EXECUTIVE SUMMARY

Background

This report presents findings from the 2015 Northern Territory Gambling Prevalence and Wellbeing Survey, carried out from October to December in 2015. The results will be of interest to regulators, government policy makers in the areas of gambling licencing and regulation, public health and other related social and public policy researchers, non-government organisations, industry, and the broader community.

Methods

As with the 2005 Gambling Prevalence Survey, a telephone sampling approach was used, though the 2015 survey used dual frame sampling, which included, in addition to the landline telephone frame, three mobile phone lists, from which numbers were randomly selected. The consent rate was for 28% for landlines and 44% for mobile phones, with an overall consent rate of 31%.

The survey data was weighted to the Australian Bureau of Statistics 2015 estimated adult resident population for the Northern Territory, with separate population weights developed for the non-Indigenous and Indigenous samples. This separate weighting approach means estimates from this survey will be more representative of the total NT population, compared with the previous survey, where population weights did not reflect the Indigenous population separately.

All data in the report, except that in Chapter 10, comes from either the 2005 Gambling Prevalence Survey or the 2015 Gambling Prevalence and Wellbeing Survey. Data used in Chapter 10 was obtained from the Northern Territory Government Department of Business and included data on electronic gaming machine (EGM) player losses, percentage return to player, and number of EGMs.

The survey contained over 80 questions covering the following domains:

- *Gambling participation* (11 activities, frequency of play, mode/venue, expenditure for highest spend activity)
- *Problem gambling* (assessed using the Problem Gambling Severity Index)
    - ATM access and whether staff spoke to at-risk gamblers about their gambling
    - Types of negative consequences because of their own gambling and help-seeking behaviour for at-risk gamblers
- *Negative consequences because of own gambling* for at-risk gamblers (types of negative consequences, and help-seeking behaviour)
- *EGM specific* questions (regular venue, distance to regular venue, whether smoking ban or moving ATMs out of sight changed EGM spending)
- *Gambling Motivations* (18 item module measuring five types of gambler motivations – ego, escape, excitement, social, and money)
- *Negative consequences because of another person's gambling* (types of negative consequences, relationship to person whose gambling affecting them, and help-seeking behaviour)
- *Community opinions on EGM numbers* in hotels, clubs and the casino
- *Self-assessed health and health risk behaviours* (self-assessed health, problematic alcohol consumption, smoking status and smoke-free home status, exposure to personal stressors, and financial stress)

- *Socio-demographic and socioeconomic factors* (age, gender, region (Darwin/Palmerston, Alice Springs, Regional Towns (includes Katherine, Tennant Creek, and Nhulunbuy) and the Rest of NT), Indigenous status, main language spoken at home, household type, labour force status (including fly-in fly-out worker), personal income, student status and highest education)

Analyses contained in this report included comparisons with the 2005 survey, cross-tabulations of socio-demographic, socioeconomic and health risk factors with primary outcomes including the PGSI, gambling participation, community opinions on EGM numbers and negative consequences from another person's gambling. Statistical tests were carried out for comparisons with the previous survey and cross-tabulations within the 2015 survey. Time trends (2003/4 to 2014/15) for number of EGMs, EGM player losses, player loss per machine and percentage player returns were plotted and visually examined for casinos and community venues (clubs and hotels) separately. EGM trends are reported for unadjusted and adjusted player loss data, with the adjusted data also known as 'real', with all dollar values pegged to the 2014/15 dollar value.

Results

Gambling participation

Annual gambling participation declined significantly between 2005 and 2015 in the NT adult population for:

- Any gambling (including raffles) from 85% to 76%
- Any gambling (excluding raffles) from 73% to 68%
- Lotteries from 53% to 46%
- Raffles from 65% to 43%
- Electronic gaming machines (EGMs or pokies) from 27% to 23%
- Instant scratch tickets from 29% to 18%.

Annual gambling participation increased significantly between 2005 and 2015 in the NT adult population for:

- Racetrack betting from 19% to 23%
- Sports betting from 5% to 8%.

There was no statistically significant change in annual gambling participation between 2005 and 2015 in the NT adult population for:

- Keno (increased from 23% to 25%)
- Casino table games (increased from 11% to 13%)
- Informal games such as cards or pool (decreased from 4% to 3%)
- Bingo (steady at 2%)
- Other gambling (decreased from 1% to 0.5%).

