

Research Summary: Billi, R., Stone, C.A., Marden, P., Yeung, K., (2014). *The Victorian Gambling Study: A longitudinal study of gambling and health in Victoria, 2008–2012*. Victoria, Australia: Victorian Responsible Gambling Foundation.

Aim: The Victorian Gambling Study 2008–2012 is a longitudinal study of gambling and health in Victoria, Australia. The study commenced in 2008 with a telephone survey of 15,000 Victorian adults about gambling behaviour, recreation and health. This was followed by three further waves of data collection from participants who agreed to take part in future research. A qualitative study, using face-to-face interviews, was also conducted between research waves 3 and 4. There were several objectives for the study: Estimate the prevalence and incidence of problem gambling; Investigate the pathways in and out of gambling risk states; Understand the risks and vulnerabilities relating to gambling behaviour, health and problem gambling risk states; and understand the relationship between gambling risk and health.

Methods: The Victorian Gambling Study 2008–2012 used a number of study designs to optimise the value of findings from the project. The first design was cross-sectional, the second was a prospective cohort (also called a longitudinal or follow-up design) and the third was a qualitative design. The first design was a cross-sectional study of a representative sample of the Victorian adult population (18 years and older) using computer-assisted telephone interviewing (CATI). Areas with high EGM expenditure were oversampled to enrich the sample for subjects with higher risk gambling behaviour. The aim was to estimate participation in gambling activities, and the prevalence of problem gambling risk in the adult Victorian population. It was also designed to investigate the association between different gambling risk levels (determined through the PGSI), and gambling participation and frequency within a wide range of demographic, social, health and wellbeing factors. The second design was a prospective cohort study of participants from the Wave 1 study who gave consent to participate in further research. Participants were contacted using CATI for three subsequent years (waves 2, 3 and 4) at approximately the same time of year. The purpose of the longitudinal study was to explore temporal changes in gambling risk behaviours (transitions), and the factors that contribute to increases or decreases in gambling risk. Given that studies such as this are expensive, following up and retaining the smaller numbers of higher risk gamblers was prioritised. Despite this, the Wave 2 survey was considered sufficiently representative to provide robust population estimates of the incidence of problem gambling in the adult population between 2008 and 2009.

Results: *Problem gambling* - Problem gamblers were more likely to be young men (25–34 years old); be employed as a sales worker, machinery operator/driver or labourer; have an annual income of \$31,200–51,999 or annual household income of \$62,400–103,999. Problem gamblers were also more likely to report poor social capital. Moderate-risk and problem gamblers were more likely to cite life events—such as death, divorce, retirement, injury and illness—as triggers for gambling than zero-risk gamblers. Problem gamblers reported poor health more often than zero-risk gamblers (i.e. non gamblers and non-problem gamblers). Almost one-half (44%) of the lifetime pathological gamblers and almost one-quarter (24%) of lifetime problem gamblers report problem gambling in the past 12 months. Approximately 29% of lifetime problem gamblers and 31% of lifetime pathological gamblers report being non-gamblers or non-problem gamblers in the past 12 months. Other health and social measures showed:

- 16.8% of problem gamblers self-reported poor health compared with 3.4% of non-problem gamblers;

- 54.0% of problem gamblers were past-year smokers compared with 22.0% of non-problem gamblers;
- 7.0% of problem gamblers had high levels of clinical alcohol abuse compared with 0.4% of non-problem gamblers;
- 52.0% of problem gamblers reported having depression compared with 8.0% of non-problem gamblers;
- 46.0% of problem gamblers reported having an anxiety disorder compared with 7.0% of non-problem gamblers;
- 24.0% of problem gamblers were likely to have severe psychological distress compared with 1.4% of non-problem gamblers;
- 27.0% of problem gamblers and 6.0% of moderate-risk gamblers reported considering taking their own life in the past year.

The estimated Victorian prevalence of lifetime problem gambling and lifetime pathological gambling was 1.2% and 1.1%, respectively. Not all lifetime problem or lifetime pathological gamblers report being problem gamblers or moderate-risk gamblers in the past 12 months—supporting the hypothesis that problem gambling behaviour waxes and wanes over time.

