percentage of adults wagering on ProLine, ALC's sports lottery, was on par with participation in non-regulated sports betting (3.8%).
- As noted for casino table games, low levels of sports betting in the general population resulted in insufficient sample sizes to assess

problem development accurately among the regular player base for this type of gambling.

- Regardless, the absolute percentage of adults reporting problems is currently low for all forms of sports betting available in the province (0.1% or less of adults) although due to the low occurrence of sports betting in the population the sample size may not accurately detect risk levels within this small select group of regular sports bettors. Before expanding the availability and/or accessibility of commercial sports betting, in the province it would be helpful to examine risk within a sub-group of regular users.

Games of Skill

- Betting on games of skill such as pool, darts, bowling, or golf for money in Nova Scotia decreased since the last prevalence study with only 1.8% of adults reporting participating in the past year compared to 4.6% in 2003. Levels of regular gambling on these games were very low (0.1%) and, thus, had no detectable impact for gambling problems in the province.

Poker

- Playing poker for money in private non-commercial games was a moderately common practice with 16.5% of adults reporting that they had wagered on poker with friends and family at some time and about half (8.5%) playing during the past year.
- Regular gambling patterns for private poker were very low (1.8%), with only 0.1% reporting having ever had problems playing non-regulated, private poker at some time in the past. In total this means that only about 1% of all those who have ever gambled on poker with friends or families have ever experienced any problems.
- In contrast, only 5.8% of adults had ever wagered on a commercial game of poker either at the casino (4.4%), at a liquor-licensed bar in Nova Scotia (1.1%) or on-line over the internet (1.0%).
- Overall, about 0.3% of adults reported having problems associated with commercial poker. About half of the problems identified were associated with a casino version of poker; about 1 in every 17 people (5.8%) who have ever played poker at a casino have experienced problems versus 1 in 140 (0.7%) for those playing poker in a private setting.
- Very few adults in Nova Scotia have played online poker (0.4%) or poker in bars (0.6%) in the past twelve months and yet collectively problems were reported by 0.1% of adults for these commercial versions of the game.
- Overall, 1.9% of adults (n=47) have tried commercial forms of poker outside of casino (e.g., at bar or on-line) and about 1 in 25 have developed problems suggesting that commercial poker poses greater hazards for adults in Nova Scotia than private poker games. Moreover, rates of problem development associated with trial of this form of gambling were similar to that observed for video lottery in the Nova Scotia (4.7%, or one in every 20 people who tried the games, developed problems).

Horse/Harness Racing

- Although horse and harness racing had been tried in the past by about 11% of Nova Scotian adults, past-year participation is low at 1.3% and, consequently, there is insufficient data available to examine gambling behaviour for this form of gambling in greater detail.
- Due to low involvement levels, participation in harness racing had a small impact on problem gambling prevalence or resources in the province. This is in strong contrast to other regions of Canada and internationally, where ongoing development and expansion of racing venues and amenities (e.g., "racinos") support higher patronage levels and, not coincidentally, an accompanying increase in risk for problems associated with this type of gambling. Again, it may be helpful from a policy perspective to determine impacts among regular harness race bettors in order to assess the potential impact of any changes in distribution or product up-take.

Internet Gambling

- In general there were very low involvement levels with non-regulated internet gambling in Nova Scotia, with only 1.6% (n=41) having ever tried gambling on-line, including on-line poker (1.0%), sports betting (0.6%) and other forms of on-line wagering (0.4%).
- In the past year, less than 1% reported wagering on any of these forms of internet gambling; on-line poker (0.4%), sports betting (0.2%), other forms of on-line wagering (0.2%).
- Among those who have ever tried internet gambling about 1 in 20 (4.9%) reported developing problems with the amount of time and money they spent on this activity. As noted for poker, this preliminary rate of problem development was almost identical to that well documented for VLTs (4.7%).

Use of ALC's On-line Internet Gambling Site (PlaySphere)

Table 27: Purchase of Lottery Tickets Online (ALC) by Age and Risk Category (2007 Only)

	Risk for Gambling (CPGI)			
	Non-Problem (Score= 0) 2007 (n=2022)	At-Risk (Score= 1-2) 2007 (n=91)	Problem (Score= 3+) 2007 (n=61)	Total Past Year Gamblers 2007 (n=2174)
ALC PlaySphere Member:				
Ever a member	1.8%	4.4%	4.8%	2.1%
Past member	0.3%	1.1%	1.6%	0.6%
Current member	1.5%	3.3%	3.3%	1.5%
Purchased in Last Year:				
	0.9%	***3.3%***	1.6%	1.1%
Frequency of Purchase:				
Rarely	0.4%	–	–	0.4%
Occasionally	***0.2%***	–	***1.6%***	0.3%
Regularly (1+/month)	***0.3%***	***3.3%***	–	0.4%

Bold italic text *indicates significant differences among risk segments within each measurement period (minimum p <.05 for one-tailed tests; p<.10 for two-tailed test).*

Since the last gambling prevalence study in 2003, Atlantic Lottery Corporation introduced PlaySphere, an on-line gambling site that promotes ALC's products and allows adults 19 years of age and older to purchase lottery tickets through the internet, cellular phones and PDAs. In August 2004, people in the four Atlantic provinces of Canada could start buying draw tickets and sports games from over the internet using this site. In addition to traditional lottery games, PlaySphere also offers several interactive games including iBingo (single or multiplayer games), Pick'n Click (a matching game with prizes from $1 to $1,500) and Hold 'em Poker (prizes from free play to $10,000). Players must register and add money to their account to use PlaySphere. Money won automatically goes back into the player's account. Options are available to self-set weekly spending limits, age controls, and self-exclusion. In 2006-07, PlaySphere accounted for sales of $1.8 million in Nova Scotia.[54]

In order to gauge response towards and use of the site a series of questions were included in the 2007 survey.

- About 2.1% of adults have tried the site at some point in time. While just under a third of trial visitors dropped the service, 70% were current members and about half had purchased through the site over the last year (1% of adults).
- For the most part purchasing was reported to be casual although .4% (≈ 3,100) of adults indicated that they were making regular monthly purchases.
- Although sample sizes for regular PlaySphere users were too low (n=10) for detailed profiling, it was possible to profile PlaySphere members (n=45) and trial visitors (n=531).
- Those who joined PlaySphere tended to be heavily skewed towards 35 to 54 years of age (66%). Although the majority were working full-time (68%), one in five was income supported with a rate of homemakers (9%) and unemployed (7%) twice that found in the general population. Household incomes were skewed to the mid-range with half of those who reported annual income falling between $30,000 and $60,000 per year. Most were married (66%), had university or college educations levels, and, comparatively, had a higher rate of children living in the home (41%). While men were more likely to have visited the site (≈ 67%), men and women were almost equally likely to become members and to purchase on-line at ALC's site. The vast majority were regular gamblers (88%).
- This profile consisted of those who traditionally tended to have lower rates of risk for gambling problems. In the past, professional, family, and personal responsibilities have impeded access and opportunity for engaging in higher risk forms of gambling. It may be that the introduction of on-line gambling in the convenience of work or home will increase risk for gambling problems among these groups.

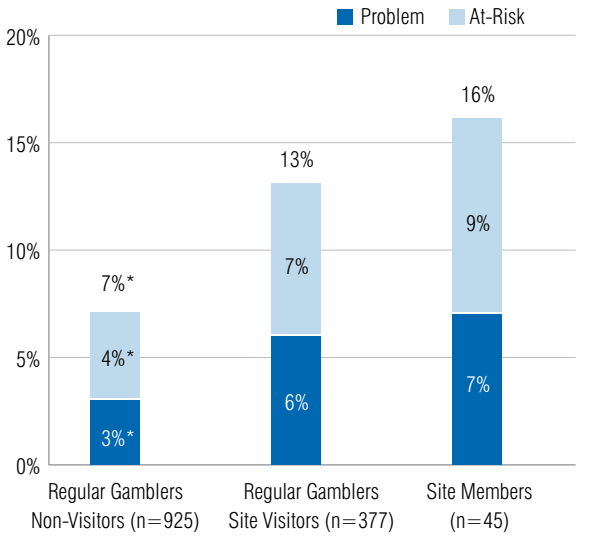
[54] Atlantic Lottery Corporation. Raising our game. 2006-07 ALC Financial Update. Retrieved at http://www.alc.ca/ English/AboutALC/AnnualReport/Images/ALCAnnualReport2006-07.pdf.

Table 28: Comparison of Risk by Involvement with PlaySphere

	Sample Size (n)	% of Population	% Scoring at Any Risk (CPGI>0)
PlaySphere Member	45	1.8%	15.6%
PlaySphere Site Visitors Non-Members	531	21.2%	10.9%
Total Non-Visitors	1924	77.0%	4.5%
Total Adults	2500	100.0%	6.1%

- Risk profiles for members were examined as a preliminary assessment of the potential relationship between gambling risk and PlaySphere. The percentage scoring for any level of risk on the PGSI of the Canadian Problem Gambling Index was significantly higher (≈ 16%) among those who were members of ALC's PlaySphere (n=45) and even among those who had visited the site but did not join (11%; n=531) as compared to general population figures (6.1%; n=2500) or adults who did not visit the site or join PlaySphere (4.5%; n=1,924).
- Over half of those self-reporting current gambling problems (55%; n=33) had visited this site at least once. Even among regular gamblers, rates of risk were almost twice as high for site users (≈ 16% versus 7%).
- It is unclear whether the site attracted those at higher risk or contributes to risk but the evidence suggested that those playing on the PlaySphere site were at higher levels of risk for gambling problems than those who did not use the site.

Figure 22: Risk for Gambling Problems by Site Visits and Membership in ALC's PlaySphere



** indicates significant differences between groups at minimum 95 + C.I. (p <.05).*

Percent of Expenditures by Type and Frequency of Gambling

In order to examine the relative impact of gambling activities, regular gamblers were classified into three types: Regular lottery ticket only, regular VLT & casino gamblers and other regular gamblers (bingo, sports betting, cards).

Table 29: Participation Rate, Percent of Expenditures and Average Expenditures for Past-Year, Casual and Regular Gamblers (2003 vs. 2007)

2003 (n=2800) 2007 (n=2500)	Percentage of Total Adults	Number of Adults	Percentage of Expenditures	Average Annual Expenditure	Median Annual Expenditure
Frequency of Gambling in Past Year:					
Gambled in Past Year					
2003	89.3%	2501	100%	≈ $647	≈ $159
2007	87.0% ↓	2174	100%	≈ $700	≈ $192
Casual Gamblers					
2003	34.0%	953	4.2%	≈ $70	≈ $34
2007	33.3%	833	4.8%	≈ $88 ↑	≈ $40
Regular Gamblers (1+/month)					
2003	55.3%	1548	95.8%	≈ $1001	≈ $364
2007	53.6%	1341	95.2%	≈ $1080	≈ $388

Table 29 Continued: Participation Rate, Percent of Expenditures and Average Expenditures for Past-Year, Casual and Regular Gamblers (2003 vs. 2007)

2003 (n=2800) 2007 (n=2500)	Percentage of Total Adults	Number of Adults	Percentage of Expenditures	Average Annual Expenditure	Median Annual Expenditure
Regular Monthly Gambling in Past Year:					
Lottery Tickets Only					
2003	38.9%	1090	28%	≈ $422	≈ $247
2007	39.6%	989	33%	≈ $506 ↑	≈ $310
VLTs and Casino Gambling					
2003	6.6%	185	43%	≈ $3760	≈ $1640
2007	4.1% ↓	103	36%	≈ $5293	≈ $2320
Other Gambling (excluding VLTs and Casino)					
2003	9.9%	278	23%	≈ $1422	≈ $836
2007	10.0%	249	26%	≈ $1619	≈ $624

↑↓ *Arrows indicate the direction of a significant change over measurement periods (2003 vs. 2007) (minimum p <.05: one-tailed test; p<.10 for two-tailed test).*

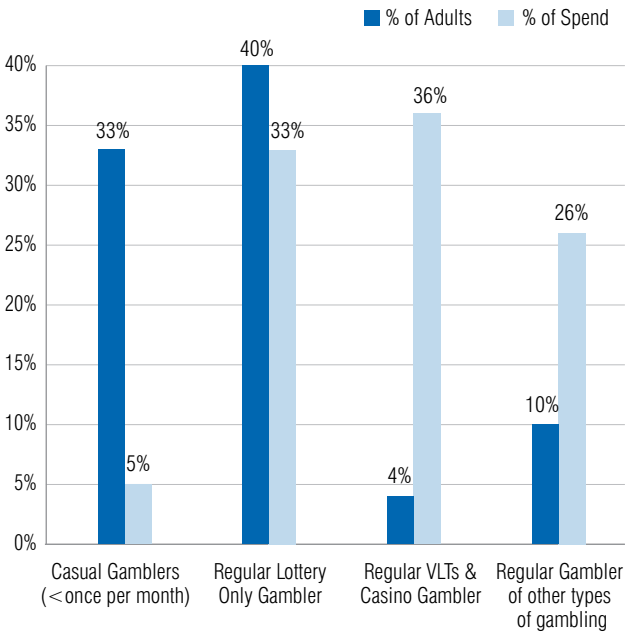
Regular Gambling Expenditure by Type of Gambling Activity

Most regular gamblers were only purchasing lottery tickets (40%) on a regular monthly basis, spending on average about $506/year. In contrast, only 4% regularly played VLTs and casino games but spent $5,293/year accounting for 36% of all provincial gambling expenditures. While fewer adults were regularly participating in VLTs and casinos in 2007 than in 2003, expenditures appear to be going up. About one in 10 adults regularly engaged in other types of gambling such as sports betting, card games. These regular gamblers were spending less than the VLT/casino gamblers but reported expenditures at least three times higher than those who were only buying lottery tickets each month.

It will be recalled that the majority of gambling expenditures (95%) in Nova Scotia were generated by regular gamblers (i.e. those who take part in a gambling activity on a regular monthly basis). In order to compare the relative impact of regular involvement in the various forms of gambling available in Nova Scotia, expenditures were examined based on three groupings of regular gamblers:

- Adults who only purchased lottery type tickets regularly (1+/month) including ALC draws, Scratch 'n Wins, breakopens, charity raffles and draws, and 50/50 draws
- Adults who took part in VLTs and casino gambling regularly (1+/month)
- Adults who took part in other forms of gambling on a regular monthly basis such as bingo, sports betting, poker.

Figure 23: Percent of Adults and Total Gambling Expenditure Accounted by Each Segment

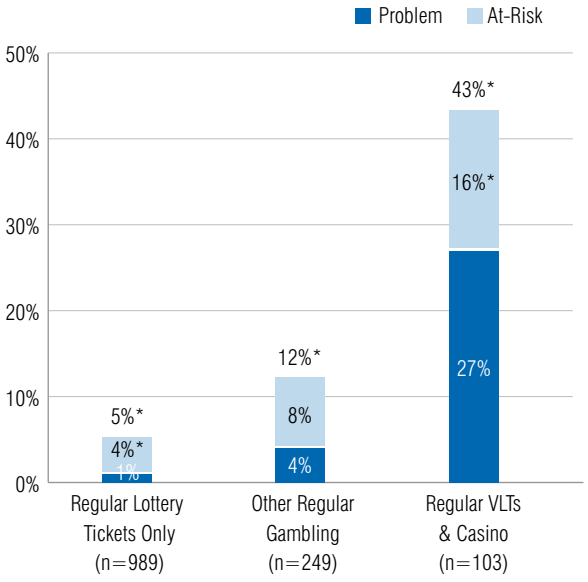


- Over the past year, approximately 40% of adults only purchased lottery-type ticket games on a regular basis each month, spending about $506/year on all of their gambling and contributing about 33% of annual gambling expenditures in the province. Some of these adults spent money on other gambling options but would only have taken part on a casual irregular basis. Therefore, despite the strong skew towards regular lottery ticket play in the province, adults who only took part in these types of ticket games each

month were spending at significantly lower levels than those who regularly took part in any other forms of gambling in Nova Scotia.

- Only a small proportion of adults (4.1%) regularly gambled on VLTs and casino games each month. However, this segment of players were spending, on average, about $5,293 per year and contributing about 36% of annual gambling expenditures in Nova Scotia. The vast majority of these adults were also playing lottery ticket games regularly as well. However, compared to other regular lottery ticket players their gambling expenditures were almost 9 times higher.
- The proportion of adults regularly participating in VLT and/or casino gambling each month decreased since the 2003 study (2003: 6.6% versus 2007: 4.1%), although average annual expenditures by regular VLT/casino gamblers increased by $1,500.00 over the same period (from $3760 to $5293, p=.10; significant at the 90% CI).
- About one in ten adults regularly took part in any other form of gambling, including sports betting, bingo, or card games. On average, these regular gamblers were spending about $1,619 annually on gambling, and contributed about 26% of all monies spent on gambling in the province.
- This means that 14.1% of the population that take part regularly in gambling outside of lottery tickets accounted for the majority of gambling losses in Nova Scotia and collectively accounted for 62% of gross gambling revenues generated for the province.
- These findings were highly consistent with actual Nova Scotia revenue figures (See Table 12) and demonstrated the disproportionate relationship between expenditure and gambling participation rates for the different types of gambling available in Nova Scotia.

Figure 24: Comparison of Risk for Gambling Problems by Regular Gambler Group



** Indicates significant differences among Regular Gamblers groups at minimum 95 + C.I. (p <.05).*

Rates of Self-Reported Gambling Problems by Type of Gambling

Nova Scotians self-identified gambling problems with VLTs far more often than with any other gambling activity. Twenty-seven percent of regular VLT users reported problems with their VLT use compared to 1%-2% or less for other activities. This rate of self-identified problems among regular VLT gamblers increased significantly between 2003 (16%) and 2007 (27%).

Most other forms of gambling had low rates of self-reported problems (<1%) except for ALC sports lottery, breakopen tickets, daily lottery draws and bingo which all had around 2% of the adults self-reporting problems.

The overall percentage of adults reporting problems with gambling provides estimates of the number of people who are identifying difficulties associated with various forms of gambling. This yields information for resource allocation in addressing current community health needs. The number occurs as a function of how many people are participating in a particular activity and the proportion of these same people who are experiencing adverse affects because of their involvement. Therefore, if all gambling activities contribute equally to problems, then those gambling activities participated in by a larger percentage of the population should be expected to have a proportionately larger impact on gambling problems observed in that same population.

