



Internet Gaming in New Jersey

Calendar Year 2019 Report to the
Division of Gaming Enforcement
Submitted by:

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To Cite This Report:

Nower, L., Cho, S.R., Stanmyre, J.F., & Peters, E.A. (2021). *Internet Gaming in New Jersey: Calendar Year 2019 Report to the Division of Gaming Enforcement*. New Brunswick, NJ: Authors

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I. Introduction

A. Background

The current Internet Gaming Report in New Jersey, prepared pursuant to N.J.S.A. 5:12-95.18, evaluates online gambling activity in 2018. In it, we examine the overall impact of Internet gaming and problematic patterns of play across all players and bets during the year. Where appropriate, the report compares current year play patterns with those of prior years to isolate trends across time periods and/or abrupt shifts in play by demographic groups, activities, and/or responsible gambling status.

This year, there was a further increase in those using responsible gaming features, 7,437 players, which was 6.6% of those analyzed for the report. This increase follows an increase in 2017; both occurred after the DGE required each operator to add a standardized RG logo to their sites. This measure was intended to provide continual and identifiable access to the RG offerings required in the State.

B. 2018 Report Data

Individuals who gamble online in New Jersey must be at least 21 years old and located within the state while gambling. In this report, the terms “gambling” and “gaming” are used interchangeably. Typically, researchers distinguish between those who gamble for money (i.e., gambling) and gaming, which refers to video game play; however, the industry refers to gambling as gaming, so we adopt both terms. Similarly, those who wager on Internet gaming sites are variously referred to as gamblers, players, and bettors.

Table 1 shows the list of operators, skins, and URLs active in 2018. For purposes of this report, the “Licensee” is the land-based gaming corporation, the “Operator” is the Internet gaming provider, and the “Skin” refers to the brand, which may have one or more associated websites, displayed in Table 1 as a URL. New Jersey’s legislation allows both casino games (e.g., Blackjack, Spanish 21, Bonus Blackjack, American and European Roulette, craps, slot machines, video poker) and peer-to-peer games (e.g., No-limit and Limit Hold ’em Poker, Pot Limit Omaha (PLO), Seven Card Stud, Draw Poker, Omaha Hi/Lo).

Table 1. Operator and Gaming Sites in 2018

Licensee	Platform Operator(s)	Skin(s)	Game Offerings	URL(s)
Borgata	Bwin	Bwin	Casino/Peer to Peer Poker	www.nj.party poker.com/
		Borgata	Casino/Peer to Peer Poker	www.Borgatacasino.com www.poker.borgataonline.com/
	Pala	Pala	Casino/Peer to Peer Blackjack/Bingo	www.palacasino.com www.palabingousa.com
Caesars Interactive Entertainment	NYX	Caesars	Casino	www.CaesarsCasino.com
	888	Harrahs	Casino	www.HarrahsCasino.com
		888	Casino/Peer to Peer Poker	Us.888casino.com Us.888poker.com
		WSOP	Casino/Peer to Peer Poker	www.WSOP.com
Golden Nugget	NYX	Golden Nugget	Casino	casino.goldennuggetcasino.com
	Rush Street	SugarHouse	Casino	www.playsugarhouse.com
	Game Account/ Betfair	Game Account/ Betfair	Casino	www.betfaircasino.com
Tropicana	GameSys	Tropicana	Casino	www.tropicanacasino.com
		Virgin	Casino	www.virgincasino.com
Resorts Digital Gaming LLC	NYX	Resorts Casino	Casino	www.resortscasino.com
		Mohegan Sun Casino	Casino	www.mohegansuncasino.com
	Poker Stars NJ	Poker Stars NJ	Casino/Peer to Peer Poker	www.pokerstarscasinonj.com
Hard Rock	GiG	Hard Rock	Casino	www.hardrockcasino.com
Ocean	Game Account	Ocean	Casino	www.oceanonlinecasino.com

II. Methodology

Consistent with prior reports, these analyses were conducted from multiple raw data files, collected by the Division of Gaming Enforcement (DGE) from all the operators in a standardized variable format. The DGE provided the data to the Center for Gambling Studies (CGS) through an encrypted portal which was developed exclusively for this project. Those files are housed on an encrypted and password-protected server. Once the raw data files were extracted from compressed format, each text data file (both CSV and DAT formats) was read into SPSS format. The length and data format of all variables were standardized across all files from all casinos. Demographic files, individual bet files, balance files and responsible gaming (RG) features files were sorted by the unique player identification code (DUPI) and time/data stamp variable. To analyze the data, the individual bet files from all casinos were combined into a single file containing all bets across all casinos by all players. Using SPSS (version 27), the data was cleaned again and analyzed for missing or erroneous data, and questionable data was checked with the DGE for verification and/or correction. The resulting file was then matched to demographic, balance and RG features files by the unique player identification code (DUPI) and aggregated using SPSS. Univariate and bivariate statistics were used to analyze daily player betting behavior across all casinos and all games, betting behavior across regions, betting behavior by time of day, and patterns of play of all players, those betting at highest intensity, and those who opted to utilize RG features.

III. Player Demographics

There was a large increase in signups for new online gambling accounts in 2018, with 486,541 new accounts created. Of those, about 13% (n=64,292) were "active," meaning the player placed at least one bet or played poker or tournament poker online. Including those who already had accounts, overall, there were 125,270 total active accounts available for analyses by age and other variables, and 113,154 accounts with both age and gender available (Table 2). One player platform did not provide information about the gender of their account holders, resulting in 12,116 players (9.7%) excluded from gender comparisons.