Participation in non-sports betting was not asked in the 2005 survey, and just 0.3% of the NT adult population participated in this type of gambling in 2015.

Compared with other jurisdictions in Australia, participation in keno, casino table games, sports betting and any gambling was higher in the Northern Territory.

Including raffle only gamblers, annual participation in any gambling decreased significantly between 2005 and 2015 in the regions of: Darwin/Palmerston (88% to 79%), Alice Springs (84% to 70%), and Regional Towns (87% to 77%). Annual participation any gambling (including raffles) decreased in the Rest of the NT (80% to 69%), but this decline was not statistically significant.

There was significant variation in annual participation across regions for lotteries, raffles, keno, instant scratch tickets, and sports betting, with participation generally lower in the Rest of the NT and highest in Darwin/Palmerston. Racetrack betting was significantly higher in Regional Towns (29%, compared with all other regions less than 24%.

In 2015, there was no significant difference in annual participation in 'any gambling' between men (76%) and women (76.1%), but men had significantly higher participation than women in keno (28% *cf*. 22%), casino table games (17% *cf*. 9%), sports betting (12% *cf*. 3%) and informal games (4% *cf*. 1%).

Generally, the lower levels of participation observed across most gambling activities in 2015 compared with 2005 occurred similarly for both men and women. However, for racetrack betting, women significantly increased their participation (17% to 22%), while men had a marginally non-significant increase (21% to 24%), and similarly for casino table games, women significantly increased their participation (4% to 9%), while the change was not significant for men (16% to 17%). The increase between 2005 and 2015 in sports betting was only significant for men (8% to 12%).

There were some clear and significant age-related patterns in gambling participation for casino table games (decreasing participation with age), sports betting (decreasing with age), lotteries (increasing with age), informal games (decreasing with age) and raffles (increasing with age).

Between 2005 and 2015 there was little change in gambling participation for those aged 55 years or more across all activities, though there were significant declines for raffles (64% to 45%) and instant scratch tickets (24% to 16%). Participation in lotteries and raffles declined across all age groups (18-24, 25-34, 35-44, 45-54, and 55 years or more), except for 35-44 years, where raffles participation declined significantly.

The decreases between 2005 and 2015 in annual participation across most activities were also observed for weekly (and in some instances monthly) gambling, with significant decreases in weekly gambling for any gambling (35% to 22%), lotteries (33% to 22%), sports betting (18% to 8%), EGMs (9% to 6%), instant scratch tickets (8% to 4%), casino table games (2% to 1%).

More detailed information on associations between demographic and socioeconomic factors and participation in each activity, including mode/venue where gambled, and comparisons between 2005 and 2015 in frequency of gambling for different activities can be found in Chapter 3.

Self-reported highest spend gambling activity

Across the NT, 34% of gamblers nominated lotteries as their highest spend gambling activity, followed by raffles/sweeps (19%), EGMs (13%), racetrack betting (12%), keno (8%), and casino table games (7%).

Compared with men, women were significantly more likely to nominate as a highest spend activity raffles/sweeps (14% *cf*. 24%), EGMs (10% *cf*. 14%) and bingo (0.3% *cf*. 1%). Compared with women, men were significantly more likely to have as a highest spend activity racetrack betting (10% *cf*. 14%), casino table games (4% *cf*. 11%), and sports betting (0.6% *cf*. 3.5%).

There was an increasing trend by age in select lotteries as a highest spend activity, while there was a decreasing trend by age in selecting keno, casino table games, instant scratch tickets, sports betting, informal games and bingo as the highest spend activity. There was significant variation across age groups in selecting EGMs as the highest spend activity, with those greater than 55 years and less than 35 years most likely to nominate EGMs.

Gamblers motivations

The most commonly endorsed gambling motivation was the social facet of motivation (23.9%), followed by excitement (17.3%), money (15.3%), escape (5.7%), and ego (2.6%). Gamblers' motivations did not differ significantly across regions. Men endorsed the gambling motivations of social, excitement, and money significantly more than women did. Only the social gambling motivation showed a significant association with age, with endorsement decreasing with age. However, the excitement motivation showed a similar, but non-significant trend.