In reality, this is not the case for gambling in Nova Scotia as there are higher rates of self-reported problems associated with the different forms of gambling. Moreover, given the rapid expansion of gambling in the last decade in Canada and growth in gambling as a source of provincial revenue, information is required to assist in risk management as part of the ongoing decision process. For example, low prevalence rates for problem gambling may simply occur due to low participation rates for a particular form of gambling rather than reflect lower risk for involvement in the activity. Any changes in distribution or regulatory practices which increase accessibility and frequency of participation can also be expected to lead to corresponding increases in the absolute number of adults experiencing difficulties related to the activity, even if the proportion of gamblers experiencing problem remains constant. For example: *Only 5% of adults may be regular gamblers for Activity XYZ, but approximately 20% of those who play game XYZ regularly develop problems. This means that approximately 1% of all adults will have a gambling problem associated with this activity (.20 X 5%=1%). If you double the number of regular players for XYZ through wider accessibility or other marketing strategies, without addressing the reasons why regular players develop problems, then you will also double the number of people having problems (.20 X 10%=2%).*

To assist the NSHPP in identifying relative risk for problem gambling among the various forms of gambling available in Nova Scotia

the percentage of adults reporting problems with each form of gambling was examined within Trial Gamblers (i.e., those who had ever participated in the activity), Past-Year Gamblers, and Regular Gamblers (i.e., those who participated in the activity at least once a month on a regular ongoing basis during the past 12 months.[55] Rates of self-reported gambling problems were then compared among the various gambling activities.

Table 30: Percentage of Adults Experiencing Problems among Trial, Past-Year, and Regular Gamblers

	Percentage Reporting Ever Experienced Problems					
	Ever Gambled on Activity		Gambled on Activity in Past Year		Gambled on Activity on Regular Monthly Basis	
Any Game of Chance:						
2003	n=2710	2.7%	n=2501	2.9%	n=1548	3.8%
2007	n=2342	2.5%	n=2174	2.5%	n=1341	3.5%
Lottery Tickets Total:						
2003	n=2470	0.9%	n=2216	1.0%	n=1246	1.4%
2007	n=2142	0.7%	n=1941	0.8%	n=1121	0.9%
Daily Lottery						
2003	n=253	1.6%	n=179	2.2%	n=60	1.7%
2007	n=486	1.2%	n=344	1.7%	n=97	2.1%
Weekly Lottery Draws						
2003	n=2270	0.4%	n=2000	0.4%	n=1047	0.8%
2007	n=1970	0.1% ↓	n=1748	0.1% ↓	n=986	0.1% ↓
Scratch'n Win						
2003	n=1739	0.6%	n=1354	0.7%	n=432	1.2%
2007	n=1528	0.2% ↓	n=1244	0.2% ↓	n=309	0.3%
Breakopens						
2003	n=736	0.3%	n=398	0.5%	n=95	2.1%
2007	n=581	0.3%	n=300	0.7%	n=50	2.0%
Sports Betting Total:						
2003	n=536	0.7%	n=302	0.7%	n=61	1.6%
2007	n=293	0.7%	n=173	0.6%	n=65	1.5%
ALC Sport Select						
2003	n=215	0.9%	n=125	1.6%	n=45	2.2%
2007	n=183	0.5%	n=95	1.1%	n=46	2.2%
Other Sports Betting						
2003	n=401	0.5%	n=210	0%	n=20	–
2007	n=156	0%	n=96	0%	n=23	–
Video Lottery:						
2003	n=1027	3.6%	n=532	5.8%	n=144	16.0%
2007	n=763	4.7%	n=339	8.8% ↑	n=90	26.7% ↑

↑↓ Arrows indicate the direction of significant change within each risk segment over measurement periods (2003 vs. 2007) (minimum p <.05: one-tailed test; p<.10 for two-tailed test). [Results suppressed due to small sample sizes.]

[55] Analysis was restricted to regulated games of chance as the percentage reporting problems associated with non-regulated types of gambling was too low (< .1%) to yield reliable sample sizes for within-segment analysis.

Table 30 Continued: Percentage of Adults Experiencing Problems among Trial, Past-Year, and Regular Gamblers

	Percentage Reporting Ever Experienced Problems					
	Ever Gambled on Activity		Gambled on Activity in Past Year		Gambled on Activity on Regular Monthly Basis	
Bingo:						
2003	n=1558	1.0%	n=428	2.1%	n=154	3.2%
2007	n=1068	0.2% ↓	n=209	0.7%	n=107	1.9%
Any Casino Gambling:						
2003	n=1277	1.3%	n=652	2.5%	n=53	11.3%
2007	n=1139	0.9%	n=430	1.9%	n=21	–
Slot machines at Casino						
2003	n=1237	1.0%	n=621	1.8%	n=45	8.9%
2007	n=1071	0.7%	n=387	1.6%	n=19	–
Casino Table Games						
2003	n=297	2.4%	n=122	5.7%	n=12	–
2007	n=268	1.9%	n=89	3.4%	n=3	–
Charity Raffle Draws:						
2003	n=2189	<0.1%	n=1805	0.1%	n=213	0.5%
2007	n=1538	0%	n=1263	0%	n=145	0%
Horse Racing/Harness Racing						
2003	n=362	0.6%	n=37	0%	n=1	–
2007	n=278	0%	n=33	0%	n=7	–

↑↓Arrows indicate the direction of significant change within each risk segment over measurement periods (2003 vs. 2007) (minimum p <.05: one-tailed test; p<.10 for two-tailed test). [Results suppressed due to small sample sizes.]

- Video lottery exhibited the highest levels of relative problems. About one out of every 21 people (4.7%) who had ever tried these gambling machines experienced problems.
- Among past-year VLT gamblers, the proportion jumped to one in 11 (8.8%) but increased dramatically to about one out of every four adults (26.7%) who took part in VLT gambling on a regular basis. This is the highest rate of problem development compared to any other form of gambling available in Nova Scotia and represented a significant increase over findings in 2003 when 16% of all regular VL gamblers reported having had a problem.
- The only other notable change was a decline in the percentage of Past-Year gamblers reporting problems with Scratch 'n Win lottery tickets (2003: 0.7% versus 2007: 0.2%).
- Casino gambling and ALC sports lottery, breakopen tickets, daily lottery draws, and bingo also emerged as being associated with higher than expected risk for problems.
- Sample sizes were too small to accurately profile risk among regular casino gamblers, however, prevalence of self-reported problems almost doubles among regular gamblers for each of the other gambling options mentioned above.
- While the percentage of regular gamblers self-reporting problems was substantially lower than is typically the case for VLTs and casino gambling, one in every 45-50 regular ALC Sport Select (2.2%), daily lottery (2.1%), breakopen (2.0%), and bingo players (1.9%) reported problems.
- In the case of daily draws, the relatively high rates of problems identified among players in 2003 have stayed constant. As predicted, the increased trial of this form of gambling corresponded with an increase in the number of people in Nova Scotia experiencing difficulties with this form of gambling. In 2007, self-reported problems among regular daily lottery ticket players was 200% higher than for weekly draw players (2.1% versus 0.1%).
- As a result, expanding the player base for any of these games or introducing changes that facilitate play involvement or capacity for expenditure could be expected to lead to a corresponding increase in the proportion of gamblers at risk for problems.

SECTION 5: CURRENT GAMBLING PROFILES, ATTITUDES, AND BEHAVIOURS AMONG PAST-YEAR GAMBLERS

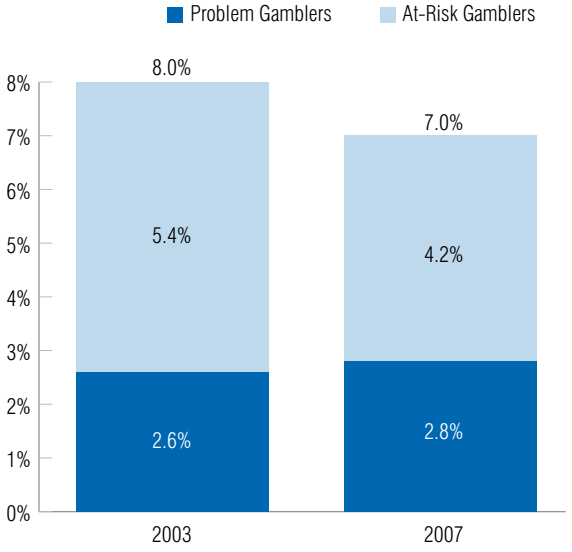
SECTION 5: CURRENT GAMBLING PROFILES, ATTITUDES, AND BEHAVIOURS AMONG PAST-YEAR GAMBLERS

The following section describes demographic characteristics gambling behaviours, attitudes and beliefs among those adults who participated in any form of gambling in Nova Scotia during the past year (87% of adults; n=2174). The primary segmentation is by risk for problem gambling based on the PGSI scores from the CPGI: Non-Problem gamblers (CPGI score=0; n=2022); At-Risk gamblers (CPGI score =1-2; n=91); Problem gamblers (CPGI score =3+; n=61).

Table 31 Sample Estimates and Margin of Error by gambling risk segments for Past-Year Gamblers

	Risk Category			
	Non-Problem Gamblers	At-Risk Gamblers	Problem Gamblers	Total Adults
Percentage of Population:				
2003	92.4%	5.4%	2.6%	100%
2007	93.0%	4.2%	2.8%	100%
Sample Size:				
2003	n=2311	n=134	n=56	2,501
2007	n=2022	n=91	n=61	2,174
Maximum Margin of Error within each subgroup (50% point estimate)				
2003	±2.04%	±8.47%	±13.10%	±1.85%
2007	±2.18%	±10.27%	±12.55%	±1.96%

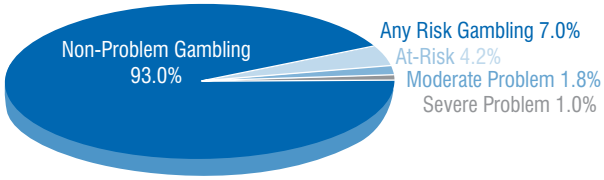
Figure 25: % of Past-Year Gamblers Scoring at Risk for Gambling Problems (CPGI)



There were virtually no changes in CPGI risk profile for gamblers in Nova Scotia between 2003 and 2007.

Risk for Gambling Problems among Past-Year Gamblers

Figure 26: Percentages of Past-Year Gamblers by Risk for Gambling Problems (CPGI)



- Overall, 7% of the adults who gambled in the past year scored at some level of risk on the CPGI for having problems with their gambling with 2.8% scoring at problem levels.
- The percent of adult gamblers falling in each segment was almost identical to that obtained in 2003 suggesting that despite reductions in past-year participation rates there has been no change in risk among those who were continuing to gamble.

Risk among Past-Year Gamblers by Key Demographic Segments

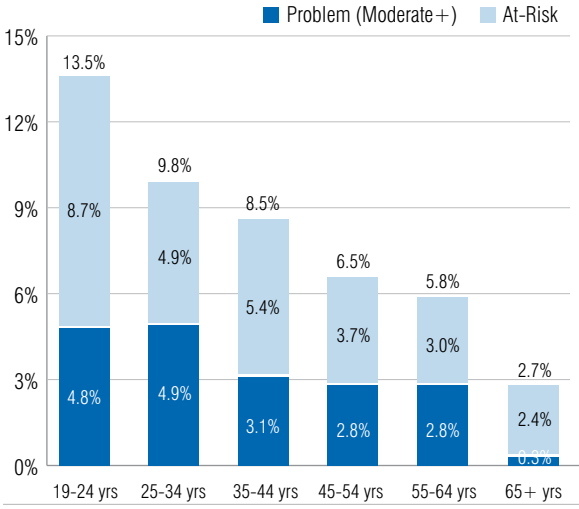
Given high rates of gambling participation by adults over the past 12 months (87% of adults) the demographic profile of Past-Year gamblers was highly similar to that previously reported in Section 4 for all adults in Nova Scotia. Compared to women gamblers, male gamblers had significantly higher levels of risk (5.1% versus 3.4%) and problem gambling (4.1% versus 1.7%). There were no longer any differences in risk or problems for gamblers among the four primary health regions throughout Nova Scotia. However, almost 14% of young gamblers 19-24 years of age were found to be at some level of risk for gambling problems with ≈ 5.0% of those gamblers age 19-34 years triggering at problem gambling levels. While risk was found to decline with age, problem gambling among those who took part in gambling over the past year remained constant from age 35-64 (≈ 3.0%). Overall, in 2007 rates of problem gambling were consistently higher across all age categories under age 65 as compared to 2003.

Table 32: Penetration of Risk for Gambling Problems (CPGI) by Shared Service Area, Gender and Age (Past-Year Gamblers Only)

	Risk For Gambling Problem (CPGI)			
	Non-Problem (Score= 0) 2007 (n=2022)	At-Risk (Score= 1-2) 2007 (n=91)	Problem (Score= 3+) 2007 (n=61)	Total Past-Year Gamblers 2007 (n=2174)
Percentage of Past-Year Gamblers in NS	93.0%	4.2%	2.8%	100%
Shared Service Area (Health Districts):				
DHA 9 (Capital) n=861	92.8%	4.2%	3.0%	100%
DHAs 7 & 8 (Eastern) n=384	93.0%	4.9%	2.1%	100%
DHAs 4, 5 & 6 (Northern) n=461	93.1%	3.9%	3.0%	100%
DHAs 1, 2 & 3 (Western) n=468	93.4%	3.8%	2.8%	100%
Gender: ***				
Male (n=1012)	***90.8%***	***5.1%***	***4.1%***	100%
Female (n=1162)	***94.9%***	***3.4%***	***1.7%***	100%
Age: ***				
19-24 years (n=126)	***86.5%***	***8.7%***	4.8%	100%
25-34 years (n=263)	***90.1%***	***4.9%***	4.9%	100%
35-44 years (n=478)	***91.4%***	***5.4%***	3.1%	100%
45-54 years (n=539)	***93.5%***	***3.7%***	2.8%	100%
55-64 years (n=398)	***94.2%***	***3.0%***	2.8%	100%
65 years or older (n=370)	***97.3%***	***2.4%***	***0.3%***	100%

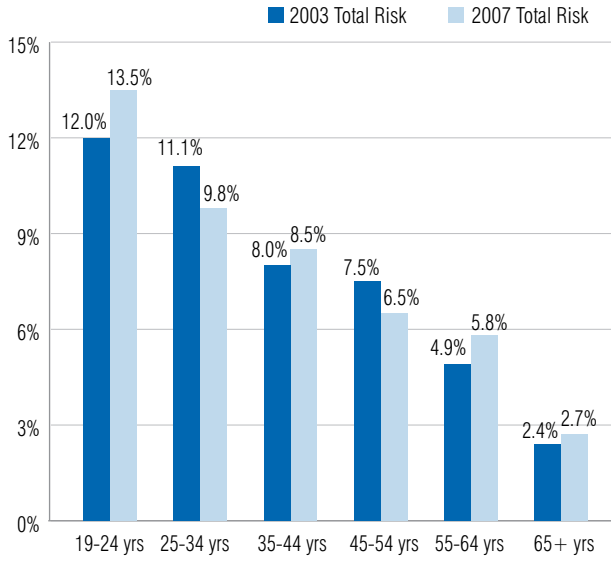
Bold italic text *indicates significant differences among demographic segments (minimum p <.05 for one-tailed tests; p<.10 for two-tailed test).*

Figure 27: Risks for Gambling Problems by Age Category (2007 Past-Year Gamblers; n=2174)



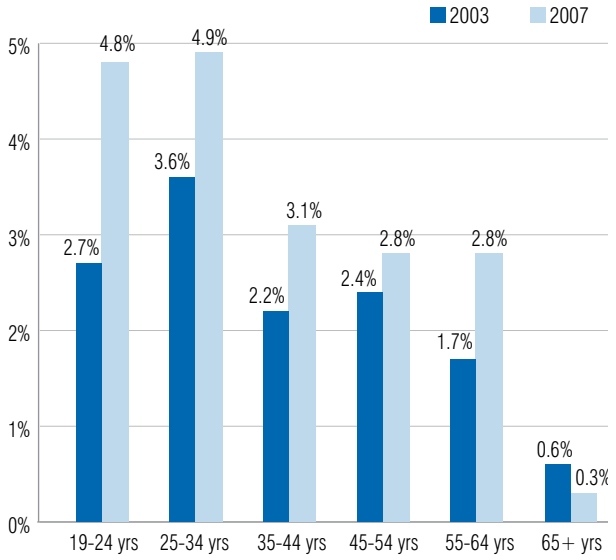
- Risk for gambling problems among Past-Year gamblers in Nova Scotia declined with age. However, rates of problem gambling were significantly higher for those gamblers under age 35 with one in 20 (≈ 4.9%) identified as having problems.

Figure 28: Comparison of Changes in Total Risk among Age Categories (2003 vs. 2007; Past-Year Gamblers Only)



- The percentage of adult gamblers scoring at any level of risk on the CPGI was highly similar in both 2003 and 2007.

Figure 29: Comparison of Changes in Gambling Problems among Age Categories (2003 vs. 2007; Past-Year Gamblers Only)



- Although the differences did not reach a statistical difference at the 95% confidence level, the overall pattern indicated that in 2007 gamblers under age 65 years had higher rates of gambling problems then was the case in 2003.

Participation in Each Gambling Activity by Shared Service Area, Gender, Age, and Income

Differences in participation rates and regular playing patterns among certain population segments across the province highlight those groups potentially at increased risk for some forms of gambling problems. While not all regular gamblers have trouble with their involvement in gambling, some types of gambling are found to be more strongly associated with negative consequences for those who take part in the activity on a regular basis. Others pose unique problems for particular groups. Thus, examination of past-year participation rates and regular gambling patterns can assist in targeting intervention, prevention, and communication helping to channel preventative efforts to achieve maximum benefit.

In Table 33 and Table 34, 11 different types of gambling were examined for Past-Year gamblers in the four key demographic segments identified previously: Addiction Services Shared Service Area (DHAs 1-9), gender, age, and income.