Table 1: Relationship between product, product problem gambling prevalence rate and frequency.

Product	% of total population gambled on product	Problem gambling prevalence rate (on product) (%)	Notes on frequency
EGMs	21% (860,000)	3%	As gambling frequency increased from 1–3 times per month to once a week or more, the proportion of problem gamblers increased from 6% to 17%.
Table games	4.9% (191,000)	4%	When these table games players were separated into groups based on the frequency of playing, the group that played table games more frequently contained a higher proportion of problem gamblers. As reported gambling frequency increased from 1–3 times per month to once a week or more, the proportion of problem gamblers increased from 10% to 33%.
Race betting	16% (660,000)	1%	As reported gambling frequency increased from 1–3 times per month to once a week or more, the proportion of problem gamblers increased from 1% to 5%.
Sports betting	3% (158,000)	3%	When sports betters were separated into groups based on the frequency of betting, the group that bet more frequently contained a higher proportion of problem gamblers. As reported gambling frequency increased from 1–3 times per month to once a week or more, the proportion of problem gamblers increased from 3% to 8%.

Problem gambling incidence - The 12-month incidence rate¹ for the Victorian adult population was 0.36%. The rate includes participants who were problem gamblers at some stage before the 12 months of the study period and accords with the fluid nature of problem gambling, where gamblers. Approximately one-third of the

incidence rate (0.12%) was found to be problem gamblers without a previous history of problem or pathological gambling during their lifetime (new cases). Approximately two-thirds of the incidence rate (0.24%) were problem gamblers with a previous history of lifetime problem gambling or pathological gambling (relapse cases).

Transitions - Most problem gamblers (71.4%) were likely to remain problem gamblers from one year to the next. Approximately 22.5% of problem gamblers (in person-years) were likely to decrease to moderate-risk states. The probability that problem gamblers were likely to cease gambling was very low (1%). This analysis also showed that moderate-risk gamblers, compared with all other risk categories, had the greatest probability (9%) of transitioning to problem gambling. Non-gamblers and non-problem gamblers had a very low probability (0.1%) of becoming problem gamblers.

Discussion: The Victorian Gambling Study is unique in a number of aspects. Its main benefit is its longitudinal nature (four years), which provided detailed insights into transitions into (and out of) harmful gambling, new cases of problem gambling (incidence), risk and protective factors for the onset of gambling problems and transitions between levels of problems and recovery. It also provides further insights in understanding the interplay between gambling and other health conditions.

Key Findings:

- The estimated Victorian prevalence of lifetime problem gambling and lifetime pathological gambling was 1.2% and 1.1%. The 12-month incidence rate for the Victorian adult population was 0.36%².
- Increased frequency of gambling on a product from 1 to 3 times per month showed a corresponding increase in the problem gambling rates across all products - EGMs (6% to 17%.), table games (10% to 33%.), race betting (1% to 5%) and sports betting (3% to 8%.). This suggests that greater attention needs to be focused on monitoring regular gamblers.
- EGMs are particularly harmful to people with a history of problem or pathological gambling. Increased frequency of gambling on EGMs showed the largest increase in PGSI score for problem gamblers.
- Most problem gamblers (71.4%) were likely to remain problem gamblers from one year to the next. However, not all lifetime problem or lifetime pathological gamblers report being problem gamblers or moderate-risk gamblers in the past 12 months—supporting the hypothesis that problem gambling behaviour waxes and wanes over time.
- Moderate-risk gamblers have the greatest probability (9%) of transitioning to problem gambling than all other risk states. Most problem gamblers (71%) are likely to remain problem gamblers, regardless of gender. Approximately 22% of problem gamblers (in person-years time) are likely to decrease to moderate-risk states, and the probability that problem gamblers are likely to cease gambling is close to zero.

Notes

¹ Incidence is the number of new cases of a condition in a population in a given time period.

² The rate includes participants who were problem gamblers at some stage before the 12 months of the study period and accords with the fluid nature of problem gambling, where gamblers.