Table 2. Missing Data Summary

Missing Data Summary	Valid Sample	Missing	Total
Gender	113,154	12,116	125,270
Age	125,270	-	125,270

A. Age and Gender

Overall, there has been an increase in the proportion of people gambling online in New Jersey in 2018 over the prior year. Notably, the overall number of New Jersey residents gambling online increased by about 26% over the prior year, accompanied by an overall increase in player age, which averaged about 41 years in 2018 compared to about 39 years in the first year of legalized

gambling. Of online gamblers living in New Jersey, the proportion of those in the youngest age group declined by about 5% in 2018, in contrast to players 55 to 64 and 65+, where participation increased by about 2% and 1%, respectively, compared to the prior year (Table 3). Findings were similar among those playing in New Jersey but residing elsewhere, which saw significant declines in those under age 34 and significant increases in those ages 35 to 54. The average age of non-New Jersey residents was about 40 years, an increase of about one year over 2017.

Findings by gender highlight some interesting differences. Among New Jersey residents, the proportion of women who gambled relative to men continued to increase significantly, from a low in 2015 of 25% to a high of 32% in 2018. Players living outside New Jersey also were more likely to be men, but the proportion of women was even smaller, as only 27% of players identified as female, despite a small but non-significant increase (Table 3).

Table 3. Comparing Online Gamblers Residing Inside and Outside NJ by Age and Gender

Age Group	In NJ 2014		In NJ 2015		In NJ 2016		In NJ 2017		In NJ 2018	
	%	N	%	n	%	n	%	n	%	N
21-24 ^a	12.3	7,811	13.5	9,561	11.1	6,512	14.2	11,007	8.8	8,618
25-34 ^b	35.3	22,211	35.5	25,148	34.6	20,294	34.7	26,947	32.4	31,612
35-44 ^c	22.2	13,986	21.8	15,468	22.9	13,437	22.3	17,343	25.2	24,571
45-54 ^d	16.6	10,486	16.2	11,479	17.1	10,054	15.9	12,368	17.7	17,253
55-64	9.2	5,781	8.9	6,326	9.7	5,711	8.9	6,909	10.7	10,485
65+ ^e	4.4	2,481	4.1	2,894	4.6	2,689	4.0	3,129	5.1	5,024
Total		62,756		70,876		58,697		77,703		97,563
Mean ^c		38.8		38.56		39.02		38.49		40.6
SD		12.9		13.1		13.1		13.1		13.2
Gender	In NJ 2014		In NJ 2015		In NJ 2016		In NJ 2017		In NJ 2018	
	%	n	%	n	%	n	%	n	%	N
Male ^f	70.7	44,366	74.9	49,078	70.7	41,533	69.8	54,241	67.8	66,173
Female	29.3	18,328	25.1	16,454	29.3	17,164	30.2	23,462	32.2	31,390
Total	92.3	62,756	89.9	65,532	89.2	58,697	87.5	77,703	86.2	97,563
Age Group	Outside of NJ 2014		Outside of NJ 2015		Outside of NJ 2016		Outside of NJ 2017		Outside of NJ 2018	
	%	n	%	n	%	n	%	n	%	N
21-24 ^f	10.3	539	11.4	880	8.9	631	10.2	1,129	7.5	1,175
25-34 ^g	39.6	2,075	44.1	3,405	41.9	2,986	38.2	4,243	34.6	5,388
35-44 ^c	23.2	1,212	23.3	1,801	23.4	1,667	23.5	2,612	28.0	4,359
45-54 ^c	14.6	766	13.0	1,003	5.1	1,074	15.3	1,701	16.8	2,614
55-64 ^h	7.8	411	6.1	468	7.4	527	8.9	989	8.8	1,372
65+ ⁱ	4.5	235	2.2	171	3.3	235	3.8	426	4.4	683
Total		5,238		7,728		7,120		11,100		15,591
Mean ^{gj}		38.48		36.53		37.57		38.71		39.92
SD		12.98		11.36		12.04		12.65		12.51

Gender	Outside NJ 2014		Outside NJ 2015		Outside NJ 2016		Outside NJ 2017		Outside NJ 2018	
	%	n	%	n	%	n	%	n	%	N
Male ^k	75.6	3,958	80.9	5,950	76.9	5,473	71.6	7,952	73.1	11,395
Female	24.3	1,275	19.1	1,403	23.1	1,647	28.4	3,148	26.9	4,196
Total	7.7	5,238	10.8	7,353	10.1	7,120	12.5	11,100	13.8	15,591

Significant differences across years for specific age range ($p < .001$).

- a. Lower in 2016 v 2014, 2015 and 2017; higher in 2016 v 2018.
- b. Lower in 2018 than all other years.
- c. Higher in 2018 than all other years.
- d. Higher in 2016 v. 2017; higher in 2018 v 2014, 2015, 2017.
- e. Higher in 2018 v. all other years; higher in 2016 v. 2014, 2015, 2017.
- f. Higher in 2015 v. all others; Lower in 2018 v. all others.
- g. Higher in 2015 v. 2014, 2017, 2018; Lower in 2018 v. 2014, 2015, 2016.
- h. Lower in 2015 v. 2017, 2018.
- i. Lower in 2015 v. 2014, 2017, 2018.
- j. Lower in 2014 v. 2018; Lower in 2015 v. all others.
- k. Higher in 2015 v. all others; Lower in 2017 and 2018 v. all others.

In 2018, roughly 77% of players (n=67,985) patronized only one or two online gambling sites, 16% (n=13,823) played on three to five sites, and about 8% (n=6,783) played on six to 13 sites (Table 4).