The gambling types included:

- Daily lottery
- Weekly lottery
- Scratch 'n Wins (instant lotteries)
- Breakopen lottery tickets
- Sports betting
- VLTs
- Bingo
- Casino slot machines
- Casino table games
- Any poker
- Charity raffles/draws

Table 33: Past-Year Participation Rates for Gambling Activities by Key Demographic Segments (DHAs, Gender Age, Income)

	Participation in Each Gambling Activity in Past Year (Total Gamblers in Each Segment)										
	Daily Lottery	Weekly Lottery	Scratch 'n Win	Break Opens	Sports Betting	VLTs	Bingo	Casino Slots	Casino Tables	Any Poker	Charity Raffles
% of Past-Year Gamblers in NS (n=2174)	15.8%	80.4%	57.2%	13.8%	8.0%	15.6%	13.3%	17.8%	4.1%	11.0%	58.1%
Shared Service Area (DHA):	**		*	***	*	*	***	***	***	***	*
DHA 9 Capital (n=861)	***13.4%***	81.8%	***59.9%***	***10.5%***	***11.0%***	***17.1%***	***10.6%***	***20.8%***	***6.3%***	***13.9%***	***60.0%***
DHAs 7 & 8 Eastern (n=384)	17.4%	80.5%	***54.2%***	17.7%	***6.8%***	***16.9%***	***18.5%***	***22.1%***	2.3%	***7.6%***	***52.9%***
DHAs 4, 5 & 6 Northern (n=461)	17.1%	78.7%	56.0%	14.1%	***5.6%***	***12.4%***	***13.7%***	***13.0%***	2.6%	***10.6%***	57.7%
DHAs 1, 2 & 3 Western (n=468)	17.7%	79.5%	56.0%	16.5%	5.6%	15.0%	***13.9%***	***13.5%***	3.0%	***8.8%***	***59.2%***
Gender:		***	***	***	***	***	***		***	***	***
Male (n=1012)	15.8%	***84.4%***	***49.7%***	***10.8%***	***14.1%***	***19.3%***	***4.4%***	17.1%	***6.4%***	***16.1%***	***54.6%***
Female (n=1162)	15.8%	***76.9%***	***63.8%***	***16.4%***	***2.6%***	***12.4%***	***21.1%***	18.4%	***2.1%***	***6.5%***	***61.1%***
Age:		***	***	***	***	***	*	***	***	***	***
19-24 yrs (n=126)	18.3%	***49.2%***	***64.3%***	***21.4%***	***11.9%***	***25.4%***	13.5%	***33.3%***	***15.1%***	***24.6%***	***41.3%***
25-34 yrs (n=263)	14.8%	***74.1%***	***66.2%***	***16.0%***	***14.4%***	***21.7%***	***17.5%***	16.3%	***9.9%***	***21.7%***	***51.3%***
35-44 yrs (n=478)	15.7%	***84.1%***	***62.1%***	***13.4%***	***11.7%***	***19.7%***	***12.6%***	16.5%	***4.0%***	***13.8%***	***66.1%***
45-54 yrs (n=539)	14.7%	***87.0%***	***6.0%***	***14.1%***	***7.4%***	***15.6%***	***10.9%***	20.0%	***2.4%***	***8.5%***	***64.2%***
55-64 yrs (n=398)	17.8%	***81.7%***	***54.5%***	***14.3%***	***3.5%***	***12.6%***	15.1%	14.8%	***2.3%***	***8.5%***	***58.5%***
65 yrs + (n=370)	15.4%	***79.7%***	***46.8%***	***9.2%***	***2.7%***	***5.9%***	13.0%	15.1%	***0.8%***	***1.4%***	***48.9%***
Annual Household Income	***	*		***	***		***	**	**	***	***
<$30,000 (Low) (n=323)	19.5%	***78.0%***	61.3%	***23.5%***	***2.2%***	17.3%	***26.6%***	***14.9%***	2.2%	6.5%	***47.1%***
$30-59,000 (Mid) (n=619)	18.1%	82.7%	58.6%	***12.9%***	***7.9%***	15.8%	***13.7%***	17.1%	3.2%	7.8%	***56.9%***
$60,000+ (High) (n=797)	***12.5%***	82.9%	56.6%	***9.9%***	***11.2%***	15.3%	***8.2%***	***20.2%***	***5.4%***	***16.1%***	***70.8%***

Bold italic text *indicates significant differences among population segments (minimum p <.05 for one-tailed tests; p<.10 for two-tailed test).*
** p<.10, **p<.05 *** p<.01*

Table 34: Regular Past-Year Participation for gambling Activities by Key Demographic Segments (DHAs, Gender, Age, Income)

	Participation in Each Gambling Activity in Past Year (Total Gamblers in Each Segment)										
	Daily Lottery	Weekly Lottery	Scratch 'n Win	Break Opens	Sports Betting	VLTs	Bingo	Casino Slots	Casino Tables	Any Poker	Charity Raffles
% of Past-Year Gamblers in NS (n=2174)	4.5%	45.4%	14.2%	2.3%	3.0%	4.1%	4.9%	0.9%	0.1%	2.3%	6.7%
Shared Service Area (DHA):	**	**		**	***	*	***	***			***
DHA 9 Capital (n=861)	3.6%	***49.5%***	14.1%	***1.5%***	***5.0%***	***4.1%***	***3.1%***	***1.0%***	0.3%	2.1%	4.3%
DHAs 7 & 8 Eastern (n=384)	***7.6%***	***45.8%***	14.1%	***2.9%***	2.3%	6.3%	***9.1%***	***2.6%***	0%	2.9%	***15.6%***
DHAs 4, 5 & 6 Northern (n=461)	3.7%	***39.0%***	16.3%	***3.7%***	1.1%	3.3%	***5.6%***	0%	0%	2.4%	5.6%
DHAs 1, 2 & 3 Western (n=468)	4.7%	***43.6%***	12.6%	***1.9%***	1.7%	3.4%	***4.1%***	0%	0%	2.4%	4.7%
Gender:		***	**		***	***	***			***	
Male (n=1012)	4.7%	***52.6%***	***12.5%***	1.9%	***5.2%***	***5.7%***	***0.8%***	0.8%	0.3%	***4.0%***	5.9%
Female (n=1162)	4.2%	***39.1%***	***15.7%***	2.7%	***1.0%***	***2.8%***	***8.5%***	0.9%	0%	***0.9%***	7.3%
Age:		***	***	**	***	**	***		*	***	***
19-24 yrs (n=126)	2.4%	***15.1%***	***19.0%***	4.0%	***4.0%***	4.8%	0%	0.8%	0.8%	***7.9%***	***2.4%***
25-34 yrs (n=263)	3.8%	***34.2%***	***20.9%***	3.0%	***4.9%***	4.2%	***4.9%***	0.4%	0.4%	***4.6%***	***6.5%***
35-44 yrs (n=478)	4.8%	***48.1%***	14.9%	1.9%	***6.1%***	4.4%	***4.0%***	1.5%	0%	***3.1%***	***8.6%***
45-54 yrs (n=539)	4.1%	***53.1%***	***12.1%***	2.4%	***2.4%***	5.2%	***3.3%***	0.6%	0%	***1.3%***	***9.1%***
55-64 yrs (n=398)	6.3%	***48.7%***	***12.3%***	3.5%	***0.8%***	5.0%	***7.5%***	0.5%	0%	***1.3%***	***5.8%***
65 yrs + (n=370)	3.8%	***45.1%***	***12.2%***	***0.3%***	***0.5%***	***1.1%***	***7.3%***	1.4%	0.3%	***0.5%***	***3.2%***
Annual Household Income:	**		**	***	***		***	**		**	***
<$30,000 (Low) (n=323)	5.0%	42.7%	***18.9%***	***5.9%***	***0.6%***	4.6%	***12.4%***	0.3%	0%	***0.9%***	6.2%
$30-59,000 (Mid) (n=619)	6.3%	47.3%	13.7%	2.1%	3.2%	4.5%	***5.7%***	***0.2%***	0.2%	1.8%	5.3%
$60,000+ (High) (n=797)	***3.1%***	47.2%	13.3%	1.1%	3.8%	3.6%	***1.4%***	***1.3%***	0.1%	***3.3%***	***9.3%***

Bold italic text *indicates significant differences among population segments (minimum p <.05 for one-tailed tests; p<.10 for two-tailed test). * P<.10*

Shared Service Area (District Health Authorities)

Compared to other regions in Nova Scotia gamblers in DHA 9 (Capital) tended to report higher levels of sports betting, casino gambling (especially table games) and lower involvement in breakopens and bingo. Gamblers in DHAs 7 & 8 (Eastern) had the highest rates of regular play for VLTs, slot machines and daily lottery, all of which are forms of gambling associated with high levels of risk. Regular involvement with bingo and charity lotteries was also high in the Cape Breton area of the province. The only other notable regional difference was a higher level of regular breakopen purchasing reported in DHAs 4, 5 & 6 (Northern). There was no difference among the areas in terms of regular poker or purchasing of instant lottery tickets.

- Participation in weekly lottery draws was similar in all areas of the province, although regular lottery purchasing tended to be higher in the Capital Health District (DHA 9: 49.5%) than in either Northern (DHAs 4, 5 & 6: 39.0%) or Western (DHAs 1, 2 & 3: 43.6%) regions of the province.
- One important exception was the high occurrence of regular purchasing patterns for breakopen lottery tickets in the Northern (DHAs 4, 5 & 6: 3.7%) and, to a lesser extent, the Eastern (DHAs 7 & 8: 2.9%) shared service area as compared to the rest of the province (≈ 1.6%). Breakopens were one of the lottery ticket games associated with higher rates of risk.
- Gamblers living in the Capital Health District (DHA 9) had comparatively lower rates of past-year participation for breakopens (10.5%) but higher rates of Scratch 'n Wins (59.9%) although regular purchasing of these instant games did not vary throughout the province.
- It is noteworthy that gamblers outside of Capital (DHA 9) were more inclined to have purchased one of the daily lottery tickets (≈ 17%-18% versus 13.4%); however, regular purchasing patterns were only higher in Eastern Nova Scotia (7.6% versus ≈ 4-5%)
- Sports betting was strongly skewed towards DHA 9 with almost one in ten gamblers in this area reporting placing at least one sports bet versus one in 20 in the other areas. In fact, regular involvement in sports betting was twice as high in DHA 9 as compared to anywhere else in Nova Scotia (5.0% versus 1.1%-2.3%)
- Given the location of the two casinos in Halifax (DHA 9) and Sydney (DHAs 7 & 8), it was not surprising that participation in casino slot machine gambling during the previous 12 months was significantly higher in both of these areas of the province (20.8% to 22.1% versus 13.0% to 13.5%). However, regular gambling on slot machines was significantly higher in the Cape Breton region (2.6% versus 1.0% in Halifax region).
- Only in DHA 9, which includes Halifax Regional Municipality, did play of casino table games exceed rates noted in the other health districts in the province (6.3% versus 2.3% to 3.0%).
- Gamblers in DHAs 7 & 8 (Eastern) also reported the highest rates of regular bingo involvement (9.1%), with three times as many gamblers regularly purchasing charity raffles and draws compared to other parts of the province (15.6% versus 4.3%-5.7%)
- DHA 9 (Capital; 17.1%) and DHAs 7 & 8 (Eastern; 16.9%) had a higher percentage of adults reporting any play of VLTs as compared to DHAs 4, 5 & 6 (Northern; 17.1%). However, only in Eastern (6.1%) did the rate of regular monthly gambling on VLTs exceed that observed in either Northern (3.3%) or Western (3.4%) regions of the province.

Gender

Men who gambled in the past year were more likely to be taking part in higher risk gambling activities such as sports betting, VLTs, casino table games and poker as well as weekly lottery draws. Daily lottery and slots were taken up equally by men and women. Female gamblers in Nova Scotia were only more likely than men to be playing instant lottery tickets and bingo.

- Daily lottery (15.8%) and slot machines (≈ 17-18%) were the only two gambling activities men and women were equally likely to have taken part in over the 12 months preceding the survey, and to have played on a regular basis (daily lottery ≈ 4%; slots~1%)
- Women were more likely to have taken part in charity raffles (61.1% versus 54.6%), bingo (21.1% versus 4.4%), Scratch 'n Win tickets (63.8% versus 49.7%) and breakopens (16.4% versus 10.8%).
- In contrast, men tended to report higher rates of past-year involvement in higher risk gambling activities including sports betting (14.1% versus 2.6%), video lottery (19.3% versus 12.4%), casino table games (6.4% versus 2.1%) and poker (16.1% versus 6.5%)
- In terms of regular gambling, men were also more likely to have taken part in weekly lottery draws each month (52.6% versus 39.1%) in addition to sports betting (5.2% versus 1.0%), VLTs (5.7% versus 2.8%) and poker (4.0% versus .9%).
- Almost one in ten women in the province played bingo each month (8.5% versus .8%) and women were slightly more inclined to be regular instant lottery ticket players (15.7% versus 12.5%).

Age

For most forms of gambling, past-year gambling participation rates declined with age, however, there were fewer differences observed for regular gambling patterns. Regular involvement in daily lottery games, breakopen tickets, casino slot and table games, and VLTs was similar among those aged 19-54 years. The youngest adults (19-24 years) in the province were least likely to be regularly playing lower risk draw games such as weekly draws or charity raffles and significantly more likely than any other group to be playing poker. Regular sports betting was highest among those aged 19-44 years whereas bingo was played more often by those over 55 years. Of particular note was that in those regions of the province where casino gambling is located, one in five adults over 65 who gambled went to the casino over the past year, and these older seniors were just as likely as any other adult to have taken up regular slot machine gambling.

- Past-year involvement in gambling declined with age for breakopens, VLTs, casino table games, and poker.
- Poker was skewed towards those age 19-34 years (≈ 23%) as compared to about 10% for those age 45-64 years and with very low involvement levels for seniors 65 years or older (1.4%).
- Sports betting tended to be more popular with those under age 45 years (11.7%-14.4%) dropping by half among those 45-54 years (7.4%) with only about 3% of those over 55 years of age involved in any sports betting over the 12 months prior to the survey. Regular sports betting was also strongly skewed towards younger adults; 4.0% to 6.1% of those under 45 years participated in sports betting at least once a month as compared to <1% of those 55 years or older.
- Younger adults in the province (19-24 year olds) reported the highest participation rates in casino slots (33.3% versus 15.1-20.0%) and the lowest rates in weekly lottery (49.2% versus 74.1% – 87.0%).
- Although younger adults in the province were more likely to have taken part in all gambling activities except daily lottery, age differences for regular gambling patterns were not as strongly skewed.
- There were no differences observed in regular gambling rates for the daily lottery, casino slot machines or table games.
- Younger adults under 35 years were less likely to be purchasing weekly lottery draws on a regular basis, especially those 19-24 years (15.1% versus 45.1%+), but were more inclined to be regular Scratch 'n Win players (19.0% - 20.9% versus ≈ 12%).
- Adults over 55 years were more inclined to be playing bingo each month (≈ 7.4% versus 3%-4%) and had higher rates of regular purchasing for ALC's weekly lottery draw games than younger adults in the province.
- Regular breakopen ticket purchasing was only lower for those over age 65 (19-64 years: ≈ 4% versus 65 years+:.3%). This was also true for VLT play (19-64 years: ≈ 5% versus 65 years+: 1.1%).
- Among seniors, of special concern, was the finding for casino gambling; for those aged 65 years or older, rates of regular slot machine gambling was similar to that noted for regular VLT play, despite the fact that casino gambling is only available in two locations in the province and VLTs are in about 400 different sites throughout the province. When only considered for those seniors living in areas where the casinos are located it was found that one in every five gamblers over age 65 years played slots at the casino in the 12 months prior to the survey, with 2.5% reporting regular casino gambling patterns, a rate that is similar for younger adults in the same area.

Income

Rates of past-year and regular casino gambling, poker, charity raffles and draws was higher among those with incomes over $60,000/year whereas ALC's instant lottery games and bingo were more popular with those living in lower income households (<$30,000/year). The daily lottery was played equally by those with mid-to lower incomes (<$60,000/year). Only regular playing patterns for ALC weekly lottery draws and VLT gambling did not vary by income.

- There were no differences in past-year participation rates for lottery ticket games overall, Scratch 'n Wins or VLTs by household income category.
- There was an inverse relationship between income and participation in breakopen tickets or bingo, whereas the likelihood of having taken part in charity raffles, poker, or sports betting increased with income.
- Gamblers with income levels of $60,000+/year were significantly more likely to have gambled at casino table games over the past year (5.4% versus 2.2% to 3.2%), or played poker for money (16.1% versus 6.5%-7.8%) or wagered on sports (11.2% versus 2.2%-7.9%). They were also more likely than those whose income was less than $30,000 per year to have played the casino slots (20.2% versus <$30k: 14.9%).
- Those making less than $30,000/year were also less likely to have played weekly lottery draws (78.0% versus ≈ 83%), although play of daily lottery was only lower among the high income group (12.5% versus 18.1% –19.5%).
- For regular gambling, those with income under $30,000/year were more likely to be purchasing ALC instant lottery tickets (18.9% versus ≈ 13.5%), breakopens (5.9% versus 1-2%) and to play bingo (12.4% versus 1%-6%). They were less inclined to be gambling on any poker (0.9%) or at the casino (0.3%).

- Regular and past-year involvement in bingo declined as income went up. Those with annual household incomes over $60,000 were also less likely to be purchasing daily lottery tickets (3.1% versus 5%-6%) and more inclined to play poker (3.3%) and/or purchase charity raffles or draws each month (9.3% versus 5%-6%).

Participation in Each Gambling Activity by Risk for Problem Gambling (CPGI) – Past-Year Gamblers

To understand associations between the various gambling products and risk for gambling problems, past-year participation and regular gambling rates were examined for each form of gambling available in Nova Scotia by risk for gambling problems.

Past-Year Participation Rates by Gambling Activity (Table 35)

There were only two forms of gambling for which past-year participation rates increased by risk for gambling problem; video lottery and, to a lesser extent, daily lottery games.

- Only 2.8% of Non-Problem gamblers played VLTs in the past year as compared to just under half of At-Risk gamblers (≈ 43%) and two-thirds of all Problem gamblers (67%).
- In 2003, play of ALC's daily lottery was also associated with increased risk for gambling problems. However, due to a significant increase in the number of At-Risk gamblers playing the daily lottery (2003: 14% to 2007: 26%), differences between those at-Risk and Problem gamblers was only statistically significant at the 90%+ confidence level (27.4% versus 36.7%; p=.06).
- Non-Problem gamblers tended to differ significantly from those gamblers scoring for any level of risk in terms of participation rates in the 12 months preceding the survey for almost all forms of gambling, except charity raffles, 50/50 draws, bingo and weekly lottery. All these forms of gambling were associated with lower risk.
- For the most part At-Risk and Problem gamblers were equally likely to have purchased instant lottery games and breakopen tickets, and taken part in sports betting, casino gambling or poker, especially with friends.
- In contrast, only Problem gamblers were more inclined to be playing poker at bars (≈ 7%) or on-line (≈ 7%).