Problem gambling, negative consequences and help-seeking behaviour

The 2015 problem gambling prevalence in the NT was 0.68% with the 95% confidence interval around the estimate ranging from 0.37% to 1.27%; which was approximately 1,200 adults. Prevalence of moderate risk gambling was 2.90% (95% CI 2.05% to 4.09%) or about 5,100 adults, and low risk gambling 8.13% (95% CI 6.55% to 10.06%) or about 14,400 adults.

PGSI group (score)	Prevalence %	Prevalence +/- SE[1]	Prevalence +/- 95% CI[2]	*Population N*
Problem gamblers (8+)	0.68	0.46 - 0.90	0.37 - 1.27	1,206
Moderate risk gamblers (3-7)	2.90	2.39 - 3.41	2.05 - 4.09	5,128
Low risk gamblers (1-2)	8.13	7.24 - 9.02	6.55 - 10.06	14,383
No/very low risk gambler (0)	64.33	62.94 - 65.72	61.55 - 67.01	113,807
Non-gambler	23.96	22.73 - 25.19	21.64 - 26.45	42,392
Total	**100.00**	**100.00**	**100.00**	**176,916**

[1] SE = standard error, [2] CI = confidence interval

The 2005 Gambling Prevalence Survey only asked regular gamblers (at least weekly gamblers excluding lotteries, raffles and instant scratch tickets) the PGSI, while the 2015 survey asked all gamblers. Since the 2005 survey, research has found that excluding non-regular gamblers from problem gambling estimates leads to under-estimates across all categories of the PGSI, but more so for low and moderate risk gamblers. Therefore, to make comparisons between the two surveys, non-regular gamblers (according to the 2005 definition) were filtered out from the 2015 data. The table below shows there were no significant changes in estimates of PGSI

categories between the 2005 and 2015 surveys amongst regular gamblers. Comparing PGSI estimates for regular and all gamblers in the 2015 survey, problem gambling prevalence was 0.44% and 0.68% respectively, moderate risk gambling was 0.85% and 2.90%, and low risk gambling 1.29% and 8.13%. These are large and significant differences (under-estimation using regular gambler category), and highlight how survey methodology can severely affect estimates of problem gambling risk. The differences between PGSI estimates for regular and all gamblers equate to an additional 430 problem gamblers, 3,600 moderate risk gamblers and 12,100 low risk gamblers. The differences observed in problem gambling risk estimates between regular and all gamblers in 2015 confirm previous research that all risk categories of the PGSI are grossly under-estimated when only administering it to regular gamblers and not all gamblers.

	2005		2015	
PGSI group (score)	% (SE)	Lower-Upper 95% CI	% (SE)	Lower-Upper 95% CI
Regular gamblers				
Problem gambler (8+)	0.64 (0.12)	0.44-0.92	0.44 (0.19)	0.19-1.01
Moderate risk (MR) gambler (3-7)	1.57 (0.27)	1.12-2.18	0.84 (0.24)	0.48-1.47
Low risk gambler (1-2)	2.01 (0.26)	1.55-2.59	1.17 (0.29)	0.72-1.89
No/very low risk gambler (0)	3.28 (0.33)	2.70-3.99	2.99 (0.38)	2.33-3.82
Non-regular gambler	65.53 (1.43)	62.67-68.29	70.6 (1.29)	68.01-73.07
Non-gambler	26.97 (1.33)	24.44-29.67	23.96 (1.23)	21.64-26.45

NOTE: Only regular gamblers were administered the PGSI in the 2005 survey. A regular gambler is someone who gambled at least weekly, excluding raffles, lottery & instant scratch tickets

PGSI estimates for the NT did not differ substantially from other jurisdictions around Australia, though estimates for moderate risk gamblers were the highest in Australia at 2.9%, and similar to New South Wales.

Problem gambling prevalence estimates across regions had large standard errors, which limited the power to determine statistical differences. However, grouping all PGSI risk categories into a total at-risk group gives prevalence across the Northern Territory of 11.7%. The association between problem gambling risk and region was marginally non-significant, with the highest prevalence of at-risk gamblers in Alice Springs (14.6%), followed by Darwin/Palmerston (11.6%), Rest of the NT (10.9%), then Regional Towns (7.5%).