Table 4. Number of Betting Sites and Percentage in 2018

Number of sites bet	Number of account holders	Percent
1	53,019	59.8
2	14,966	16.9
3	6,891	7.8
4	4,105	4.6
5	2,827	3.2
6	2,031	2.3
7	1,570	1.8
8	1,214	1.4
9	838	0.9
10	632	0.7
11	394	0.4
12	99	0.1
13	5	> 0.1

Comparing these percentages across years, a majority of players continue to patronize one or two sites, however that proportion has consistently decreased from a high of about 88% in 2014 to a low of 77% in 2018. Given that the number of sites has steadily increased across years — from seven in 2014 to 13 in 2018 — statistical comparisons of the higher categories would be misleading. However, overall, the relative proportion of players choosing three or more sites across years also has steadily increased, from a low of 12% in 2014 to a high of 23% in 2018. In

the current report year, 2018, 12% of players played three or four sites (compared to 9% in 2014), 6% on five to six sites (compared to 3% in 2014) and more than 5% had registered accounts on seven or more sites (Table 5).

Table 5. Percentage Comparisons of Number of Sites by Year*

Number of sites bet	2014	2015	2016	2017	2018
	Percentage	Percentage	Percentage	Percentage	Percentage
1	68.7	71.9	58.5	62.7	59.8
2	19.0	14.2	19.9	15.8	16.9
3	6.0	5.5	10.8	7.1	7.8
4	2.9	3.1	5.4	4.3	4.6
5	1.9	2.1	2.9	3.0	3.2
6	1.4	1.4	1.3	2.3	2.3
7	0.1	1.0	0.8	1.7	1.8
8		0.7	0.3	1.4	1.4
9			0.0	0.9	0.9
10				0.7	0.7
11				0.1	0.4
12					0.1
13					> 0.1
Mean					2.11
Median					1.96

*Significance levels not calculated due to changes in the number of operators across years.

As indicated in Table 6, a greater proportion of men who gamble tended to be younger, while women gamblers were older. For example, in 2018, 44% percent of male gamblers were under age 35, compared to 36% of female gamblers. Conversely, 40% of female gamblers were ages 45 or older, compared to only 30% of male gamblers. This finding also was reflected in the mean age by gender, with a mean age for men of 40 years and, for women, of more than 42 years.

Table 6. Age Group by Total and Gender of All Online Players (N=113,154)

Age Group	By Total		By Gender			
	%	n	Male		Female	
			%	n	%	n
21-24 ^a	8.7	9,973	9.1	7,052	7.7	2,740
25-34 ^a	32.7	37,000	34.9	27,056	27.9	9,944
35-44 ^a	25.6	28,930	26.2	20,286	24.3	8,644
45-54 ^b	17.6	19,867	16.3	12,608	20.4	7,259
55-64 ^b	10.5	11,867	9.1	7,026	13.6	4,831
65+ ^b	5.0	5,707	4.6	3,539	6.1	2,168
Total	100.0	113,154	100.0	77,568	100.0	35,586

Significant differences across gender for specific age range (p<.001)

a. Higher proportion of males than females

b. Higher proportion of females than males

Aside from a slight decrease in 2017, the overall population of online gamblers is aging. In 2018, there was an increase in the proportion of both men and women in the older age groups and a

decline in the youngest age categories. The percentage of players over 55 years continues to increase, from a low in 2014 of about 12% to a high in 2018 of about 16% (see Table 7). There also has been an increase in the 45 to 54 age category, which has grown from only about 16% of the population of online gamblers in 2017 to about 18%. Across all five years of data, the highest proportion of players — roughly one-third — is concentrated in the 25 to 34 age category. As mentioned earlier, there was a notable decrease in the players in the youngest age group, from nearly 14% in 2017 to nearly 9% in 2018. Notably, the decline in the younger age groups corresponds with the introduction of legalized sports wagering in New Jersey, which traditionally attracts a younger demographic.

By gender, the overall proportion of men relative to women has continued to decline significantly, from about 77% in 2014 to about 69% in 2018; the corresponding increase in representation by women has grown significantly from a low of about 23% in 2014 to a high of 31% in 2018 (Table 7).

Table 7: Age Category and Gender by Year for All Online Players

Age Group	2014		2015		2016		2017		2018	
	%	n	%	n	%	n	%	n	%	n
21-24 ^a	12.2	11,529	13.1	9,570	10.9	7,143	13.7	12,136	8.7	9,973
25-34 ^b	37.7	35,503	36.8	26,785	35.4	23,280	35.1	31,190	32.7	37,000
35-44 ^c	22.7	21,378	21.9	16,003	22.9	15,104	22.5	19,955	25.6	28,930
45-54 ^c	15.5	14,608	15.6	11,399	16.9	11,128	15.8	14,069	17.6	19,867
55-64 ^d	8.3	7,796	8.6	6,284	9.5	6,238	8.9	7,898	10.5	11,867
65+ ^d	3.7	3,441	3.9	2,844	4.4	2,924	4.0	3,555	5.0	5,707
Total		94,255	100.0	72,885	100.0	65,817	100.0	88,803	100.0	113,154
Ave. Age		38.78		38.36		38.86		38.52		40.53
Gender	%	n	%	n	%	n	%	n	%	n
Male	76.8	72,366	75.5	55,028	71.4	47,006	70.03	62,193	68.6	77,568
Female*	22.2	21,889	24.5	17,857	28.6	18,811	29.97	26,610	31.4	35,586

Significant difference in age category across years ($p < .001$)

a. 2015 and 2017 higher than 2014, 2016 and 2018; 2018 lower than all other years

b. 2016-2018 lower than 2014-2015

c. 2018 higher than all other years

d. 2016 and 2018 higher than 2014, 2015 and 2017

*Each year, the percentage of female gamblers is statistically higher than the previous year. ($p < .001$)

Overall across years, there has been a significant drop in the number of both male and female players who play across all types of activities, from nearly 26% in 2014 to about 5% in 2018 for men, and from about 11% in 2014 to about 1% for women. Those changes may be related, in part, to waning participation in non-tournament poker play, decreasing about 9% for men and 3% for women from a high in 2015. Men have shifted their preferences largely to casino only, though interest in poker tournaments doubled in 2018 over the prior year; women have increased participation in casino-only activities.