Table 35: Gambled on Activity in the Last Year by Risk for Gambling Problem (CPGI)– Past-Year Gamblers (2003 vs 2007)

	Risk for Gambling Problem (CPGI)			
	Non-Problem (Score=0) 2003 (n=2311) 2007 (n=2022)	At-Risk (Score= 1-2) 2003 (n=134) 2007 (n=91)	Problem (Score= 3+) 2003 (n=56) 2007 (n=61)	Total Past-Year Gamblers 2003 (n=2501) 2007 (n=2174)
Lottery Tickets Total:				
2003	***87.9%***	97.8%	96.4%	88.6%
2007	***88.7%***	***97.8%***	95.1%	89.3%
Daily Lottery				
2003	***6.3%***	***14.2%***	***26.8%***	7.2%
2007	***14.7%*** ↑	26.4% ↑	37.7%	15.8% ↑
Weekly Lottery Draws				
2003	***79.4%***	***87.3%***	85.7%	80.0%
2007	79.9%	***92.3%***	80.3%	80.4%
Scratch 'n Win				
2003	***52.4%***	73.9%	80.4%	54.1%
2007	***55.6%*** ↑	76.9%	80.3%	57.2% ↑
Breakopens				
2003	***14.7%***	27.6%	39.3%	15.9%
2007	***12.5%*** ↓	33.0%	29.5%	13.8% ↓

Table 35 Continued: Gambled on Activity in the Last Year by Risk for Gambling Problem (CPGI)– Past-Year Gamblers (2003 vs 2007)

	Risk for Gambling Problem (CPGI)			
	Non-Problem (Score=0) 2003 (n=2311) 2007 (n=2022)	At-Risk (Score= 1-2) 2003 (n=134) 2007 (n=91)	Problem (Score= 3+) 2003 (n=56) 2007 (n=61)	Total Past-Year Gamblers 2003 (n=2501) 2007 (n=2174)
Sports Betting Total:				
2003	***10.8%***	29.9%	23.2%	12.1%
2007	***7.1%*** ↓	19.8%	19.7%	8.0% ↓
ALC Sport Select				
2003	***4.0%***	17.2%	16.1%	5.0%
2007	***3.8%***	9.9%	14.8%	4.4%
Other Sports Betting				
2003	7.6%	***20.9%***	10.7%	8.4%
2007	***3.8%*** ↓	13.2%	13.1%	4.4% ↓
Online Sports Betting				
2003	N/A	N/A	N/A	N/A
2007	0.1%	1.1%	1.6%	0.2%
Any Casino Gambling				
2003	***24.3%***	50.0%	42.9%	26.1%
2007	***18.1%*** ↓	44.0%	39.3%	19.8% ↓
Slot Machines at Casino				
2003	***23.2%***	46.3%	42.9%	24.8%
2007	***16.5%*** ↓	34.1%	36.1%	17.8% ↓
Casino Table Games				
2003	***3.8%***	18.7%	17.9%	4.9%
2007	***3.1%***	16.5%	18.0%	4.1%
Video Lottery				
2003	***18.0%***	***53.0%***	***82.1%***	21.3%
2007	***12.8%*** ↓	***42.9%***	***67.2%*** ↓	15.6% ↓
Bingo				
2003	***15.9%***	30.6%	33.9%	17.1%
2007	12.5% ↓	***31.9%***	14.8% ↓	13.3% ↓
Charity Raffles/Draws				
2003	72.7%	66.4%	66.1%	72.2%
2007	58.0% ↓	61.5%	55.7%	58.1% ↓
Poker Games (non-Casino)				
2003	–	–	–	–
2007	***8.8%*** ↓	26.4%	32.8%	10.2% ↓

Bold italic text *indicates significant differences among risk segments within each measurement period (minimum p <.05 for one-tailed tests; p<.10 for two-tailed test).*

↑↓ *Arrows indicate the direction of significant change within each risk segment over time (2003 vs. 2007) (minimum p <.05 for one-tailed test; p<.10 for two-tailed test).*

Table 35 Continued: Gambled on Activity in the Last Year by Risk for Gambling Problem (CPGI)– Past-Year Gamblers (2003 vs 2007)

	Risk for Gambling Problem (CPGI)			
	Non-Problem (Score=0) 2003 (n=2311) 2007 (n=2022)	At-Risk (Score= 1-2) 2003 (n=134) 2007 (n=91)	Problem (Score= 3+) 2003 (n=56) 2007 (n=61)	Total Past-Year Gamblers 2003 (n=2501) 2007 (n=2174)
Poker Games on-line				
2003	–	–	–	–
2007	***0.1%***	3.3%	6.6%	0.5%
Poker Games at Bars				
2003	–	–	–	–
2007	***0.4%***	***1.1%***	***6.6%***	0.6%
Poker Games with Friends/Family				
2003	–	–	–	–
2007	***8.5%***	26.4%	27.9%	9.8%
Games of Skill				
2003	***4.0%***	20.9%	16.1%	5.2%
2007	***1.9%*** ↓	4.4% ↓	6.6% ↓	2.1% ↓
50/50 Draws				
2003	***43.4%***	***53.0%***	46.4%	43.9%
2007	38.7% ↓	46.2%	42.6%	39.1% ↓
Horse Racing/Harness Racing				
2003	1.6%	0.7%	0%	1.5%
2007	***1.0%*** ↓	9.9% ↑	4.9% ↑	1.3%
Internet Betting/Gambling				
2003	***0.1%***	0.7%	3.6%	0.2%
2007	0%	2.2%	3.3%	0.2%

Bold italic text *indicates significant differences among risk segments within each measurement period (minimum p <.05 for one-tailed tests; p<.10 for two-tailed test).*

↑↓ *Arrows indicate the direction of significant change within each risk segment over time (2003 vs. 2007) (minimum p <.05 for one-tailed test; p<.10 for two-tailed test).*

Regular Gambling Participation Rates by Gambling Activity (Table 36)

It was regular involvement in higher-risk gambling activities that posed the greatest problems for gamblers in Nova Scotia. As risk for gambling problems increased, so too did regular participation in VLTs, Scratch 'n Win tickets, slot machines and ALC's sport lottery. Problem gamblers in Nova Scotia were also more likely to be playing ALC's daily lotteries.

Table 36: Regular Monthly Participation Rates by Risk for Problem Gambling (CPGI)

	Risk for Gambling Problem (CPGI)			
	Non-Problem (Score=0) 2003 (n=2311) 2007 (n=2022)	At-Risk (Score= 1-2) 2003 (n=134) 2007 (n=91)	Problem (Score= 3+) 2003 (n=56) 2007 (n=61)	Total Past-Year Gamblers 2003 (n=2501) 2007 (n=2174)
Any Game of Chance:				
2003	***59.8%***	85.1%	92.9%	61.9%
2007	***60.2%***	79.1%	85.2%	61.7%
Lottery Tickets Total:				
2003	***48.1%***	***67.2%***	***80.4%***	49.8%
2007	***50.5%***	64.8%	67.2%	51.6%
Daily Lottery				
2003	***1.8%***	9.0%	10.7%	2.4%
2007	4.2% ↑	5.5%	***13.1%***	4.5% ↑
Weekly Lottery Draws				
2003	***40.5%***	55.2%	66.1%	41.9%
2007	***44.5%*** ↑	57.1%	55.7%	45.4% ↑
Scratch 'n Win				
2003	***15.6%***	34.3%	46.4%	17.3%
2007	***13.0%*** ↓	***25.3%***	***39.3%***	14.2% ↓
Breakopens				
2003	***3.4%***	8.2%	8.9%	3.8%
2007	***2.0%*** ↓	5.5%	8.2%	2.3% ↓
Sports Betting Total:				
2003	***1.9%***	9.0%	8.9%	2.4%
2007	***2.6%***	5.5%	11.5%	3.0%
ALC Sport Select				
2003	***1.3%***	8.2%	8.9%	1.8%
2007	1.8%	3.3%	***9.8%***	2.1%
Other Sports Betting				
2003	0.7%	1.5%	1.8%	0.8%
2007	1.0%	2.2%	1.6%	1.1%
Online Sports Betting				
2003	–	–	–	–
2007	0%	0%	1.6%	0%

Bold italic text *indicates significant differences among risk segments within each measurement period (minimum p <.05 for one-tailed tests; p<.10 for two-tailed test).*

↑↓ *Arrows indicate the direction of significant change within each risk segment over time (2003 vs. 2007) (minimum p <.05 for one-tailed test; p<.10 for two-tailed test).*

Table 36 Continued: Regular Monthly Participation Rates by Risk for Problem Gambling (CPGI)

	Risk for Gambling Problem (CPGI)			
	Non-Problem (Score=0) 2003 (n=2311) 2007 (n=2022)	At-Risk (Score= 1-2) 2003 (n=134) 2007 (n=91)	Problem (Score= 3+) 2003 (n=56) 2007 (n=61	Total Past-Year Gamblers 2003 (n=2501) 2007 (n=2174)
Any Casino Gambling:				
2003	***1.5%***	8.2%	12.5%	2.1%
2007	***0.5%*** ↓	***4.4%***	***11.5%***	1.0% ↓
Slot Machines at Casino				
2003	***1.3%***	6.7%	8.9%	1.8%
2007	***0.4%*** ↓	***3.3%***	***11.5%***	0.9% ↓
Casino Table Games				
2003	***0.2%***	2.2%	7.1%	0.5%
2007	0%	1.1%	1.6%	0.1% ↓
Video Lottery				
2003	***3.5%***	***24.6%***	***51.8%***	5.8%
2007	***2.4%*** ↓	***16.5%***	***42.6%***	4.1% ↓
Bingo				
2003	***5.6%***	11.2%	17.9%	6.2%
2007	***4.6%***	***11.0%***	4.9%↓	4.9% ↓
Charity Raffles/Draws				
2003	***8.1%***	***14.9%***	10.7%	8.5%
2007	6.6% ↓	5.5% ↓	11.5%	6.7% ↓
Poker Games (non-Casino)				
2003	–	–	–	–
2007	***1.6%*** ↓	9.9%	14.8%	2.3%
Poker Games online				
2003	–	–	–	–
2007	***0.1%***	2.2%	3.3%	0.3%
Poker Games at Bars				
2003	–	–	–	–
2007	0%	1.1%	4.9%	0.2%
Poker Games with Friends/Family				
2003	–	–	–	–
2007	***1.6%***	7.7%	8.2%	2.0%
Games of Skill				
2003	***0.4%***	6.7%	7.1%	0.9%
2007	0.4%	0%	0%	0.4% ↓

Bold italic text *indicates significant differences among risk segments within each measurement period (minimum p <.05 for one-tailed tests; p<.10 for two-tailed test).*

↑↓ *Arrows indicate the direction of significant change within each risk segment over time (2003 vs. 2007) (minimum p <.05 for one-tailed test; p<.10 for two-tailed test).*

Table 36 Continued: Regular Monthly Participation Rates by Risk for Problem Gambling (CPGI)

	Risk for Gambling Problem (CPGI)			
	Non-Problem (Score=0) 2003 (n=2311) 2007 (n=2022)	At-Risk (Score= 1-2) 2003 (n=134) 2007 (n=91)	Problem (Score= 3+) 2003 (n=56) 2007 (n=61)	Total Past-Year Gamblers 2003 (n=2501) 2007 (n=2174)
50/50 Draws				
2003	***13.7%***	23.1%	23.2%	14.4%
2007	***9.5%*** ↓	***17.6%***	13.1%	10.0% ↓
Horse Racing/Harness Racing				
2003	–	–	–	–
2007	0.1%	***4.4%***	0%	0.3%
Internet Betting/Gambling				
2003	–	–	–	–
2007	–	–	–	–

Bold italic text *indicates significant differences among risk segments within each measurement period (minimum p <.05 for one-tailed tests; p<.10 for two-tailed test).*

↑↓ *Arrows indicate the direction of significant change within each risk segment over time (2003 vs. 2007) (minimum p <.05 for one-tailed test; p<.10 for two-tailed test).*

- It is not surprising to find that those scoring for Non-Problem gambling were less likely to be involved in any form of gambling on a regular monthly basis. In fact, the majority of regular gambling by Non-Problem gamblers was largely accounted for by weekly lottery tickets (44.5%), 50/50 draws (9.5%), and charity raffles and draws (6.6%), all of which were associated with less risk for problems. This finding was consistent with adults' self-reports discussed earlier regarding problems related to their gambling.
- There were three distinct gambling activities that had significantly different regular participations rates among the three risk segments identified by the CPGI: VLTs, slot machines and Scratch 'n Win tickets. For all three, regular participation increased strongly with risk for problem gambling.

CPGI Risk for Gambling Problem among Regular Gamblers for Each Form of Gambling

Given the earlier association identified between regular gambling involvement and problem development, those adults playing each game of chance on a regular monthly basis were examined by risk for problem gambling using the CPGI classification.

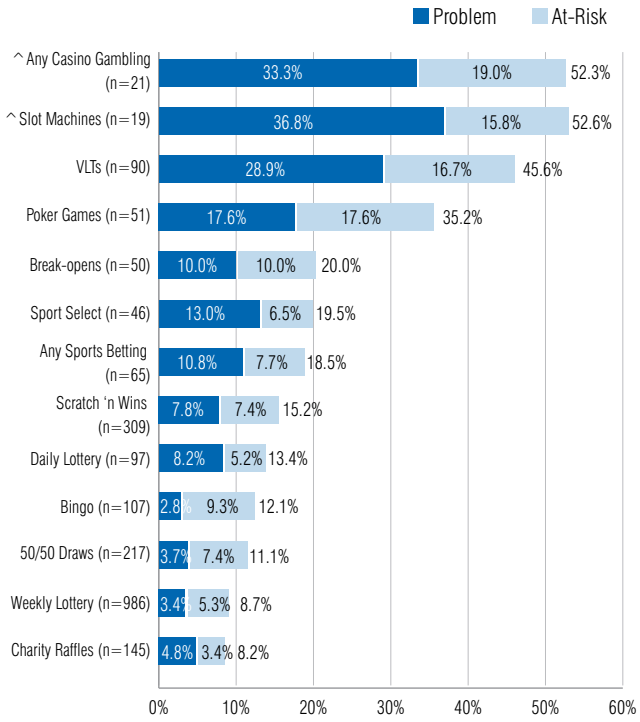
A limitation of the CPGI and other overall measures of problem gambling (e.g., SOGS, DSM-IV) is that it cannot effectively differentiate among problems for the various gambling activities. Risk for problem gambling associated with one form of gambling will also show up for any other type of gambling that person also takes part in, whether or not this activity is contributing to any problems for the individual. Therefore, it is difficult to use the measures to test for differences in problem gambling rates by type of gambling activity.

Quite often, higher rates of involvement in more popular, pervasive forms of gambling by those at high risk for problem gambling are used as an argument that such products are "gateway activities" to higher risk gambling activities. It can be recalled from Section 3 that only 16% of the population were wagering regularly on any form of gambling outside of lottery tickets. For 40% of the population (about 70% of regular gamblers) the only type of gambling they were involved with was weekly lottery draw ticket play and other gambling activities identified as lower risk (e.g. charity raffles and draws, 50/50 tickets). Rates of problem gambling as measured by the CPGI were extremely low within this group of players (1%). Yet for the regular casino and VLT players 43% were scoring at problem gambling levels. Since these adults also tended to play lottery tickets gambling risk associated with the higher-risk forms of gambling will also show up for the lower-risk gambling option they are involved in.

Although the CPGI was not designed for assessing risk within different forms of gambling it is still effective in illustrating the proportion having gambling problems among those taking part in each gambling activity.

Figure 30 below illustrates the relative distribution of risk within each regular gambler base.

Figure 30: Risk for Gambling Problems by Regular Monthly Participation (CPGI)



^ *Due to small sample sizes (n<30), results should be treated with caution*

Gambling Attitudes

In 2007, there was an increase among gamblers in those setting budgets for their gambling and a decline in the percentage agreeing that gambling is a fun entertainment option. Fewer gamblers believed a win was more likely to occur after a string of losses and those scoring at any level of risk for gambling problems were more likely to think that they were knowledgeable about how to gamble. However, despite these changes in attitudes fewer Non-Problem gamblers believed that they could stop gambling whenever they wanted and one-third of At-Risk gamblers were experiencing guilt over the amount spent gambling. Problem gamblers continued to play more often to forget their worries and try to pay off debts or bills, felt guilt about time and money and reported negative impacts and complaints by friends and family.

All those who had gambled during the 12 months prior to taking part in the study were read a series of 15 gambling statements and asked to indicate how much they agreed or disagreed with each, using a 1 to 5 Likert scale. The percentages of adults in agreement with each statement (rating of 4-5/5) are presented by risk for problem gambling (CPGI) under four areas: motivation, beliefs, behaviours, and consequences.

Motivations

Table 37: Motivations to Gamble by Risk for Problem Gambling (CPGI)

	Risk for Gambling Problem (CPGI)			
	Non-Problem (Score=0) 2003 (n=2311) 2007 (n=2022)	At-Risk (Score 1-2) 2003 (n=134) 2007 (n=91)	Problem (Score 3+) 2003 (n=56) 2007 (n=61)	Total Past-Year Gamblers 2003 (n=2501) 2007 (n=2174)
Gambling Motivation				
I find gambling/games of chance are fun and entertaining				
2003	***29.0%***	65.7%	69.6%	31.9%
2007	***21.9%***	45.1% ↓	54.1% ↓	23.8% ↓
Gambling is part of going out or socializing with friends				
2003	N/A	N/A	N/A	N/A
2007	***8.2%***	20.9%	24.6%	9.2%
I gamble to forget my troubles or worries				
2003	***0.4%***	***3.7%***	***16.1%***	1.0%
2007	***0.6%***	***2.2%***	***18.0%***	1.1%
Gambling is a good way to get extra cash				
2003	N/A	N/A	N/A	N/A
2007	***1.2%***	7.7%	9.8%	1.7%

Table 37 Continued: Motivations to Gamble by Risk for Problem Gambling (CPGI)

	Risk For Gambling Problem (CPGI)			
	Non-Problem (Score=0) 2003 (n=2311) 2007 (n=2022)	At-Risk (Score 1-2) 2003 (n=134) 2007 (n=91)	Problem (Score 3+) 2003 (n=56) 2007 (n=61)	Total Past-Year Gamblers 2003 (n=2501) 2007 (n=2174)
Gambling Motivation				
Gambling is part of going out or socializing with family members				
2003	N/A	N/A	N/A	N/A
2007	***4.1%***	14.3%	14.8%	4.8%
I sometimes gamble in the hopes of paying off debts or bills				
2003	***3.9%***	***14.9%***	***25.0%***	5.0%
2007	***2.1%*** ↓	***5.5%*** ↓	***18.0%***	2.7% ↓

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test).*

↑↓ *Arrows indicate the direction of significant change within each risk segment over measurement periods (2003 vs. 2007) (minimum p <.05: one-tailed test; p<.10 for two-tailed test).*

- Problem gamblers (54%) and At-Risk gamblers (45%) were significantly more likely to feel gambling is fun and entertaining as compared to Non-Problem gamblers (21.9%). However, overall there has been a decline in the percent of gamblers in Nova Scotia endorsing the entertainment value of gambling (2003: 31.9% versus 2007: 23.8%)
- There was also a drop in the percent of adults gambling in hopes of paying off debts or bills (2003: 5.0% versus 2007: 2.7%) among At-Risk and Non-Problem gamblers only.
- Almost one in five problem gamblers (18%) continued to gamble to forget their worries or troubles, or to try to offset financial problems.