Informal games (5.8%), EGMs (2.7%), sports betting (2.5%), casino table games (2.3%), keno (2%) and racetrack betting (1.6%) were all significantly associated with a higher risk of problem gambling, compared with 0.9% amongst all gamblers. There was significantly higher prevalence of moderate and low risk gambling amongst gamblers who participated in EGMs (7.8% & 18.6%), sports betting (11.2% & 18.5%), casino table games (7.9% & 24.1%), keno (6.5% & 15.5%) and racetrack betting (6.7% & 14.1%), compared with 3.8% and 10.7% for moderate and low risk gambling respectively for all gamblers. All risk categories of the PGSI increased significantly as the number of different gambling activities a person participated in increased and a similar association was observed for all gambling frequency.

A large number of socio-demographic, socioeconomic, and health risk variables had a significant bivariate association with problem gambling risk, and these associations are included in Chapter 6.

A multivariable statistical model (negative binomial regression) was developed to identify which of the simple bivariate associations remained significant with PGSI score, while controlling for other explanatory variables that had a significant association with PGSI score. The following variables were all significantly associated with PGSI score in the multivariable model:

- EGM frequency of gambling
  - Weekly EGM gamblers were 13.28 times the average PGSI score as non-EGM gamblers (largest effect size in the model)
  - Monthly EGM gamblers were 6.38 times the average PGSI score as non-EGM gamblers
- Casino table games frequency of gambling
  - Less than monthly casino table games gamblers were 2.39 times the average PGSI score as non-casino table games gamblers
- Number of gambling activities
  - Three activity gamblers were 2.94 times the average PGSI score as gamblers only playing one activity
  - Four activity gamblers were 2.45 times the average PGSI score as gamblers only playing one activity
  - Five or more activity gamblers were 3.68 times the average PGSI score as gamblers only playing one activity
- Highest education level
  - Less than Year 10 educated gamblers were 2.67 times the average PGSI score as gamblers with a Bachelor degree or higher
- Main language spoken at home
  - Not speaking English at home gamblers were 5.03 times the average PGSI score as English at home speaking gamblers
- Indigenous status
  - Gamblers identifying as Indigenous were 1.94 times the average PGSI score as non-Indigenous gamblers
- Running out of money for essentials
  - Gamblers who ran out of money for essentials in the last 2 weeks were 7.56 times the average PGSI score as gamblers who did not run out of money for essentials (second largest effect size)
  - Gamblers who ran out of money for essentials in the last 12 months were 2.48 times the average PGSI score as gamblers who did not run out of money for essentials
- Personal alcohol problems (CAGE)
  - Gamblers screened as having an alcohol problem were 2.18 times the average PGSI score as gamblers with no problems
  - Gamblers with missing data for alcohol problems were 1.84 times the average PGSI score as gamblers with no problems
- Money motivation to gamble
  - High (top two quartiles) 'money' motivation gamblers were 2.88 to 2.91 times the average PGSI score as gamblers less motivated by winning money

There was a significant positive association between the number of negative consequences at-risk gamblers identified as occurring because of their own gambling and PGSI risk categories. Amongst at-risk gamblers who identified no harms because of the their own gambling, 3.1% were classified as problem gamblers, going up to 5.2% for those identifying one or two harms, and amongst those identifying three or more negative consequences 23% were problem gamblers, compared with 5.8% amongst all at-risk gamblers.

The most common negative consequence for at-risk gamblers were 'raided savings accounts/funds' (12.4%), followed by 'felt stress/anxiety/depression' (11.9%), 'borrowed money from family/friends' (9.4%), 'ran out of money for bills' (8.8%), 'relationship problems with family' (6.6%), 'ran out of money for food' (6.4%), 'had a problem with work' (4.9%), and 'no money for rent/mortgage' (4.8%).

All at-risk gamblers were asked about whether they accessed an ATM while gambling and how many times. There was a significant association between problem gambling risk and accessing an ATM, with 9% of those accessing an ATM being problem gamblers, compared with 1% problem gamblers amongst those not accessing an ATM while gambling. Problem gambling risk increased amongst at-risk gamblers who accessed an ATM more often, with problem gambling prevalence less than 1% amongst those not accessing an ATM, 2% for those accessing once, 15% accessing twice, and 34% amongst those who accessed an ATM three or more times in a gambling session.