Table 8 compares findings from 2017 and 2018. About one-third fewer men engaged in all types of gambling, compared to 2017 (15% v 5%); that drop was steeper for women, whose

participation decreased from about 5% to 1%. For men, there were significant increases in casino only play (54% to 67%), tournament only play (4% to 6%), and casino and tournament play (4% to 6%). Playing only poker (8% to 7%) and playing poker and poker tournaments (11% to 3%) decreased significantly among men from 2017 and 2018. Although most women played only casino games in both years, there was a statistically significant increase in playing only casino games in 2018 over the prior year (86% to 91%), as well as increases in tournament only and casino and poker play; women playing both poker and poker tournaments declined significantly in 2018 from 2017, from nearly 2% to 0.4%.

It should be noted that the 2018 data provided more gender and age specificity than prior years. Therefore, it is possible that factors such as improved ability to capture changes, increases in specific activities available by new providers, or changes in access (i.e., buy-in amounts) could play a significant role in changes by gender.

Table 8. Gender Comparison Across Play Types: 2017 & 2018

Males	All types		Casino only		Poker Only		Tourney Only		Casino & Poker		Poker & Tourney		Casino & Tourney	
	%	n	%	N	%	n	%	n	%	n	%	n	%	n
2017	14.8	9,205	53.5	33,283	7.7	4,813	3.6	2,223	5.6	3,508	11.1	6,912	3.6	2,249
2018	*4.9	3,802	*67.0	51,948	*6.8	5,290	*6.2	4,838	5.6	4,375	*3.3	2,465	*6.1	4,750
Females	All types		Casino only		Poker Only		Tourney Only		Casino & Poker		Poker & Tourney		Casino & Tourney	
	%	n	%	N	%	n	%	n	%	n	%	n	%	n
2017	5.1	1,353	86.4	22,983	1.2	319	0.9	249	2.0	525	1.8	492	2.6	689
2018	*1.4	491	*90.9	32,350	1.2	418	*1.3	446	*2.5	895	*0.4	160	2.3	826

*Significant difference in the proportion of users was observed between 2017 and 2018 ($p < .001$)

Table 9 displays 2018 gender comparisons, reported both across play type (i.e., showing the breakdown of gambling across all options) and within play type (i.e., showing the proportion of males versus females who patronize each activity). Men were about four times as likely as women to gamble across all play types; in contrast, women were significantly overrepresented among casino gamblers, with nearly 91% of women playing casino games only. Within each play type, a higher percentage of men compared to women patronized each type of play except for casino only, where women represented a greater proportion of players.

Table 9. Gender Comparison Across and Within Play Types in 2018 (N=113,154)

Gender	Gender across play type														Total n
	All types		Casino only		Poker only		Tournament Only		Casino & Poker		Poker & Tournament		Casino & Tournament		
	%	n	%	n	%	n	%	n	%	n	%	n	%	n	
Male	4.9	3,802	67.0	51,948	6.8	5,290	6.2	4,838	5.6	4,375	3.3	2,565	6.1	4,750	77,568
Female	*1.4	491	*90.9	32,350	1.2	418	1.3	446	2.5	895	0.4	160	2.3	826	35,586
Total	3.8	4,293	74.5	84,298	5.0	5,708	4.7	5,284	4.7	5,270	2.4	2,725	4.9	5,576	113,154

Gender	Gender within play type														Total n
	All types		Casino only		Poker only		Tournament Only		Casino & Poker		Poker & Tournament		Casino & Tournament		
	%	n	%	n	%	n	%	n	%	n	%	n	%	n	
Male	88.6	3,802	61.6	51,948	92.7	5,290	91.6	4,838	83.0	4,375	94.1	2,565	85.2	4,750	77,568
Female	*11.4	491	*38.4	32,350	7.3	418	8.4	446	17.0	895	5.9	160	14.8	826	35,586
Total	3.8	4,293	74.5	84,298	5.0	5,708	4.7	5,284	4.7	5,270	2.4	2,725	4.9	5,576	113,154

* Identifies the play type in which a significant difference in the proportion of either male or female users was observed ($p < .001$)

Examining changes over the prior year revealed notable changes by play type across age groups (Table 10). In 2018, there were significant decreases across all age categories in players who played all types of games and who played poker and tournament, compared to 2017. Conversely, there were significant increases in the proportion of players across all ages who only played casino games or only poker tournaments. There were significant increases in the proportion of players playing casino games & tournament poker among 21 to 54 year olds and overall, and non-significant increases for 55 and older. For poker-only players, decreases were significant in the 21 to 34 age groups and overall, but play increased significantly among players ages 45 and older. Similarly, casino and poker play decreased significantly in the 21 to 34 age range, but increased significantly for those 35 and older. The combination of poker and tournament play decreased significantly across all categories, second only in proportionate decline to the “all types” category.