Beliefs

Table 38: Beliefs about Gambling by Risk for Problem Gambling (CPGI)

	Risk for Gambling Problem (CPGI)			
	Non-Problem (Score=0) 2003 (n=2311) 2007 (n=2022)	At-Risk (Score= 1-2) 2003 (n=134) 2007 (n=91)	Problem (Score= 3+) 2003 (n=56) 2007 (n=61)	Total Past-Year Gamblers 2003 (n=2501) 2007 (n=2174)
Beliefs towards gambling				
After a string of losses while gambling, I feel I am more likely to win				
2003	***2.4%***	***10.4%***	***23.2%***	3.3%
2007	***1.2%*** ↓	***5.5%*** ↓	***16.4%***	1.8% ↓
I consider myself to be knowledgeable about how to gamble or play games of chance				
2003	***13.8%***	37.3%	30.4%	15.4%
2007	***33.4%*** ↑	50.5% ↑	52.5% ↑	34.6% ↑
You can win more when gambling if you use a certain system or strategy				
2003	***2.4%***	12.7%	14.3%	3.2%
2007	***2.2%***	8.8%	16.4%	2.9%
I could stop gambling any time I wanted				
2003	98.8%	94.0%	***53.6%***	97.6%
2007	***97.6%*** ↓	***85.7%*** ↓	***55.7%***	95.9%

	Risk for Gambling Problem (CPGI)			
	Non-Problem (Score=0) 2003 (n=2311) 2007 (n=2022)	At-Risk (Score= 1-2) 2003 (n=134) 2007 (n=91)	Problem (Score= 3+) 2003 (n=56) 2007 (n=61)	Total Past-Year Gamblers 2003 (n=2501) 2007 (n=2174)
Gambling is exciting				
2003	N/A	N/A	N/A	N/A
2007	***17.8%***	***38.5%***	***60.7%***	19.9%

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test).*

↑↓ *Arrows indicate the direction of significant change within each risk segment over measurement periods (2003 vs. 2007) (minimum p <.05: one-tailed test; p<.10 for two-tailed test).*

- Overall, more gamblers considered themselves to be knowledgeable about games of chance (2003: 15.4% versus 2007: 34.6%). Half of Problem and At-Risk gamblers believed that they were well informed about how to gamble or play games of chance as compared to only one-third of Non-Problem gamblers.
- Although the percentage was already low, there was also a significant decline in the proportion of gamblers thinking that they were more likely to win after a string of losses (2003: 3.3% versus 2007: 1.8%), primarily among those at no to low risk for gambling problems. A relatively large proportion of Problem gamblers (16%) continued to believe a win is due after a series of losses reinforcing chasing behaviour.
- Problem gamblers were also were less likely than other gamblers to believe they could stop gambling whenever they wanted (56%) although 14% of At-Risk gamblers also had concerns in this regard. Compared to the last prevalence study there was also a significant decline in the percent of Non-Problem gamblers who felt they could stop gambling whenever they wanted (2003: 98.8% versus 2007: 97.6%).
- One of the key distinctions among the gambler segments was associated with the belief that gambling was exciting. Perception that gambling was exciting increased strongly with risk, with 60% of Problem gamblers believing gambling is an exciting past time, likely making this a compelling activity that would be hard to stop.

Behaviours

Table 39: Gambling Behaviours by Risk for Problem Gambling (CPGI)

	Risk for Gambling Problem (CPGI)			
	Non-Problem (Score= 0) 2003 (n=2311) 2007 (n= 2022)	At-Risk (Score= 1-2) 2003 (n=134) 2007 (n=91)	Problem (Score= 3+) 2003 (n=56) 2007 (n=61)	Total Past-Year Gamblers 2003 (n=2501) 2007 (n=2174)
Gambling Behaviours				
After losing money gambling, I have tried to win my money back again				
2003	***2.1%***	***17.9%***	***60.7%***	4.2%
2007	***1.0%*** ↓	***18.7%***	***37.7%*** ↓	2.8%
I have lied about my gambling				
2003	***0.5%***	***2.2%***	***30.4%***	1.3%
2007	0.3%	1.1%	***27.9%***	1.1%
I often find myself thinking about gambling or ways to find money to gamble				
2003	***0.3%***	***4.5%***	***19.6%***	1.0%
2007	***0.6%***	***2.2%***	***18.0%***	1.1%
I usually set a budget or decide how much I am going to spend before I start to gamble				
2003	51.2%	***76.1%***	44.6%	52.4%
2007	74.6% ↑	70.3%	***62.3%*** ↑	74.1% ↑

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test).*

↑↓ *Arrows indicate the direction of significant change within each risk segment over measurement periods (2003 vs. 2007) (minimum p <.05: one-tailed test; p<.10 for two-tailed test).*

- There was a strong increase in the percent of adults agreeing that they set a budget or limits before gambling (2003: 52.4% versus 2007: 74.1%), especially among Problem gamblers (2003: 44.6% versus 2007: 62.3%) and Non-Problem gamblers.
- The percentage of Problem gamblers reporting that they were chasing losses declined (2003:60.7% versus 2007:37.7%).
- Lying about their gambling (28%) and thinking about gambling and ways to get money to gamble (18%) continued to differentiate strongly between those scoring for gambling problems from other gamblers.

Consequences

Table 40: Gambling Consequences by Risk for Problem Gambling (CPGI)

	Risk for Gambling Problem (CPGI)			
	Non-Problem (Score= 0) 2003 (n=2311) 2007 (n=2022)	At-Risk (Score= 1-2) 2003 (n=134) 2007 (n=91)	Problem (Score= 3+) 2003 (n=56) 2007 (n=61)	Total Past-Year Gambler 2003 (n=2501) 2007 (n=2174)
Gambling Consequences				
I sometimes feel guilty about how much time I have spent gambling				
2003	***0.5%***	***4.5%***	***32.1%***	1.4%
2007	***0.4%***	***4.4%***	***37.7%***	1.7%
I have friends or family who worry or complain about me gambling				
2003	***0.4%***	***3.0%***	***25.0%***	1.1%
2007	0.5%	1.1%	***24.6%***	1.2%
I sometimes feel guilty about how much money I have spent gambling				
2003	***3.0%***	***23.9%***	***62.5%***	5.4%
2007	***2.6%***	***30.8%***	***59.0%***	5.3%

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test).*

↑↓ *Arrows indicate the direction of significant change within each risk segment over measurement periods (2003 vs. 2007) (minimum p <.05: one-tailed test; p<.10 for two-tailed test).*

- There were no changes in the percentage of adults reporting negative consequences associated with their gambling.
- Guilt over time (38%) and especially money (59%) continued to be strongly associated with gambling problems, with one in every four Problem gamblers indicating that friends or family worried or complained about their gambling.
- It is notable that for At-Risk gamblers guilt was more often associated with money (31%) rather than time (4%), suggesting that this aspect of gambling may be a more relevant focus for prevention.

"Non-Problem" Gambling Attitudinal Indicators

- Were less likely to find gambling and games of chance to be fun and entertaining (21.9%) or agree that gambling is an enjoyable part of socializing with friends (8.2%)
- Do not see gambling as a good way to get extra cash
- Rarely report any guilt about the amount of time (0.4%) or money (2.6%) spent gambling
- Do not chase losses (1.0%)
- Do not believe that they are more likely to win after a string of losses (1.2%) or that they can win more often using a strategy for play (2.2%)
- Are less inclined to feel knowledgeable about how to play the games (33.4%)
- Never spend time thinking about gambling or ways to get money to gamble (0.6%)
- Rarely gamble in the hopes of paying off debts or bills (2.1%)
- Do not have any friends or family members who worry or complain about their gambling (0.5%)
- Can stop gambling anytime they want (97.6%)

Attitudinal Risk Indicators (For those scoring at any level of risk)

- Find gambling to be fun and entertaining (45% to 54%), with about similar portions agreeing it is an enjoyable part of socializing with friends (21% to 25%) and family (14% to 15%)
- Feel knowledgeable about the games (50% to 52%)
- Believe the use of strategies can influence chance of winning (9% to 16%)
- Perceive gambling as a way to get extra cash (8% to 10%)

Attitudinal Problem Indicators

- Find gambling exciting (60% versus 18% to 38%)
- Believe that odds of winning improve after a string of losses (16% versus 1% to 6%)
- Gamble in hopes of paying off bills or debts (18% versus 2 to 5%)
- Chase losses (38% versus 1% to 18%)
- Lie about their gambling (28% versus 0.3% to 1%)
- Have friends or family members who worry or complain about their gambling (25% versus 0.5% to 1%)
- Think about gambling or ways to find money to gamble (18% versus 0.6% to 2%)
- Do not set a budget or limit before gambling (38% versus 20% to 30%)
- Cannot stop playing anytime they want to (44% versus At-Risk: 14% and Non-Problem: 2%)

Behaviours While Gambling

Table 41: Frequency of Related Behaviours While Gambling by Risk for Gambling Problem (CPGI)

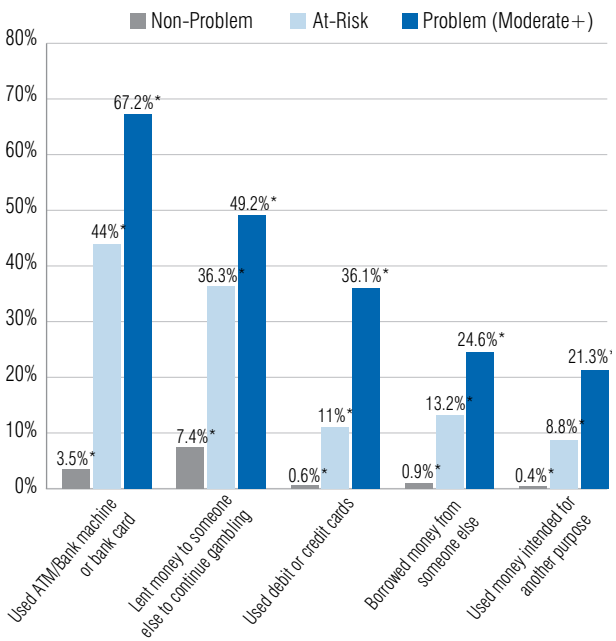
	Risk for Gambling Problem (CPGI)			
	Non-Problem (Score= 0) 2007 (n=2022)	At-Risk (Score= 1-2) 2007 (n=91)	Problem (Score= 3+) 2007 (n=61)	Total Past-Year Gamblers 2007 (n=2174)
Used to ATM/Bank machine or bank card to get additional money while gambling				
Never (0%)	***96.5%***	***56.0%***	***32.8%***	93.0%
Rarely (<25%)	***2.8%***	25.3%	21.3%	4.3%
Occasionally (25%-49%)	***0.6%***	11.0%	16.4%	1.5%
Frequently (50%-74%)	0.0%	5.5%	16.4%	0.7%
Almost Always (75%-99%)	0.0%	0.0%	6.6%	0.2%
Always (100%)	0.0%	2.2%	6.6%	0.3%
Borrowed money from someone else to continue gambling				
Never (0%)	***99.1%***	***86.8%***	***75.4%***	97.9%
Rarely (<25%)	***0.8%***	11.0%	14.8%	1.6%
Occasionally (25%-49%)	0.1%	2.2%	4.9%	0.3%
Frequently (50%-74%)	0.0%	0.0%	3.3%	0.1%
Almost Always (75%-99%)	0.0%	0.0%	1.6%	0.0%
Always (100%)	0.0%	0.0%	0.0%	0.0%
Used debit or credit cards to get money for gambling				
Never (0%)	***99.6%***	***91.2%***	***78.7%***	98.6%
Rarely (<25%)	***0.3%***	5.5%	11.5%	0.9%
Occasionally (25%-49%)	0.0%	0.0%	6.6%	0.2%
Frequently (50%-74%)	0.0%	1.1%	3.3%	0.2%
Almost Always (75%-99%)	0.0%	1.1%	0.0%	0.1%
Always (100%)	0.0%	1.1%	0.0%	0.0%

Table 41 Continued: Frequency of Related Behaviours While Gambling by Risk for Gambling Problem (CPGI)

	Risk for Gambling Problem (CPGI)			
	Non-Problem (Score= 0) 2007 (n=2022)	At-Risk (Score= 1-2) 2007 (n=91)	Problem (Score= 3+) 2007 (n=61)	Total Past-Year Gamblers 2007 (n=2174)
Gambled with money intended for another purpose				
Never (0%)	***99.4%***	***89.0%***	***63.9%***	97.9%
Rarely (<25%)	***0.5%***	11.0%	11.5%	1.3%
Occasionally (25%-49%)	0.1%	0.0%	9.8%	0.4%
Frequently (50%-74%)	0.0%	0.0%	3.3%	0.1%
Almost Always (75%-99%)	0.0%	0.0%	4.9%	0.1%
Always (100%)	0.0%	0.0%	6.6%	0.2%
Lent money to someone else to continue gambling				
Never (0%)	***92.6%***	63.7%	50.8%	90.2%
Rarely (<25%)	***6.1%***	24.2%	31.1%	7.6%
Occasionally (25%-49%)	***1.2%***	8.8%	16.4%	2.0%
Frequently (50%-74%)	0.0%	2.2%	0.0%	0.1%
Almost Always (75%-99%)	0.0%	1.1%	1.6%	0.1%
Always (100%)	0.0%	0.0%	0.0%	0.0%

Bold italic text *indicates significant differences among risk segments (minimum p <.05 for one-tailed tests; p<.10 for two-tailed test).*

Figure 31: Percentage of Past-Year Gamblers Ever Having Related Behaviours while Gambling by Risk for Gambling Problems (2007)



**Indicates significant differences among risk segments at minimum 95+ C.I. (p< .05).*

- The use of cash resources appeared to be a strong indicator of risk for problem gambling.
- The vast majority of those scoring for problem gambling had accessed ATM/bank machines to get additional money while gambling (67.2%) as compared to At-Risk (44.0%) or Non-problem gamblers (3.5%).
- Those scoring for problems were significantly more likely to borrow money from others during play (24.6% versus 1% to 13%), use credit cards to get more money to gamble (36.1% versus 0.6% to 11%) and especially gamble with funds earmarked for another purpose (21.3% versus 0.4% to 8.8%).
- Fewer Non-Problem gamblers (7.4%) have lent money to others to continue gambling than those At-Risk (36.3%) or with gambling problems (49.2%).
- There were no differences in these behaviours in this study as compared to 2003.

SECTION 6: EXPOSURE TO PROBLEM GAMBLING AND AWARENESS AND USE OF SUPPORT SERVICES

SECTION 6: EXPOSURE TO PROBLEM GAMBLING AND AWARENESS AND USE OF SUPPORT SERVICES

To assist NSHPP in assessing awareness, use, and potential demand for gambling-related service and support, all adults participating in the study were asked a series of questions related to personal exposure to problem gambling at a household, family and community level; unaided and aided awareness of specific support services available in Nova Scotia; use of informal and formal support services among those exposed to problem gambling. The results were examined for total adults and by risk for problem gambling (CPGI).

Exposure to Problem Gambling

Problem gambling does not only impact the gambler but also can have negative effects for friends and family members. Since involvement in gambling does not necessarily have to reach a specific or clinical threshold in order to have these negative effects, examining more subjective judgments of problem gambling can offer insight into public perception, attitudes, and tolerance for gambling, as well as the impact of the activity for others at a household, family and community level.

To assess exposure to gambling problems each adult respondent taking part in the survey was asked a series of questions related to:

- personal knowledge of someone in Nova Scotia who is currently experiencing problems with his or her gambling
- number of people known to be currently experiencing problems
- level of relationship with (each known problem gambler)
- type of gambling activity(ies) involved for (each known problem gambler)

Overall, 23.4% representing about 180,000 adults in Nova Scotia reported first-hand knowledge of someone whom they believed was having a problem with gambling in the province. About 2.4% (≈ 18,500 adults) reported a problem gambler in their immediate household. One-third of those exposed were citing gambling problems among family members (7.4%; ≈ 57,000 adults) with a similar proportion indicating problems among close friends (8.1%; ≈ 63,000 adults). VLTs accounted for the overwhelming majority of gambling problems adults were exposed to (86%), followed by slot machines (28%) and instant lottery tickets (16%). However, consistent with earlier product risk assessments, some new forms of gambling emerged in 2007 as playing a role in the gambling problems Nova Scotians were exposed to including card games (poker) (10.8%), daily lotteries (8.2%), sports betting (5.8%) and internet gambling (4.9%).