A staff member of a venue spoke to 12% (2,471 from 20,658) of at-risk gamblers about their gambling, and this did not vary significantly across PGSI categories.

Negative consequences because of another person's gambling

The 2015 Gambling Prevalence and Wellbeing Survey asked whether the respondent was negatively affected by someone else's gambling in the last 12 months. Thirteen percent (N=23,000) of the NT adult population said yes, that they had been negatively affected by another person's gambling, with 4.3% (N=7,600) identifying up to three different negative consequences they had experienced.

The person whose gambling was negatively affecting the respondent was most commonly a parent (28%), followed by friend (27%), acquaintance (9%), other family member (8%), spouse (6%), brother/sister (5%), ex-partner (5%), in-law (4%), work colleague (4%) and son/daughter (3%).

Amongst the NT adult population, types of negative consequences experienced because of someone else's gambling were 'raiding savings' (6%), 'friend relationship problems' (6%), 'feeling stress/anxiety/depression' (5%), 'run out of money for bills' (5%), 'family relationship problems' (5%), 'borrowing from family/friends' (4%), 'run out of money for food' (2%), and 'run out of money for rent/mortgage' (2%).

EGM participation was the only gambling activity that had a significant association with being negatively affected by someone else's gambling, with 22% of EGM gamblers affected, compared with 10% of people who did not play EGMs.

People living in Regional Towns were more likely (though the association was marginally non-significant) to be negatively affected by someone else's gambling (30% *cf*. 13% or less in other regions). Age and gender did not have significant association with experiencing negative consequences because of another person's gambling.

Other socio-demographic factors significantly associated with increased risk of being negatively affected by another person's gambling were being Indigenous (28%), living in a single parent household (32%), and living in a group household (24%). Socioeconomic factors significantly associated with increased risk of being negatively affected by someone else's gambling were being a full-time student (40%), and personal annual income between $70,000 and $99,999 (22%).

Health risk factors significantly associated with increased risk of being negatively affected by someone else's gambling were smoking 10 or more cigarettes per day (37%), and running out of money for essentials in the last 12 months (48%).

Community opinions on electronic gaming machine numbers in venues

Respondents were asked, *Thinking about pokies, should the number of pokies in hotels/clubs/casinos be increased, decreased or stay the same?* Respondents answered separately for each venue type. For clubs, 53% of people said they would like to see a decrease in EGM/pokies numbers, and a further 42% said no change, with only 5% endorsing an increase in numbers. A similar trend was observed for hotels, with 50% saying they would like to see a decrease, 49% said no change, and less than 2% saying increase. The trend for casinos was slightly different, with 41% saying they would like to see a decrease, 55% stay the same, and 4% would like an increase in numbers.

A question in the 2005 survey asked, *Do you think the number of poker machines and other gaming machines currently available in your local community should be increased, decreased or stay the same?* While not exactly comparable with the 2015 question, it had a very similar trend with 49% endorsing a decrease, 49% stay the same, and 2% an increase.

There was significant variation across regions in whether people wanted a change in pokie numbers in hotels. People living in Regional Towns were less likely to say decrease the numbers (30%), compared with Rest of NT (41%), Alice Springs (59%) and Darwin/Palmerston (52%). There was no significant difference between how men and women answered pokie numbers in hotels, but there was a significant positive association between endorsing a decrease in pokie numbers with increasing age, with 38% of people less than 35 years endorsing a decrease, compared with 56% amongst 35-54 years and 61% amongst those 55 years or more.

One of the more interesting findings concerning community opinion on pokies numbers in hotels was that 60% of EGM gamblers who gambled weekly endorsed a decrease in pokie numbers in hotels. For clubs and casinos, 52% and 34% of weekly EGM players respectively endorsed a decrease in pokie numbers.

Concerning pokie numbers in casinos, there was significant variation across regions, with 51% of people in Alice Springs endorsing a decrease, compared with less than 40% in all other regions. Women were significantly more likely to endorse decreases

in pokie numbers in the casinos (47%), compared with men (35%). There was no association with age and changes in pokie numbers in the casinos.