Table 10. Age Comparison by Play Type 2017 to 2018

Age Group	Year	All types		Casino Only		Poker Only		Tournament Only		Casino & Poker		Poker & Tourn.		Casino & Tourn.	
		%	N	%	N	%	N	%	N	%	N	%	N	%	N
21 - 24	2017	13.3	1,617	61.1	7,417	6.9	835	2.4	290	6.0	728	7.7	934	2.6	315
	2018	*4.5	442	*76.8	7,518	*3.8	371	*3.9	385	*4.0	390	*3.1	303	*3.9	384
25 - 34	2017	13.4	4,191	58.6	18,271	7.5	2,329	2.8	870	5.7	1,787	8.7	2,716	3.3	1,026
	2018	*4.8	1,763	*71.2	26,344	*5.2	1,941	*5.3	1,956	*4.9	1,824	*3.0	1,096	*5.6	2,076
35 - 44	2017	10.6	2,123	64.5	12,874	5.6	1,112	3.1	613	4.1	824	8.6	1,722	3.4	687
	2018	*3.9	1,121	*73.3	21,196	5.7	1,652	*4.5	1,310	*5.0	1,436	*2.4	704	*5.2	1,511
45 - 54	2017	10.0	1,401	69.1	9,726	3.6	501	2.8	387	2.8	393	8.3	1,173	3.5	488
	2018	*2.7	529	*78.1	15,517	*4.8	954	*4.5	885	*4.1	809	*1.6	320	*4.3	853
55 - 64	2017	10.6	835	70.4	5,559	3.1	242	2.7	217	2.5	194	7.2	568	3.6	283
	2018	*2.3	275	*79.6	9,433	*4.2	498	*4.1	483	*4.3	504	*1.6	189	4.0	475
65 +	2017	11.0	391	68.0	2,419	3.2	113	2.7	95	3.0	107	8.2	291	3.9	139
	2018	*2.9	163	*75.2	4,290	*5.1	292	*4.6	265	*5.4	307	*2.0	113	4.9	277
Total	2017	11.9	10,558	63.4	56,266	5.8	5,132	2.8	2,472	4.5	4,033	8.3	7,404	3.3	2,938
	2018	*3.8	4,293	*74.5	84,298	*5.0	5,708	*4.7	5,284	4.7	5,270	*2.4	2,725	*4.9	5,576

*Significant difference in the proportion of users was observed during the corresponding year ($p < .001$)

There were few significant differences in 2018 in the proportion of players who patronized each activity by age (Table 11). An overwhelming majority of players of all ages played only casino games, between about 71% and 80%. Players ages 25 to 34 were most likely to play all forms of

gambling and to play both casino and tournament poker. Players ages 45 to 64 were the least likely to play across all forms.

Within each type of gambling, there were other age-related preferences (Table 11). Among players who played all types of games, about 41% were in the 25 to 34 age group, which also represented the highest proportion of players within each type due to their large sample size. Among 45 to 64 year olds, fewer players than expected played all types of games.

Table 11. Age Comparisons Across and Within Play Type (N=113,154)

Age Group	Age across play type													
	All types		Casino Only		Poker Only		Tournament Only		Casino & Poker		Poker & Tournament		Casino & Tournament	
	%	n	%	N	%	n	%	n	%	N	%	n	%	n
21-24	4.5	442	76.8	7,518	3.8	371	3.9	385	4.0	390	3.1	303	3.9	384
25-34	4.8	1,763	71.2	26,344	5.2	1,941	5.3	1,956	4.9	1,824	3.0	1,096	*5.6	2,076
35-44	3.9	1,121	73.3	21,196	5.7	1,652	4.5	1,310	5.0	1,436	2.4	704	5.2	1,511
45-54	*2.7	529	78.1	15,517	4.8	954	4.5	885	4.1	809	1.6	320	4.3	853
55-64	*2.3	275	79.6	9,433	4.2	498	4.1	483	4.3	504	1.6	189	4.0	475
65+	2.9	163	75.2	4,290	5.1	292	4.6	265	5.4	307	2.0	113	4.9	277
Total	3.8	4,293	74.5	84,298	5.0	5,708	4.7	5,284	4.7	5,270	2.4	2,725	4.9	5,576

Age Group	Age within play type													
	All types		Casino Only		Poker Only		Tournament Only		Casino & Poker		Poker & Tournament		Casino & Tournament	
	%	n	%	N	%	n	%	n	%	N	%	n	%	n
21-24	10.3	442	8.9	7,518	6.5	371	7.3	385	7.4	390	11.1	303	6.9	384
25-34	41.1	1,763	31.3	26,344	34.0	1,941	37.0	1,956	34.6	1,824	40.2	1,096	37.2	2,076
35-44	26.1	1,121	25.1	21,196	28.9	1,652	24.8	1,310	27.2	1,436	25.8	704	27.1	1,511
45-54	*12.3	529	18.4	15,517	16.7	954	16.7	885	15.4	809	11.7	320	15.3	853
55-64	*6.4	275	11.2	9,433	8.7	498	9.1	483	9.6	504	6.9	189	8.5	475
65+	3.8	163	5.1	4,290	5.1	292	5.0	265	5.8	307	4.1	113	5.0	277

*Identifies the play type in which a significant difference in the proportion of users was observed for the corresponding age range ($p < .001$)

B. Regional Differences

Differences were analyzed by region (Table 12, Figure 1) and by county (Table 13). The analyses focused on three aspects of play by region: a) the proportion of online gamblers in each region compared to the proportion of the population in that region; b) changes in proportion by region over the prior year, and c) general trends by region.