Level of Exposure to Problem Gambling

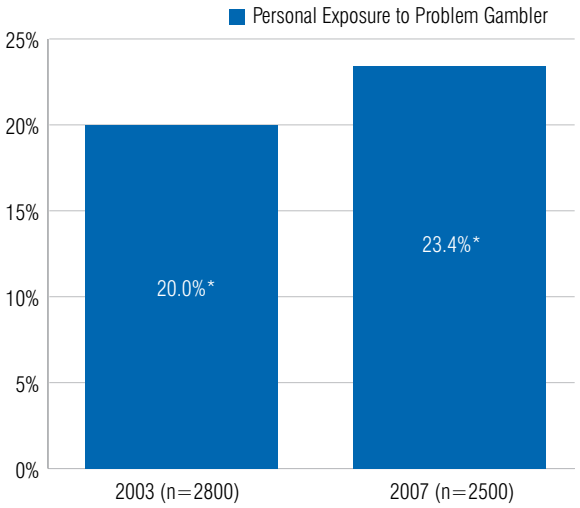
Table 42: Level of Exposure to Problem Gambling by Risk for Gambling Problem (CPGI)

	Risk for Gambling Problem (CPGI)				
	Non-Gamblers 2003 (n=299) 2007 (n=326)	Non-Problem 2003 (n=2311) 2007 (n=2022)	At-Risk 2003 (n=134) 2007 (n=91)	Problem 2003 (n=56) 2007 (n=61)	Total Adults 2003 (n=2800) 2007 (n=2500)
Personal Awareness of anyone in Nova Scotia with a current gambling problem:					
2003	***9.7%***	***18.5%***	***44.8%***	***80.4%***	20.0%
2007	***11.7%***	***23.4%*** ↑	***38.5%***	***62.3%*** ↓	23.4% ↑
In own household including self					
2003	0.3%	***0.9%***	***9.7%***	***57.1%***	2.4%
2007	0.6%	***1.2%***	***7.7%***	***42.6%***	2.4%
Family living outside of household					
2003	***2.7%***	***5.8%***	***17.2%***	***23.2%***	6.3%
2007	***4.9%***	***7.2%*** ↑	***14.3%***	***14.8%***	7.4%
Close friends					
2003	***2.0%***	***6.1%***	***17.2%***	***42.9%***	7.0%
2007	***3.4%***	***8.2%*** ↑	***15.4%***	***18.0%*** ↓	8.1%
Co-workers					
2003	1.0%	***3.7%***	***12.7%***	1.8%	3.8%
2007	0.9%	***3.7%***	5.5% ↓	***11.5%***	3.6%
Acquaintances					
2003	***6.7%***	***10.1%***	***16.4%***	***30.4%***	10.5%
2007	***4.3%***	***12.3%*** ↑	***18.7%***	***27.9%***	11.8%

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test).*

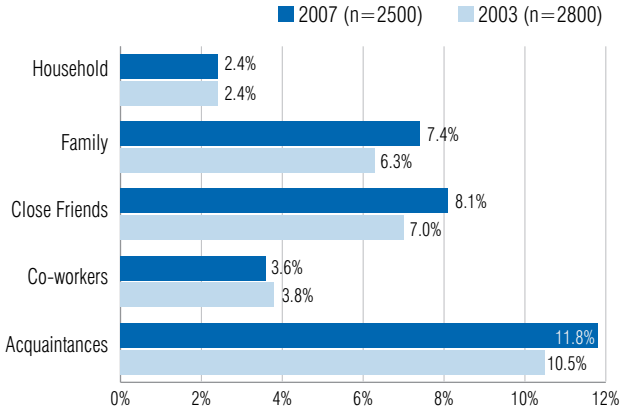
↑↓*Arrows indicate the direction of significant change within each risk segment over measurement periods (2003 vs. 2007) (minimum p <.05: one-tailed test; p<.10 for two-tailed test).*

Figure 32: Percentage of Adults Personally Exposed to Someone having Problems with Gambling



** Indicates significant differences at minimum 95+ C.I. (p < .05).*

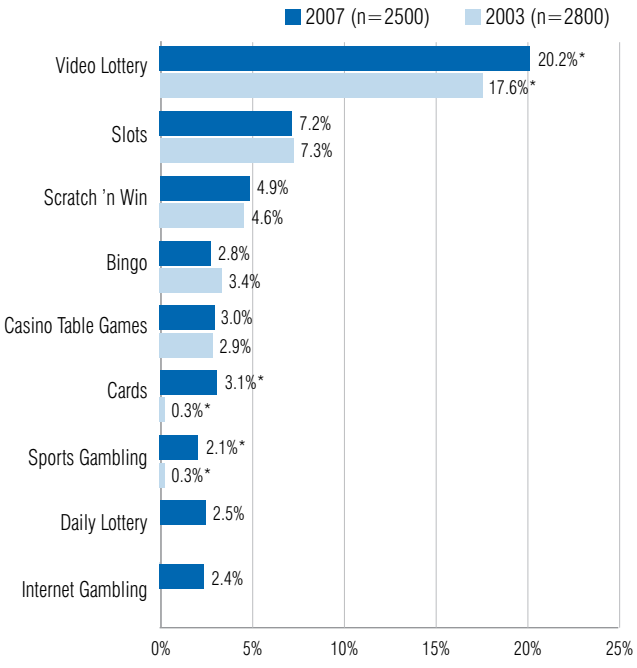
Figure 33: Relationship to Someone Experiencing Gambling Problems (2003 vs. 2007)



- In 2007, almost one in every four adults living in Nova Scotia was personally aware of at least one person who they believed was currently having trouble with their gambling. This represents an increase in exposure over 2003 (20.0%)
- Approximately 2.4% of adults in the province were citing exposure to problem gambling in their households. Rates of exposure were similar through family (7.4%) or close friends (8.1%), with about 3% of all adults specifically mentioning co-workers who had a gambling problem. About 11.8% cited an acquaintance having problems with gambling.
- As would be expected, personal exposure to someone with a current gambling problem increased with risk for problem gambling, particularly through own household, close friends, and acquaintances.
- Both At-Risk and Problem gamblers were equally likely to source family members as having trouble with their gambling (≈14%), a rate two to three times higher than for Non-Gamblers (4.9%) or Non-Problem (7.2%) gamblers. This suggests that those at any level of risk for problems were more likely to have other family members also involved at high-risk or problem levels.
- Problem gamblers also cited high levels of exposure through friends and others (presumably more likely to be encountered at the gambling venues frequented most often by the Problem players).
- Compared to 2003, Non-Problem gamblers in 2007 were more likely to know someone they thought was having gambling problems (23.4% versus 18.5%), specifically, among extended family living outside of their own household, as well as more problems among close friends and acquaintances. This is the only CPGI player segment to exhibit an increase in exposure to problem gambling.
- For Problem gamblers the trend was reversed with fewer of those scoring for problems citing exposure to others with gambling problems as compared to 2003 (80.4% versus 62.3%). Most of this decline can be accounted for by a decrease in the number of close friends with problems.

Exposure to Problem Gambling by Type of Activity

Figure 34: Percentage of Adults Exposed to Gambling Problem by Type of Gambling Activity

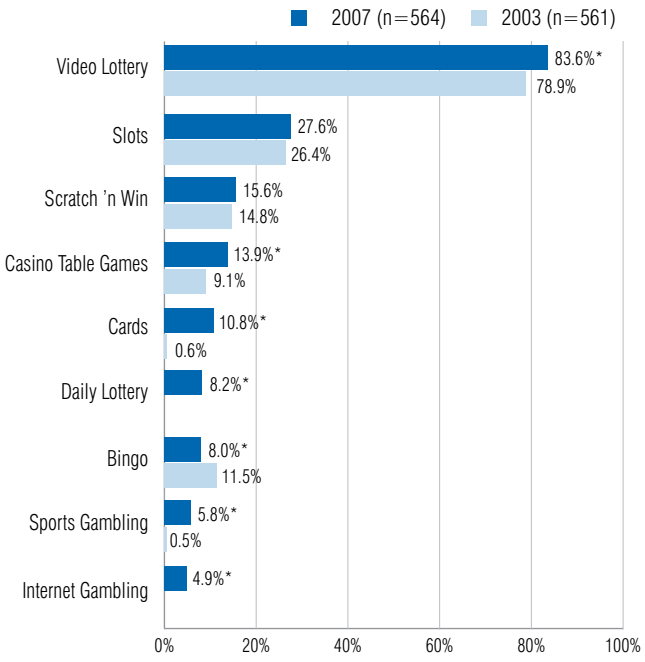


** Indicates significant differences between two measurement periods (2003 vs 2007).*

- As in 2003, VLTs drove the majority of exposure to problem gambling in Nova Scotia. In fact the percentage of adults reporting exposure to someone with a VLT gambling problem increased significantly in 2007 (17.6% versus 20.2%). Overall, one-fifth of all adults, representing 86.3% of those who reported any first-hand knowledge of someone with a gambling problem, cited video lottery as the associated activity.
- Slot machines were a distant second to VLTs, reported by 7.2% of all adults as playing a role in the gambling problems adults were exposed to in Nova Scotia.
- Scratch 'n Wins (4.6%), bingo (3.4%), and casino table games (2.9%) were all mentioned by fewer than one in five of those exposed to problem gambling.
- Despite the heavy skew towards video lottery it is noteworthy that the proportion of those mentioning problems with daily lotteries (2.5%) and internet gambling (2.4%) was identical.

Number of Problem Gamblers Personally Known to Adults

Figure 35: Percentage of Total Exposure to Gambling Problems Accounted for by Each Type of Gambling Activity (More Than One Response Allowed)



**Indicates significant differences between two measurement periods (2003 versus 2007).*

- Those adults who were exposed to problem gambling reported knowing, on average, 4.6 people who were having difficulties, with about half knowing fewer than three people and half citing exposure to three or more problem gamblers (mean=4.6 people, median=3 people).
- Among those people known to be having gambling problems, VLTs continued to be the predominant problem implicated in 83.6% of the cases, and this overall rate of exposure has increased since 2003 (78.9%).
- There was also an increase in the percentage of adults mentioning casino table games (13.9%), card games (poker: 10.8%), daily lotteries (8.2%), sports betting (5.8%) and internet gambling (4.9%). This underscores earlier analysis positioning these products as posing greater risk for gamblers in Nova Scotia than was the case previously.
- Currently, trial and continued play of these forms of gambling are low. However, with increased accessibility and consumer "up-take", increased problems are predicted.

Personal Assistance to Problem Gamblers

Table 43: Percentage Providing Assistance to Problem Gamblers by Risk for Gambling Problem (CPGI)

	Risk for Gambling Problem (CPGI)				
	Non-Gamblers 2003 (n=299) 2007 (n=326)	Non-Problem 2003 (n=2311) 2007 (n-2022)	At-Risk 2003 (n=134) 2007 (n=91)	Problem 2003 (n=56) 2007 (n=61)	Total Adults 2003 (n=2800) 2007 (n=2500)
Percentage of those who have ever provided personal assistance to a problem gambler:					
2003	***2.7%***	***4.0%***	***17.9%***	***26.8%***	5.0%
2007	***3.7%***	***5.5%***	***15.4%***	***23.0%***	6.0%
Financial Assistance					
2003	1.3%	***2.6%***	***12.7%***	***23.2%***	3.4%
2007	***2.5%***	***4.2%***	***11.0%***	***16.4%***	4.5%
Other types of Assistance (non-monetary)					
2003	***2.3%***	***2.5%***	***9.7%***	***12.5%***	3.0%
2007	2.1%	3.3%	***6.6%***	***13.1%***	3.5%

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test).*

- Overall, about 6% or approximately 46,400 adults in the province were estimated to have provided financial and/or non-monetary assistance to someone with a gambling problem.
- Likelihood of providing financial help to a gambler increased with risk for problem gambling. About 16% of Problem gamblers had given money to someone they believed was having a gambling problem whereas only 4.2% of Non-Problem gamblers have extended financial support to someone having trouble with their gambling.
- Problem gamblers (13.1%) and those At-Risk (6.6%) were also most likely to have provided other, non-monetary aid such as groceries, babysitting, place to stay, and use of vehicle than Non-Problem (3.3%) and Non-Gambler (2.1%) segments.
- Despite the association with risk, it is important to keep in mind that about two-thirds of those providing any help to Problem gamblers were comprised of Non-Problem gamblers. Thus, this segment is an important source of assistance for gamblers in Nova Scotia and an important target for supporting improved outcomes.
- There were no changes in rates of assistance to people with gambling problems in the between two prevalence studies (2003 versus 2007).

Awareness of Problem Gambling Support Services

Awareness of support services for Problem Gamblers increased since 2003 (70.0% versus 62.9%).

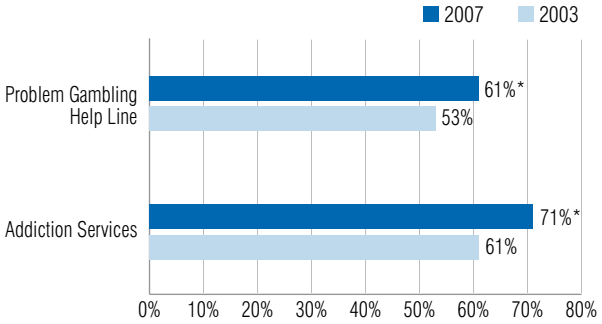
Table 44: Awareness of Problem Gambling Support Services by Risk for Gambling Problem (CPGI)

	Risk for Gambling Problem (CPGI)				
	Non-Gamblers 2003 (n=299) 2007 (n=326)	Non-Problem 2003 (n=2311) 2007 (n=2022)	At-Risk 2003 (n=134) 2007 (n=91)	Problem 2003 (n=56) 2007 (n=61)	Total Adults 2003 (n=2800) 2007 (n=2500)
Awareness of any Assistance Programs/Services					
2003	***38.5%***	***64.5%***	***82.8%***	***76.8%***	62.9%
2007	***49.4%*** ↑	***72.7%*** ↑	***81.3%***	***83.6%***	70.3% ↑
For Problem Gamblers					
2003	***38.5%***	***64.5%***	***82.8%***	***76.8%***	62.9%
2007	***49.4%*** ↑	***72.4%*** ↑	***80.2%***	***83.6%***	70.0% ↑
For Family of Problem Gambler					
2003	***26.8%***	***48.9%***	62.7%	69.6%	47.6%
2007	***29.1%***	49.5%	48.4% ↓	55.7%	46.9%

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test).*

↑↓ Arrows indicate the direction of significant change within each risk segment over measurement periods (2003 vs. 2007) (minimum p <.05: one-tailed test; p<.10 for two-tailed test).

Figure 36: Total Recall for Specific Problem Gambling Services (2003 vs. 2007)



** Indicates significant differences between two measurement periods (2003 vs. 2007).*

- In general, awareness of gambling programs and services increased with risk so that Problem gamblers were more likely to be familiar with these services than Non-Gamblers, Non-Problem gamblers and At-Risk gamblers.
- Overall, awareness of programs to assist Problem gamblers increased from 62.9% in 2003 to 70.0% by 2007. Awareness remained high (≈ 80%) for Problem and At-Risk gamblers, with the gain solely due to improvements among Non-Problem gamblers and Non-Gamblers.
- In contrast, awareness of programs for friends and family did not change over the two measures and actually declined among those scoring as At-Risk gamblers (2003: 62.7% versus 2007: 48.4%).
- Awareness of programs designed to help friends and family of gamblers was substantially lower among all risk groups than was awareness for services to help Problem gamblers. About half of those in any of the gambler segments knew of programs to assist friends and family members and this dropped to less than one-third (29%) among Non-Gamblers.

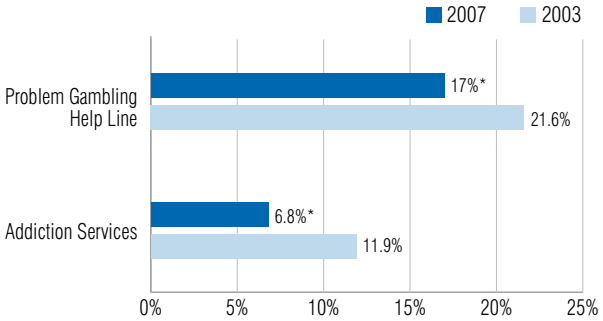
Table 45: Awareness of Specific Problem Gambling Services by Risk for Gambling Problem (CPGI)

	Risk for Gambling Problem (CPGI)				
	Non-Gamblers 2003 (n=299) 2007 (n=326)	Non-Problem 2003 (n=2311) 2007 (n=2022)	At-Risk 2003 (n=134) 2007 (n=91)	Problem 2003 (n=56) 2007 (n=61)	Total Adults 2003 (n=2800) 2007 (n=2500)
Awareness of Specific Programs:					
Addiction Services (including Detox, Community Programs):					
2003	***41.5%***	***62.3%***	***74.6%***	***78.6%***	61.0%
2007	***64.4%*** ↑	***71.6%*** ↑	65.9%	***75.4%***	70.6% ↑
Unaided Recall (Top-of-Mind)					
2003	***9.0%***	12.0%	14.9%	***17.9%***	11.9%
2007	***4.3%*** ↓	***7.1%*** ↓	7.7% ↓	8.2%	6.8% ↓
Aided Recall (Prompted)					
2003	***32.4%***	50.3%	59.7%	60.7%	49.1%
2007	60.1% ↑	64.5% ↑	58.2%	67.2%	63.8% ↑
Problem Gambling Help Line (Toll Free Number):					
2003	***39.1%***	***52.8%***	***72.4%***	***91.1%***	53.0%
2007	***46.9%*** ↑	***62.1%*** ↑	***76.9%***	***73.8%*** ↓	61.0% ↑
Unaided Recall (Top-of-Mind)					
2003	***14.4%***	***20.8%***	***39.6%***	***51.8%***	21.6%
2007	***6.7%*** ↓	***18.0%*** ↓	***18.7%*** ↓	***37.7%***	17.0% ↓
Aided Recall (Prompted)					
2003	***24.7%***	***32.0%***	32.8%	***39.3%***	31.4%
2007	***40.2%*** ↑	***44.2%*** ↑	***58.2%*** ↑	***36.1%***	44.0% ↑

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test).*

↑↓ *Arrows indicate the direction of significant change within each risk segment over measurement periods (2003 vs. 2007) (minimum p <.05: one-tailed test; p<.10 for two-tailed test).*

Figure 37: Top-of-Mind Recall for Specific Problem Gambling Services (2003 vs. 2007)



** Indicates significant differences between two measurement periods (2003 vs 2007).*

Addiction Services (NSHPP/DHAs)

- Overall awareness for problem gambling support through Addiction Services was quite high at 70.6% (a 10% increase over 2003) but only a minority of adults had unaided recall of the programs offered by Addiction Services for problem gambling support (6.8%). Top-of-mind awareness for Addiction Services was significantly lower in 2007 than in 2003 when almost 12% spontaneously mentioned such services.
- When specifically asked whether they had heard of any problem gambling assistance provided through Addiction Service, the majority of adults responded affirmatively (63.8%).
- Overall awareness for Addiction Services has increased since 2003 (49.1%), primarily among Non-Problem gamblers and Non-Gamblers. Non-Problem gamblers comprised the majority of those typically providing informal support services to those who were experiencing problems and, thus, are likely an important target for NSHPP and the DHAs.
- Not surprisingly, Non-Gamblers had the lowest top-of-mind recall of Addiction Services for problem gambling (overall and unaided), yet there were no longer any differences in aided recall across any of the risk categories.