Player losses on electronic gaming machines (EGMs)

Chapter 8 presents data supplied by the NTG Department of Business on EGM player loss and numbers of EGMs broken down for the casinos, hotels and clubs. There were four changes to policy and regulation over the period 2003/4 to 204/15 that may have affected player losses and the number of EGMs operating in the NT:

- Smoking ban in all venues started from 1 January 2010.
- Note acceptors allowed in hotels and clubs from 28 May 2013, bringing them into line with the two casinos, which have always had note acceptors, allowing players put in up to $999 in $20, $50 or $100 notes.
- Previous caps of 10 EGMs per hotel and 45 EGMs per club were lifted in July 2015, to allow hotels up to 20 EGMs and clubs up to 65 EGMs.
- Minimum return to player was amended on 21 September 2015 for casinos from 88% to 85%, which brought them into line with community venues.

The total number of EGMs housed in the Territory's two casinos peaked in 2010/11 at 1,074, before levelling out to 1,050 in 2014/15. A similar trend occurred for hotels and clubs, though the peak in EGM numbers occurred one year earlier in hotels. The ratio in 2014/15 EGM numbers between community venues (hotels and clubs) and the two casinos is about 52:48.

Total player losses on EGMs peaked in 2008/9 at $170 million, before declining for two years down to $143 million, then increasing again to $162 million in 2014/15. The increase in total player losses from 2013/14 was solely due to increase in player losses in hotels and clubs. Between 2012/13 and 2014/15, player losses in hotels and clubs increased 18% or around 9% per annum, compared with negative growth in the previous three years since the smoking ban. The increase in hotels and clubs is likely due to the allowance of note acceptors in machines in community venues, which allows players to put up to $999 in a machine using any note denomination. The casinos have always been able to have note acceptors on their machines.

Player loss data in Chapter 8 is reported for unadjusted and CPI adjusted dollars, pegged to 2014/15. The CPI adjustment generally does not affect overall trends a great deal, but the adjusted data clearly show the diminishing profitability of EGMs in the NT, particularly in the casinos. Player losses in 2014/15 dollar values peaked a year earlier in 2007/8 compared with the unadjusted data, and in 2014/15 values was $113 million. From 2007/8 to 2014/15, player losses in the casinos decreased on average 4.3% per annum. Player losses still peaked in 2008/9 for hotels and clubs at $96 million 2014/15 dollars, and then decreased at a little over 8% per annum until 2012/13 ($61 million), before increasing dramatically to $83 million in 2014/15, representing an 18% increase over two years. This latter increase most likely due to the installation of note acceptors in EGMs located in community venues.

Player losses per machine indicate the profitability of the machine and the venue where it is located. Player loss per machine is usually higher in venues with more EGMs. The player losses per machine in the two casinos follow a similar trend over time to casino player losses, peaking in 2008/9, before declining sharply in the two years after the smoking ban. Since 2010/11, player loss per machine in the two casinos has hovered around $75,000 per machine per year. Hotels and clubs had a

similar trend to that observed for the casino up to 2010/11, but since this time, player loss per machine in hotels and clubs has increased, with a sharp increase occurring after 2012/13 after note acceptors were introduced.

In the past, the casinos have had a superior player loss per machine than community venues, due to the larger number of machines in the venues, and because the casinos have always had note acceptors on their EGMs. In 2003/4, community venues player loss per machine was at 56% of what the casinos were making. Community venues player losses per machine have steadily increased since 2003/4, to the point now where there is virtually no difference between casinos and community venues player losses per machine, with hotels and clubs now having average player losses of $74,052 per machine, compared with the casinos at $75,351 per machine.

This report publishes for the first time, data on player returns. Government regulates and imposes a minimum expected player return for EGMs, with this being at least 85% since 2013. In practice though, most EGMs in the Northern Territory and Australia operate at around 90%. Player returns for casino EGMs in the NT dropped from 91.7% in 2003/4 to 91.1% in 2006/4, before steadily increasing to 92% in 2011/12, and then levelling out to 91.9% in 2014/15. The trend in player returns in community venues differed to that observed for the casinos. Player returns in hotels and clubs were at their lowest in 2003/4, then increased every year since this time, and were at 90.5% in 2014/15.