As in all prior reporting years, the Gateway region had the highest proportion of players in 2018, though that proportion has declined by about 3% since 2014 (Table 12). Comparing 2018 to 2017, the composition of players by region were similar, with only slight but non-significant increases in the Delaware and South Shore regions and non-significant decreases in the Greater Atlantic City, Gateway, and Shore regions; Skyland was the only region that reported statistically significant decrease in the proportion of gamblers in 2018 compared to 2017. Comparing the first year of legalized online gambling (2014) to the current year (2018), revealed significant increases

in the proportion of gamblers in the Greater Atlantic City, Delaware River, and South Shore regions and decreases in the Gateway, Shore, and Skyland regions, despite the fact that the New Jersey population has not shifted significantly among these regions. Significant changes in the proportion of gamblers by region across years are presented in Table 12.

Table 12. Changes in Proportion of Gamblers Across Years (n=94,029)*

Region	% of Online Gamblers 2014	% of Online Gamblers 2015	% of Online Gamblers 2016	% of Online Gamblers 2017	% of Online Gamblers 2018
Greater A.C. ^a	4.8%	5.2%	6.5%	6.5%	6.3%
Delaware River ^a	18.6%	18.7%	20.3%	22.2%	23.2%
Gateway ^b	42.9%	43.0%	40.2%	39.9%	39.7%
Shore ^c	18.6%	18.4%	18.8%	17.6%	17.1%
Skyland ^d	12.2%	11.7%	10.6%	10.1%	9.5%
South Shore ^a	2.9%	3.0%	3.7%	3.9%	4.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

*The table reflects only those players who are residents of New Jersey. All significance levels at $p < 0.001$.

a. Lower in 2014, 2015 v. 2016-2018.

b. Higher in 2014, 2015 v. 2016-2018.

c. Higher in 2014-2016 v. 2017, 2018.

d. Higher in 2014, 2015 v 2016, 2017; 2018 lower than all years.

Examining findings by county, residents of Ocean, Middlesex, Camden, Bergen, and Monmouth counties made up the highest proportion of online gamblers (Table 13). However, among these counties, only Ocean, Monmouth, and Camden counties are overrepresented among online gamblers compared to their percentage of the population. In smaller counties (e.g., Burlington, Cape May Cumberland, Gloucester), the proportion of gamblers was overrepresented as well, and the percentage of gamblers in Atlantic County is more than double the percentage of county residents in New Jersey. Overall, the proportion of gamblers exceeded the expected population-based percentage in nine counties and was less than expected in 12 counties, though differences in five counties were not statistically significant.

Figure 1. Percentage of Online Gamblers by Region

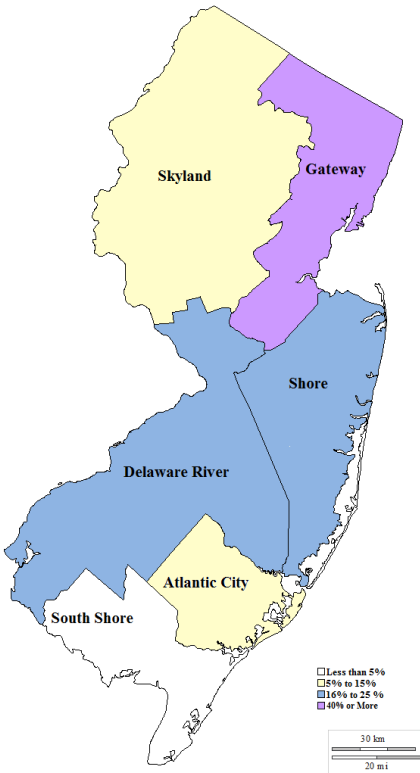


Table 13. Percentage of Gamblers by County

County	N	% of gamblers	% of NJ Population [^]
Atlantic	5,897	6.3%	3.0*
Bergen	7,836	8.3%	10.5*
Burlington	5,609	6.0%	5.0*
Camden	7,891	8.4%	5.7*
Cape May	1,608	1.7%	1.0*
Cumberland	2,350	2.5%	1.7*
Essex	6,365	6.7%	9.0*
Gloucester	4,321	4.6%	3.3*
Hudson	6,382	6.8%	7.6
Hunterdon	822	0.9%	1.4*
Mercer	3,201	3.4%	4.2*
Middlesex	7,870	8.4%	9.3
Monmouth	7,680	8.2%	7.0*
Morris	3,533	3.8%	5.5*
Ocean	8,413	8.9%	6.8*
Passaic	4,329	4.6%	5.6*
Salem	818	0.9%	0.7
Somerset	2,350	2.5%	3.7*
Sussex	1,183	1.3%	1.6
Union	4,576	4.9%	6.3*
Warren	995	1.1%	1.2

*p=.001

[^]Population estimates from State of New Jersey. New Jersey State Data Center. (2019). *Annual Estimates of the Population: April 1, 2010 to July 1. From: 2019.*

<https://www.nj.gov/labor/lpa/dmograph/est/nst-01.xlsx>.

IV. Time of Day

The total number of wagers per year have continued to increase steadily, including in 2018 (Table 14). In the 6 a.m. to 9 a.m. time frame, for example, the number of bets increased from 67 million in 2016 to 152 million in 2017 to 190 million in 2018. During the busiest time period, midnight to 3 a.m., there were about 262 million bets placed, compared to 224 million the prior year. There also were increases over the prior year in the maximum amount wagered, from about \$10,000 in 2016 to \$20,000 in 2017 to nearly \$62,000 in 2018. In 2018, the highest proportion of total bets, 15.6%, was placed between midnight and 3 a.m., and mean wagers were substantially larger during the period of midnight to 6 a.m. Although the maximum amount wagered, about \$61,572, was placed in the period between 6 a.m. and 9 a.m., the mean wager during that period dropped from a high of \$3.83 in 2017 to \$2.95 in 2018.