Problem Gambling Help Line (NSHPP)

- While unaided recall was lower than in 2003, aided recall improved moving from 53% to 61%.
- Unaided recall for the toll-free Problem Gambling Help Line (PGHL) was over twice as high as that noted for Addiction Services (17.0% versus 6.8%).
- Gamblers scoring at any level of risk for problems were significantly more likely to be familiar with the PGHL than Non-Problem or Non-Gamblers, with over a third of all those scoring as Problem gamblers mentioning the toll-free service without prompting (37.7%).
- This high level of top-of-mind awareness for the PGHL was likely related to the tendency for those at higher risk to be involved in VLT or slot machine gambling. The number for the PGHL has been posted on all video lottery terminals in the province. This practice may have contributed to higher rates of recall among those playing the machines. However, overall awareness of the PGHL by Problem gamblers has declined since 2003 moving from 91.1% in 2003 to 73.8% in 2007.
- Top-of-mind awareness of the Problem Gambling Help Line had also dropped among At-Risk (2003: 39.6% versus 2007: 18.7%) and Non-Problem gamblers (2003: 20.8% versus 2007: 18.0%).
- As increased risk for other forms of gambling is identified it may be helpful to explore options for reaching these new types of gamblers (e.g. internet gamblers, PlaySphere users, daily lottery players, instant lottery players and ALC sports bettors)

Use of Problem Gambling Services

Table 46: Percentage Seeking out Assistance by Risk for Gambling Problem (CPGI)

	Risk for Gambling Problem (CPGI)				
	Non-Gamblers 2003 (n=299) 2007 (n=326)	Non-Problem 2003 (n=2311) 2007 (n=2022)	At-Risk 2003 (n=134) 2004 (n=91)	Problem 2003 (n=56) 2007 (n=61)	Total Adults 2003 (n=2800) 2007 (n=2500)
Percentage currently exposed to a problem gambler and have sought out information or assistance for a gambling problem:					
2003	***1.7%***	3.5%	***11.2%***	***17.9%***	4.0%
2007	4.3% ↑	5.8% ↑	6.6%	***16.4%***	5.9% ↑
To help self					
2003	–	0.2%	–	***17.9%***	0.5%
2007	–	0.2%	–	***9.8%***	0.4%
To help someone else					
2003	1.7%	3.3%	***11.2%***	1.8%	3.5%
2007	4.3% ↑	5.7% ↑	6.6%	8.2%	5.6%↑

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test).*

↑↓ *Arrows indicate the direction of significant change within each risk segment over measurement periods (2003 vs. 2007) (minimum p <.05: one-tailed test; p<.10 for two-tailed test).*

- In 2007, only 9.8%, or one in ten of those scoring for gambling problems on the CPGI actively sought out any assistance. None of those scoring At-Risk reported use of information or support services for themselves.
- The percentage of adults seeking information or assistance for a current gambling problem was highest for Problem gamblers. However, the patterns were different in 2003 and 2007. In 2003, Problem gamblers seeking assistance were almost exclusively motivated by their own behaviour, whereas in 2007, almost as many Problem gamblers were motivated to help someone else as they were to help themselves (Self: 9.8% and Someone Else: 8.2%).
- Also in 2007, those scoring less than three on the CPGI were largely responding in an attempt to assist someone else and comprised the majority (78%) of those seeking information or assistance in the province.
- More adults were seeking assistance for someone else with a gambling problem in the 2007 study (5.6%) than in 2003 (3.5%). This increase occurred mostly in individuals who did not have problems themselves (as measured by the CPGI).
- Adults in Nova Scotia were slightly more likely to be contacting formal sources of assistance than informal sources such as family, friends, and co-workers (4.6% versus 3.8%). However, the use of help from friends and family was reported twice as often in 2007 (3.8%) as compared to 2003 (1.7%) indicating increased pressure being put on informal support networks.
- Gamblers tended to rely on friends and family most often for help, yet 90% of these high-risk gamblers accessing support eventually sought out formal services for assistance.
- It is noteworthy that Family Physicians, Addiction Services, Gamblers Anonymous (GA) and the Problem Gambling Help Line (PGHL) were each accessed by a similar percentage of adults (1.0%-1.8%), of which the majority was Non-Problem gamblers seeking out information to assist them in helping someone else.
- Not surprisingly, almost all sources of support were utilized by a higher percentage of Problem gamblers than other segments. In terms of formal services, Problem gamblers were equally likely to go to their doctor, use the PGHL, or source GA (4.9% for all three).

Table 47: Use of Information and Services for Those Exposed To Gambling Problems by Risk for Gambling Problem (CPGI)

	Risk for Gambling (CPGI)				
	Non-Gamblers 2003 (n=299) 2007 (n=326)	Non-Problem 2003 (n=2311) 2007 (n=2022)	At-Risk 2003 (n=134) 2007 (n=91)	Problem 2003 (n=56) 2007 (n=61)	Total Adults 2003 (n=2800) 2007 (n=2500)
Percentage Accessing Any Service:					
2003	***1.7%***	***3.5%***	***11.2%***	***17.9%***	4.0%
2007	4.3% ↑	5.8% ↑	6.6%	16.4%	5.9% ↑
Percentage Accessing Informal Services:					
2003	***1.0%***	***1.4%***	4.5%	***10.7%***	1.7%
2007	***2.8%***	***3.7%*** ↑	5.5%	***11.5%***	3.8% ↑
Spouse or Partner					
2003	–	0.5%	0.7%	***5.4%***	0.6%
2007	–	1.2% ↑	–	1.6%	1.0% ↑
Other family and friends					
2003	1.0%	0.7%	2.2%	***10.7%***	1.0%
2007	***2.8%***	***3.1%*** ↑	4.4%	***9.8%***	3.3% ↑
Others (e.g. employer, church)					
2003	–	***0.4%***	2.2%	***3.6%***	0.5%
2007	–	***0.7%***	2.2%	***3.3%***	0.7%
Percentage Accessing Formal Services:					
2003	1.3%	2.9%	***10.4%***	16.1%	3.8%
2007	3.7% ↑	4.4% ↑	5.5%	***14.8%***	4.6%

Table 47 Continued: Use of Information and Services for Those Exposed To Gambling Problems by Risk for Gambling Problem (CPGI)

	Risk for Gambling Problem (CPGI)				
	Non-Gamblers 2003 (n=299) 2007 (n=326)	Non-Problem 2003 (n=2311) 2007 (n=2022)	At-Risk 2003 (n=134) 2007 (n=91)	Problem 2003 (n=56) 2007 (n=61)	Total Adults 2003 (n=2800) 2007 (n=2500)
Gambler Anonymous (GA)					
2003	***0.7%***	***1.3%***	***4.5%***	***7.1%***	1.5%
2007	1.5%	***0.9%***	–	***4.9%***	1.1%
Problem Gambling Help Line					
2003	***0.3%***	***1.0%***	2.2%	***5.4%***	1.1%
2007	***0.9%***	***1.4%***	1.1%	***4.9%***	1.4%
Family Doctor/Physician					
2003	0.3%	0.6%	3.7%	***10.7%***	1.0%
2007	***0.9%***	***1.8%*** ↑	2.2%	***4.9%***	1.8% ↑
Addictions Services					
2003	***0.3%***	***0.7%***	2.2%	***3.6%***	0.8%
2007	1.5%	1.0%	–	1.6%	1.0%
Hospital/Health Centre					
2003	0.3%	0.3%	0.7%	–	0.3%
2007	–	0.6%	1.1%	1.6%	0.6%
Private Therapists					
2003	–	0.2%	0.7%	–	0.2%
2007	***0.6%***	***0.3%***	1.1%	***3.3%***	0.4% ↑
Other (various)					
2003	–	0.4%	***2.2%***	–	0.5%
2007	0.6%	***0.4%***	***2.2%***	1.6%	0.6%

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test).*

↑↓*Arrows indicate the direction of significant change within each risk segment over measurement periods (2003 vs. 2007) (minimum p <.05: one-tailed test; p<.10 for two-tailed test).*

SECTION 7: ADVERTISING EVALUATION

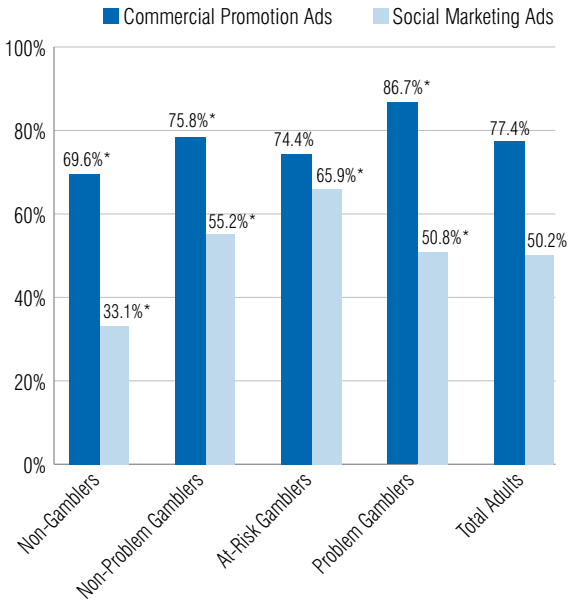
SECTION 7: ADVERTISING EVALUATION

Nova Scotia Health Promotion and Protection (NSHPP) developed an evidence-based social marketing campaign intended to prevent and/or reduce risk for gambling problems especially among young adults in the province. NSHPP's Yellow Flag campaign was launched in the fall of 2006. It consisted of a series of television, radio, and poster ads that addressed high-risk gambling in the province. The ads ran on a limited schedule over the course of one year, ending in September 2007. Up to four months may have passed between the ads airing and respondents answering questions around the advertising. To assess market response towards the campaign as well as obtain input for ongoing policy development and prevention a series of questions were included in the 2007 adult survey.

General Exposure and Attitudes towards Gambling Advertising

Adults in Nova Scotia were more likely to recall seeing advertisements promoting gambling than social marketing messaging on how to recognize risks or avoid problems associated with gambling although recall of both was high (77.4% versus 50.2%).

Figure 38: Recall of Advertising for Gambling Promotion versus Prevention by Gambling Risk



- Problem gamblers were significantly more likely than other segments to be exposed to gambling promotion (87%) although half recalled seeing advertising on risks and warning signs for gambling problems during the last six months.
- Non-Gamblers had the lowest levels of awareness for any social marketing messaging yet were just as likely as At-Risk gamblers to be exposed to advertising promoting gambling.

Support for Gambling Advertising

To assess public support for gambling advertising a split sample methodology was used whereby just under half (n=1027; 41%) of the randomly selected sample received one set of questions using a 1 to 5 Likert scale for rating agreement on a series of statements and the other sample (n=1473; 59%) were asked non-leading questions to assess reaction to similar measures. The distribution and profiles for the two samples were compared and there were no significant differences in sample characteristics.

Table 48: Agreement with Statements about Advertising for Gambling and Gambling Risks (n=1027)

	Agreement Level		
Total Adults (n=1027)	Agree (4-5 / 5)	Neutral (3/5 & DK)	Disagree (1-2 / 5)
There is a lot of advertising encouraging you to gamble.	58.6%	21.2%	20.2%
Similar to alcohol and tobacco advertising, there should be restrictions on advertising for gambling and games of chance.	81.0%	11.3%	7.7%
Gambling advertising encourages children and youth to gamble.	65.6%	17.1%	17.2%
There needs to be more information available about gambling risks and problems	84.2%	9.3%	6.5%

Table 49: Perception of Gambling Advertising and Risk by Risk for Gambling Problem (CPGI) (n=1473)

	Risk for Gambling Problem (CPGI)				
	Non-Gamblers (n=208)	Non-Problem (n=1175)	At-Risk 2007 (n=47)	Problem 2007 (n=43)	Total Adults 2007 (n=1473)
How do you feel about the amount of advertising promoting gambling in Nova Scotia?					
Not enough	3.4%	2.9%	0%	***9.3%***	3.1%
Just right	***25.5%***	***40.3%***	29.8%	***46.5%***	38.0%
Too much	***69.7%***	***55.7%***	***70.2%***	***44.2%***	57.8%
Similar to alcohol and tobacco advertising, do you feel there should be restrictions on advertising for gambling and games of chance or not?					
Agree	***88.0%***	***82.0%***	***80.9%***	***51.2%***	81.9%
Disagree	***6.7%***	***13.9%***	***19.1%***	***32.6%***	13.6%
Don't Know/Unsure	5.3%	4.1%	0%	***16.3%***	4.5%
How much influence do you think gambling advertising has on promoting underage gambling?					
No influence	8.7%	***11.0%***	***2.1%***	***16.3%***	10.5%
Some influence	***40.4%***	***53.9%***	***66.0%***	***39.5%***	51.9%
Strong influence	***50.5%***	***34.6%***	***31.9%***	***44.2%***	37.1%
Do you think there needs to be more information available on gambling risks and problems or not?					
Agree	***90.9%***	87.1%	87.2%	***76.7%***	87.3%
Disagree	***4.3%***	9.6%	12.8%	14.0%	9.7%
Don't Know/ Unsure	4.8%	***3.3%***	0%	***9.3%***	3.6%

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test).*

Most adults taking part in the study felt there was too much advertising for gambling in the province and that such promotion influenced underage involvement in gambling. Support for advertising restrictions similar to those in place for alcohol was strong as was interest in providing the public with more information regarding gambling risk. Only Problem gamblers were less supportive on any of the measures.

- Over half of adults (58.6%) agreed that there was a lot of advertising encouraging people to gamble, with most (57.8%) feeling that there was too much advertising promoting gambling in Nova Scotia.
- Two-thirds believed that promotional advertising for gambling encouraged children and youth to start gambling, and 90% felt that such ads had at least some influence in promoting underage gambling in the province. One-third felt the advertising impact was strongly influential with youth.
- The vast majority (81%) of adults in Nova Scotia believed there should be restrictions on gambling advertisements similar to those on tobacco and alcohol, and that more information regarding the risks and problems associated with gambling should be made available to the public (84.2%).
- These attitudes varied across the CPGI classifications with Problem gamblers being less likely to see the amount and influence of gambling promotion to be problematic. Problem gamblers were also less likely to believe we need restrictions on gambling ads, and less likely to agree that we need more available information on gambling risks and problems.

Yellow Flag Campaign

NSHPP introduced the Yellow Flag campaign in the fall of 2006 to educate adults, particularly young adults, about gambling risks and problems. Specifically, these ads portrayed "yellow flag moments" or warning signs during common gambling scenes so that people could more easily self-identify their own risky behaviours. The Yellow Flag campaign utilized television, newspaper and radio ads as well as brochures and posters to promote "safer" gambling practices. The ads ran on a limited schedule over the course of one year, ending in September 2007. Up to four months may have passed between the ads airing and respondents being asked questions about the advertising.

- Overall, the vast majority (73.7%) responded positively when asked if they had heard or seen any advertising that referred to Yellow Flag moments for gambling. However, three-quarters only recalled these promotions once prompted with a description of the ad.
- The TV ads were recalled most often with 68.4% remembering the television commercials versus 18.7% for the radio ad and 10.0% for the poster.

The rates of recall for the Yellow Flag Campaign were examined across CPGI risk segments.[56]

Table 50: Recall of Yellow Flag Campaign by Risk for Gambling Problem (CPGI)

	Risk for Gambling Problem (CPGI)				
	Non-Gamblers (n=208)	Non-Problem (n=1175)	At-Risk (n=47)	Problem (n=43)	Total Adults (n=1473)
Recall of any advertising of Yellow Flag Campaign:					
Any recall	***57.2%***	***76.8%***	70.2%	***72.1%***	73.7%
Unaided recall (top of mind)	***11.5%***	***18.9%***	***21.3%***	14.0%	17.8%
Aided recall (prompted)	***45.7%***	***57.9%***	48.9%	58.1%	55.9%
TV ads:					
Any recall	***52.4%***	***71.4%***	63.8%	***67.4%***	68.4%
Unaided recall (top of mind)	***8.7%***	***14.3%***	***19.1%***	***4.7%***	13.4%
Aided recall (prompted)	***43.8%***	***57.1%***	***44.7%***	62.8%	55.0%
Radio Ads:					
Any recall	***11.1%***	***20.1%***	19.1%	18.6%	18.7%
Unaided recall (top of mind)	1.4%	3.3%	2.1%	0%	2.9%
Aided recall (prompted)	***9.6%***	***16.8%***	17.0%	***18.6%***	15.8%
Poster Ads:					
Any recall	***7.2%***	***10.0%***	12.8%	***20.9%***	10.0%
Unaided recall (top of mind)	1.4%	0.6%	2.1%	2.3%	0.8%
Aided recall (prompted)	***5.8%***	***9.4%***	10.6%	***18.6%***	9.2%

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test).*

- Recall for any of the Yellow Flag ads was significantly higher among gamblers (≈ 75%) than Non-Gamblers (57.2%).
- The majority of gamblers in all segments remembered seeing at least one of the television commercials with just over two-thirds (68%) of all adults recalling the TV ads.
- Top-of-mind awareness for any one of the two television executions (e.g. casino version, Scratch 'n Win version) was high (13%) especially among the At-Risk gamblers (19%) as compared to only 5% of Problem gamblers.
- It will be recalled that the key target for the advertising was defined as young adults and those scoring At-Risk for gambling problems. Therefore results suggest that the campaign was effective in reaching the target groups as intended.[57]
- When prompted, almost one in every five adults (19%) remembered hearing one of the Yellow Flag radio ads although only 3% had unaided recall. Overall recall of the radio ads was similar among all gamblers.
- About one in ten adults remembered seeing any of the Yellow Flag posters. The posters tended to be distributed on campus at universities and colleges as well as in bathrooms at gambling venues such as licensed bars and clubs. It is noteworthy that recall of the posters increased with risk for gambling problems with one in every five (21%) Problem gamblers citing exposure to one of the posters suggesting on-site distribution of the posters was effective in reaching those at greatest risk for problems.

[56] Unaided versus aided recall for each of Yellow Flag ad types (TV, radio, posters) was only used in one of the split samples (Sample B: n=1473) and found to provide a more practical assessment of ad awareness as compared to aided recall only obtained in (Sample A: n=1027). Again, as there were no differences in sample characteristic or profiles only the findings for Sample B are presented above.

[57] For full evaluation of the campaign within the target group refer to the Yellow Flag Post-Campaign Evaluation Among Young Adults (19-34 years) in Nova Scotia http://www.gov.ns.ca/hpp/gambling/pg-resources.asp

Evaluation of Yellow Flag Campaign

The Yellow Flag advertising was first evaluated out of all adults in order to determine if there were differences in ad reach and impact among the different risk segments (n=2500). The evaluation was then examined for only those who recalled any of the Yellow Flag advertising to assess response among those exposed to the ads (n=1484).

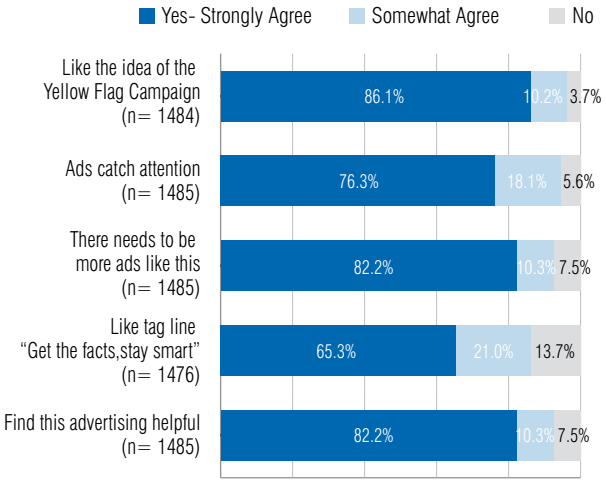
Table 51: Agreement with Statements about Yellow Flag Campaign by Risk for Problem Gambling

	Risk for Gambling Problem (CPGI)				
	Non-Gamblers (n=326)	Non-Problem (n=2022)	At-Risk (n=91)	Problem (n=61)	Total Adults (n=2500)
Percent recalling Yellow Flag ad campaign:					
	46.0%	61.1%	61.5%	68.9%	59.4%
Did you like the idea of the Yellow Flag ad campaign?					
Yes	***37.4%***	***53.0%***	***44.0%***	***59.0%***	50.8%
Somewhat	***5.8%***	***5.9%***	***12.1%***	8.2%	6.2%
No	2.8%	***2.2%***	***5.5%***	1.6%	2.4%
Did not recall the ads	***54.0%***	38.9%	38.5%	31.1%	40.6%
Did these ads catch your attention?					
Yes	***29.1%***	***47.7%***	***40.7%***	***60.7%***	45.3%
Somewhat	11.7%	***10.4%***	***17.6%***	***8.2%***	10.8%
No	***5.5%***	***3.1%***	3.3%	–	3.3%
Did not recall the ads	***53.7%***	38.9%	38.5%	31.1%	40.6%
Do you think there needs to be more advertising like this?					
Yes	***38.3%***	***50.7%***	***41.8%***	***54.1%***	48.8%
Somewhat	4.6%	6.3%	8.8%	4.9%	6.1%
No	***3.4%***	***4.2%***	***11.0%***	***9.8%***	4.4%
Did not recall the ads	***53.7%***	38.9%	38.5%	31.1%	40.6%
Did you like the tag line “Get the facts, stay smart”?					
Yes	***23.0%***	***41.1%***	***29.7%***	***49.2%***	38.6%
Somewhat	***12.3%***	***12.0%***	***19.8%***	16.4%	12.4%
No	***10.1%***	7.7%	***12.1%***	***3.3%***	8.1%
Did not recall the ads	***54.6%***	39.2%	38.5%	31.1%	41.0% †
Did you find this advertising helpful in telling you about risks when gambling?					
Yes	***38.3%***	***50.7%***	***41.8%***	***54.1%***	48.8%
Somewhat	4.6%	6.3%	8.8%	4.9%	6.1%
No	3.4%	4.2%	11.0%	9.8%	4.4%
Did not recall the ads	***53.7%***	38.9%	38.5%	31.1%	40.6%

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test).*
†- The proportion of those who “did not recall the ads” varied due to a few unknown or unsure responses to the question.

- Over half (57%) of all adults in the current study recalled and liked the Yellow Flag concept, with an additional 6% finding it at least somewhat appealing.
- There was very little negativity engendered by the advertising with only 2.4% reporting that they did not like the Yellow Flag concept.
- Only 5.5% of At-Risk gamblers, one of the key targets for the messaging, tended to dislike the concept with an additional 12.1% only somewhat supportive of the concept However, 44% of all those scoring At-Risk for gambling problems saw and liked the idea of the Yellow Flag campaign.
- The advertising was considered at least somewhat effective in 'grabbing attention' by more than half of adults (56.1%), especially Problem gamblers (68.9%). Only 3% of adults did not find the ads particularly effective in getting their attention, primarily Non-Gamblers (5.5%), who were not the target for these ads.
- Again about half of all adults saw the ads and agreed that there should be more advertising like this, although one in 10 of the higher-risk gamblers disagreed, perhaps reflecting their greater sensitivity to the content.
- Adults generally liked the tag line, "Get the Facts, Stay Smart" (51%) but tended to be less enthusiastic with about one-third only rating it somewhat appealing. The tag line was particularly attractive to Problem gamblers.
- Overall, the Yellow Flag campaign was recalled by 59% of adults and about 49% of those taking part in the study found it to be a helpful campaign in informing people about the risks associated with gambling.

Figure 39: Evaluation of the Yellow Flag Campaign among those who Recalled the Advertising



When only considered among those who were exposed to the advertising the Yellow Flag Campaign was evaluated very favorably:

- 86.1% like the Yellow Flag concept;
- 82.2% felt there should be more advertising like this;
- 82.2% found the advertising to be helpful in telling them about the risks when gambling;
- 76.3% thought that the advertising was catchy and cuts through the clutter;
- 65.3% like the tag line with an additional 21% finding it somewhat appealing.

SECTION 8: GENERAL HEALTH AND WELL-BEING BY RISK FOR GAMBLING PROBLEMS

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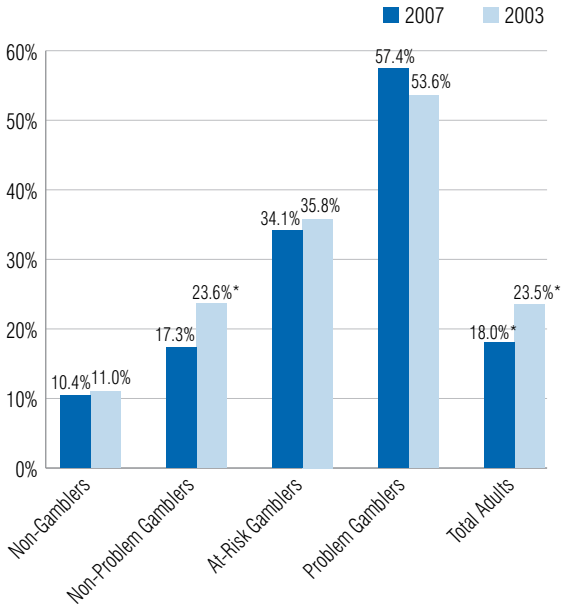
The following section examines general health and well-being correlates by risk for problem gambling. This not only provides information regarding co-morbidity, but also positions prevalence for problem gambling within the context of other community and public health issues falling under the mandate of Nova Scotia Health Promotion and Protection.

All those taking part in the 2007 survey were asked whether or not they had ever experienced 16 different life and related health issues. If yes, they were then asked if they had experienced such instances in the 12 months preceding the survey. Eight of the 16 measures were included in the 2003 study and are included for comparison.
An additional eight items were introduced in the 2007 survey. In some cases, the questions were variations of previous questions examining prevalence for use of alcohol, tobacco, and drugs. Due to changes in how the survey was administered, direct comparisons for alcohol and drugs are not included in the current report.

Life Issues Measured	
2003 and 2007	2007 Only
Income loss/job loss	Bankruptcy protection
Debt or financial problems	Problems with own alcohol use
Personal relationship problems	Problems with alcohol use by others
Health problems	Problems with own drug use
Professional work problems	Problems with drug use by others
Loneliness/increased isolation	Death of a significant person
Depression	Anxiety
Tobacco use	Other mental health issues

Smoking

Figure 40: Percentage of Daily Smokers by Risk for Gambling Problems (2003 vs. 2007)



** Indicates significant differences between two measurement periods (2003 vs. 2007).*

- Overall daily smoking by adults declined from 23.5% in 2003 to 18.0% in 2007. This was largely due to the decrease in smoking by Non-Problem gamblers as the rates in all other segments stayed fairly steady.
- As observed in the previous study, smoking increases with risk for gambling problems. Over half of Problem gamblers (57%) reported smoking on a daily basis.

Health and Life Problems Experienced over the Past Year by Risk for Gambling Problems

Problem gamblers and, to a lesser extent, At-Risk gamblers were more likely to have mental health issues and life problems affecting their well-being than those at no risk for gambling problems (Non-Problem or Non-Gamblers). The only exception was observed for physical health issues with Non-Gamblers, who tended to be older, and more inclined to have health related issues. While fewer people reported financial problems in 2007, significantly more reported relationship problems, loneliness and depression.

Changes in Health and Life Issues/Problems (2003 versus 2007)

Table 52: Health and Life Problems Experienced in the Past Year by Risk for Gambling Problems (CPGI) (2003 vs. 2007)

	Risk for Gambling Problem (CPGI)				
	Non-Gamblers 2003 (n=299) 2007 (n=326)	Non-Problem 2003 (n=2311) 2007 (n=2022)	At-Risk 2003 (n=134) 2007 (n=91)	Problem 2003 (n=56) 2007 (n=61)	Total Adults 2003 (n=2800) 2007 (n=2500)
Income loss/job loss:					
2003	***4.7%***	***7.6%***	***16.4%***	***25.0%***	8.0%
2007	***5.2%***	***5.5%*** ↓	***16.5%***	***14.8%***	6.1% ↓
Debt or financial problems:					
2003	***6.0%***	***11.0%***	***26.9%***	***44.6%***	11.9%
2007	***7.7%***	***8.7%*** ↓	***27.5%***	***23.0%*** ↓	9.6% ↓
Relationship problems:					
2003	***4.7%***	***6.8%***	***11.9%***	***37.5%***	7.5%
2007	***4.6%***	***8.9%*** ↑	***16.5%***	***23.0%*** ↓	9.0% ↑
Health problems:					
2003	23.7%	20.7%	23.1%	26.8%	23.1%
2007	***33.4%*** ↑	***23.4%*** ↑	26.4%	29.5%	25.0%
Work problems:					
2003	***2.3%***	***6.2%***	***15.7%***	***16.1%***	6.5%
2007	***2.5%***	***5.8%***	***19.8%***	***13.1%***	6.0%
Loneliness/increased isolation:					
2003	***9.0%***	***6.2%***	***11.2%***	***23.2%***	7.1%
2007	***12.0%***	***9.0%*** ↑	***18.7%***	***23.0%***	10.0% ↑
Depression:					
2003	6.4%	7.2%	9.0%	***21.4%***	7.5%
2007	***12.0%*** ↑	***11.5%*** ↑	***19.8%*** ↑	***39.3%*** ↑	12.6% ↑

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test).*

↑↓ *Arrows indicate the direction of significant change within each risk segment over measurement periods (2003 vs. 2007) (minimum p <.05: one-tailed test; p<.10 for two-tailed test).*

- Over the past year, most adults (85.0%) in Nova Scotia experienced at least one of the life and health issues measured. This rate climbed to 93.2% among Problem gamblers.
- Compared to 2003, adults were significantly more likely to report:
  - relationship problems (7.5% versus 9.0%)
  - higher rates of loneliness or isolation (7.1% versus 10.0%),
  - higher rates of depression (7.5% versus 12.6%),
  - lower rates of income loss or job loss (8.0% versus 6.1%),
  - fewer financial or debt problems (11.9% versus 9.6%).
- The most commonly reported issues in 2007 were health problems (25.0%), depression (12.6%), loneliness (10.0%), financial problems and debt (9.6%) and relationship problems (9.0%).
- Problem and At-Risk gamblers had the highest incidence for all of the

measures except health problems for which Non-Gamblers reported the highest levels. This likely reflected age discrepancies with those scoring at risk for gambling problems significantly more likely to be younger and, by default, less inclined to have health problems.

- About a quarter of Problem gamblers (23.0%) and At-Risk gamblers (27.5%) had some type of financial problem compared to only about 7.7% for Non-Gamblers and 8.7% for Non-Problem gamblers. This represented a decline in financial problems for those scoring for problem gambling over 2003 (44.6% in 2003 versus 23.0% in 2007).
- Income or job loss was almost three times higher for those scoring at any level of risk for gambling problems (≈ 14.8%-16.5% versus 5.2%-5.5%) as were work related problems (≈ 13.1%-19.8% versus 2.5%-5.8%).
- Past-year incidence for relationship problems, loneliness and depression increased with risk for problem gambling. Almost a quarter of problem gamblers (23.0%) reported experiencing relationship problems and loneliness in the past year compared to about 5% to 12% for Non-Gamblers and Non-Problem gamblers and 16% to 19% for At-Risk gamblers.
- Likewise, over one-third of Problem gamblers (39.3%) had problems with depression compared to one-fifth of At-Risk gamblers (19.8%) and about 12% of Non-Problem gamblers and Non-Gamblers.

New Health and Life Problems Measures (2007)

Adults reported relatively few other problems or issues in the current study with the most frequently reported being death of a significant person and anxiety. For the most part, incidence levels were similar across risk segments. The exceptions were anxiety (which increased with risk), difficulty finding a job (higher in Problem gamblers) and problems with own alcohol consumption and that of friends and/or family.

Table 53: Problems Experienced in General in the Past Year by Risk Category (CPGI) (2007 statements only)

	Risk for Gambling Problem (CPGI)				
	Non-Gamblers 2007 (n=326)	Non-Problem 2007 (n=2022)	At-Risk 2007 (n=91)	Problem 2007 (n=61)	Total Adults 2007 (n=2500)
Difficulty in finding a job:					
2007	4.3%	4.3%	5.5%	14.8%	4.6%
Bankruptcy protection:					
2007	0.3%	0.7%	–	–	0.6%
Problems with own alcohol use:					
2007	***0.6%***	***0.6%***	***3.3%***	1.6%	0.7%
Problems with own drug use:					
2007	0.6%	0.5%	1.1%	1.6%	0.6%
Experienced problems as a result of someone else's alcohol use (friends/family):					
2007	***4.0%***	***7.6%***	***8.8%***	6.6%	7.2%
Experienced problems as a result of someone else's drug use (friends/family):					
2007	5.2%	6.0%	7.7%	8.2%	6.0%
Experienced problems as a result of someone else's gambling (friends/family):					
2007	3.7%	4.2%	2.2%	6.6%	4.1%
Death of a significant person:					
2007	16.6%	20.5%	20.9%	18.0%	20.0%
Anxiety (panic attacks):					
2007	***10.4%***	***10.1%***	***19.8%***	***31.1%***	11.0%
Other mental health issues:					
2007	0.6%	0.9%	2.2%	1.6%	0.9%

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test).*

- The overall rates of adults experiencing any one of the above ten problems or issues in the past year was relatively low (from 0.6% to 20.0%).
- Problems with anxiety was the only factor that significantly increased with risk; almost one-third of Problem gamblers (31.1%) experienced anxiety or panic attacks as compared to 19.8% of At-Risk gamblers and about 10% of Non-Gamblers and Non-Problem Gamblers .
- Problem gamblers were also significantly more likely to have had problems finding a job in the past year than those falling into any of the other CPGI risk segments (14.8% versus 4.3% to 5.5%).
- About one in five adults in Nova Scotia had experienced the death of someone significant in their life over the previous year and there were no differences observed by risk for gambling problems.
- While self-reported problems with gambling in the past year (1.4%) were over twice as high as self-reported problems for alcohol (0.7%) or drugs (0.6%), the percent reporting problems as a result of someone else's use were comparatively lower for gambling at 4.1% versus 7.2% for alcohol and 6.0% for drugs.

General State of Health by Risk for Gambling Problems

The majority (60%) of Nova Scotian adults reported their health to be excellent or very good compared to others their own age. Problem gamblers had lower rates of positive health evaluations and higher rates of poor health evaluations.

Table 54: Comparative State of General Health by Risk for Gambling Problem (CPGI)

	Risk for Gambling Problem (CPGI)				
	Non-Gamblers 2003 (n=299) 2007 (n=326)	Non-Problem 2003 (n=2311) 2007 (n=2022)	At-Risk 2003 (n=134) 2007 (n=91)	Problem 2003 (n=56) 2007 (n=61)	Total Adults 2003 (n=2800) 2007 (n=2500)
State of health compared to others your own age:					
Excellent					
2003	16.7%	19.0%	15.7%	14.3%	18.5%
2007	15.6%	15.8%	12.1%	11.5%	15.6% ↓
Very Good					
2003	38.8%	44.4%	38.8%	39.3%	43.4%
2007	38.3%	***44.1%***	36.3%	***29.5%***	42.7%
Good					
2003	28.4%	26.2%	29.1%	28.6%	26.6%
2007	30.4%	28.5%	36.3%	36.1%	29.2% ↑
Fair					
2003	11.0%	8.4%	14.2%	10.7%	9.0%
2007	13.2%	9.7%	13.2%	13.1%	10.4%
Poor					
2003	***4.3%***	***1.8%***	***2.2%***	***7.1%***	2.2%
2007	2.5%	1.9%	2.2%	***9.8%***	2.2%

Bold italic text *indicates significant differences among risk segments (min p<.05 for one-tailed test; p<.10 for two-tailed test).*

↑↓ *Arrows indicate the direction of significant change within each risk segment over measurement periods (2003 vs. 2007).*

- Compared to others their own age, almost 60% of adults rated their personal state of health as *excellent* to *very good*. Only 12% of Nova Scotian adults reported that their health was only *fair* (10.4%) or poor (2.2%).
- Fewer Problem gamblers evaluated their health as *excellent* to *very good* compared to At-Risk and Non-Problem gamblers (41% versus 48% and 60%). Comparatively, Problem gamblers had higher rates of those in poor health (10% versus 2%).
- Compared to 2003, there were very few changes in health ratings with the exception of a slight but significant decline in the percentage of adults reporting *excellent* health and an increase in those considering their health to be *good*.

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