About a third of bets placed in 2018, 34%, were placed during traditional working hours, between 9 a.m. and 6 p.m. Similar to 2017, betting was heaviest during the period of 12 a.m. to 3 a.m.,

however, in 2018, betting also increased from 3 a.m. to 9 a.m. from about 23% in 2017 to about 25% in 2018. This change, combined with small decreases in betting between 3 p.m. and 9 p.m., suggest a shift toward early morning and day-time gambling and away from the conventional gambling hours of 9 p.m. to midnight.

Table 14. Casino Wagers by Time Category in 2018 (n=1,676,714,648)

Time Category	# of Bets (mill.)	Percent of Total Bets	Max Wager amount	Mean Wager	Median Wager	Std. of Wager	Sum Wager
6 a.m.-9 a.m.	190.1	11.3	61,571.77	2.95	1.00	22.49	560,497,848.67
9 a.m.-12 p.m.	230.8	13.8	20,000.00	2.85	1.00	21.44	656,330,913.72
12 p.m.-3 p.m.	183.8	11.0	30,000.00	2.85	0.90	21.99	523,486,865.60
3 p.m.-6 p.m.	150.5	9.0	49,856.31	2.85	0.88	25.06	428,669,504.57
6 p.m.-9 p.m.	203.1	12.1	25,000.00	2.69	0.88	23.74	545,498,339.65
9 p.m.-12 a.m.	233.0	13.9	25,000.00	2.81	0.90	24.45	654,897,802.32
12 a.m.-3 a.m.	262.3	15.6	54,155.66	3.03	1.00	22.78	793,703,373.56
3 a.m.-6 a.m.	223.1	13.3	25,224.00	3.10	1.00	22.42	692,639,074.98
Total	1,676.7	100.0	61,571.77	2.90	1.00	23.01	4,855,723,723.07

For the first time since online gambling was legalized in New Jersey, women placed more bets than men (920 million v. 756 million) across all time periods, though the mean wager by men was more than double that of women (Table 15). The highest proportion of bets were placed by both men and women from midnight to 3 a.m., however, for women, 9 p.m. to midnight was the second most popular playing time while men’s second preference was 9 a.m. to noon.

Table 15. Number and Proportion of Bets by Gender and Time of Day

Time of Day	Male			Female			Total		
	# of Bets (mill.)	% of total	Mean Wager	# of Bets (mill.)	% of total	Mean Wager	# of Bets (mill.)	% of total	Mean Wager
6 a.m.-9 a.m. ^a	87.1	11.5	3.77	103.0	11.2	2.26	190.1	11.3	2.95
9 a.m.-12 p.m. ^b	103.7	13.7	3.70	127.1	13.8	2.15	230.8	13.8	2.85
12 p.m.-3 p.m. ^b	82.6	10.9	3.84	101.2	11.0	2.04	183.8	11.0	2.85
3 p.m.-6 p.m. ^a	68.9	9.1	3.98	81.6	8.9	1.90	150.5	9.0	2.85
6 p.m.-9 p.m. ^b	89.9	11.9	3.81	113.2	12.3	1.80	203.1	12.1	2.69
9 p.m.-12 a.m. ^b	102.7	13.6	3.93	130.3	14.2	1.93	233.0	13.9	2.81
12 a.m.-3 a.m. ^a	118.9	15.6	3.98	143.4	15.6	2.24	262.3	15.6	3.03
3 a.m.-6 a.m. ^a	102.5	13.5	3.93	120.7	13.1	2.40	223.1	13.3	3.10
Total	756.3	100.0	3.87	920.4	100.0	1.93	1,676.7	100.0	2.90

Significant differences across gender for specific age range (p<.001)

^a Higher proportion of males than females

^b Higher proportion of females than males

By age, players in the 45 to 54 age range placed the highest number of bets, more than 30% of the total bets, followed by players ages 55 to 64 and 35 to 44. Players in the youngest group of 21 to 24 placed the smallest proportion of bets, 1.4%. There were notable differences in betting

patterns in 2018 compared to 2017. In 2017, players ages 65 and older placed about 97 million bets; however, in 2018, that group placed more than 164 million bets. The number of bets also increased for players in the 35 to 64 age groups. Conversely, the youngest players (21 to 24) placed more than 46 million bets in 2017 but only 23 million bets in 2018. The number of bets also decreased for players ages 25 to 34 in 2018 compared to 2017, suggesting a shift toward increased frequency among older versus younger players.

Table 16. Number and Proportion of Bets by Time of Day and Age Category

Time of Day	21-24		25-34		35-44		45-54		55-64		65+		Total # of Bets (mill.)
	# of Bets (mill.)	% of total	# of Bets (mill.)	% of total	# of Bets (mill.)	% of total	# of Bets (mill.)	% of total	# of Bets (mill.)	% of total	# of Bets (mill.)	% of total	
6 a.m.-9 a.m.	2.8	12.1 ^a	26.2	11.7 ^a	42.1	11.4 ^a	57.8	11.4 ^a	42.3	11.0 ^b	18.9	11.5 ^a	190.1
9 a.m.-12 p.m.	3.2	13.9 ^a	30.1	13.4 ^b	50.6	13.7 ^b	69.5	13.7 ^b	53.7	13.9 ^a	23.7	14.4 ^a	230.8
12 p.m.-3 p.m.	2.6	11.1 ^a	24.5	10.9 ^b	40.3	10.9 ^b	53.6	10.5 ^b	42.7	11.1 ^a	20.1	12.3 ^a	183.8
3 p.m.-6 p.m.	2.0	8.8 ^b	20.8	9.3 ^a	32.6	8.8 ^b	43.0	8.5 ^b	34.6	9.0 ^b	17.5	10.7 ^a	150.5
6 p.m.-9 p.m.	2.3	10.0 ^b	25.5	11.4 ^b	42.3	11.4 ^b	60.7	11.9 ^b	50.1	13.0 ^a	22.2	13.5 ^a	203.1
9 p.m.-12 a.m.	2.8	12.3 ^b	28.8	12.8 ^b	50.8	13.7 ^b	72.8	14.3 ^a	55.9	14.5 ^a	21.8	13.3 ^b	233.0
12 a.m.-3 a.m.	4.0	17.2 ^a	36.0	16.1 ^a	59.9	16.2 ^a	81.9	16.1 ^a	59.0	15.3 ^b	21.5	13.1 ^b	262.3
3 a.m.-6 a.m.	3.4	14.6 ^a	32.3	14.4 ^a	51.8	14.0 ^a	69.4	13.6 ^a	47.9	12.4 ^b	18.4	11.2 ^b	223.1
Total	23.0	100.0	224.3	100.0	370.4	100.0	508.6	100.0	386.1	100.0	164.2	100.0	1,837.8
% of total		1.4		13.4		22.1		30.3		23.0		9.8	

^a Indicates significantly higher proportion of bets made for this age group within the time of day category ($p < .001$)

^b Indicates significantly lower proportion of bets made for this age group within the time of day category ($p < .001$)

Overall, across all regions, betting was heaviest from midnight to 3 a.m., when the number of bets ranged from more than 105 million in the Gateway region to nearly 10 million in the Southern Shore region (Table 17). There were regional differences in the proportion of bets placed across time periods in 2018. The second most popular time period was 9 p.m. to midnight for players in the Delaware River, Gateway, Skyland, and Southern Shore regions, from 9 a.m. to noon in the Shore region, and from 3 a.m. to 6 a.m. in the Atlantic City region. Players in the Gateway region placed more than 40% of all bets, more than 641 million, and players in the Southern Shore region placed the smallest proportion of the bets.

Table 17. Number and Proportion of Bets by Time of Day and Region

Time of Day Category	Greater Atlantic City		Delaware River		Gateway		Shore		Skyland		Southern Shore		Total # of Bets (mill.)
	# of Bets (mill.)	% of total	# of Bets (mill.)	% of total	# of Bets (mill.)	% of total	# of Bets (mill.)	% of total	# of Bets (mill.)	% of total	# of Bets (mill.)	% of total	
6 a.m.-9 a.m.	9.6	12.7 ^a	37.7	11.0 ^b	70.7	11.0 ^b	33.8	11.1 ^b	18.4	11.5 ^a	6.7	11.1 ^b	177.0
9 a.m.-12 p.m.	10.8	14.2 ^a	45.2	13.2 ^b	86.5	13.5 ^b	43.5	14.3 ^a	22.2	13.8 ^a	8.0	13.4 ^b	216.2
12 p.m.-3 p.m.	8.1	10.7 ^b	37.7	11.0 ^a	67.8	10.6 ^b	35.6	11.7 ^a	17.6	11.1 ^a	6.6	10.8 ^b	173.6
3 p.m.-6 p.m.	6.8	9.0 ^b	32.2	9.4 ^a	55.2	8.6 ^b	28.9	9.5 ^a	14.7	9.1 ^a	5.7	9.4 ^a	143.5
6 p.m.-9 p.m.	8.5	11.2 ^b	44.8	13.1 ^a	75.4	11.8 ^b	39.4	12.9 ^a	20.1	12.5 ^a	7.4	12.3 ^b	195.6
9 p.m.-12 a.m.	8.6	11.4 ^b	51.5	15.0 ^a	90.3	14.1 ^b	42.1	13.8 ^a	23.6	14.6 ^a	8.3	13.8 ^b	224.3
12 a.m.-3 a.m.	12.1	16.0 ^a	52.6	15.3 ^b	105.1	16.4 ^a	44.6	14.6 ^b	24.0	14.9 ^b	9.7	16.1 ^a	248.0
3 a.m.-6 a.m.	11.1	14.8 ^a	41.8	12.2 ^b	90.2	14.1 ^a	36.5	12.0 ^b	20.1	12.5 ^b	7.9	13.2 ^a	207.7
Total	75.5	100.0	343.5	100.0	641.1	100.0	304.4	100.0	161.0	100.0	60.1	100.0	1585.6
% of total	4.8		21.7		40.4		19.2		10.2		3.8		

^a Indicates significantly higher proportion of bets made for this region within the time of day category (p < .001)

^b Indicates significantly lower proportion of bets made for this region within the time of day category (p < .001)

Table 18 presents differences in gambling patterns within time periods by age. With the exception of the 6 a.m. to 9 a.m. time block, where there were non-significant differences between two age categories (21 to 24 v. 25 to 34; 45 to 54 v. 65+), betting patterns were significantly different across all age categories for all other time blocks. Overall, younger gamblers, particularly ages 21 to 34, placed the highest average bets across all time periods, particularly from 3 p.m. to midnight. They also recorded the highest maximum bet during the 9 a.m. to noon and 6 p.m. to 9 p.m. periods, along with those aged 35 to 44 and 45 to 54, respectively. Notably, a player in the 55 to 64 age group placed the highest maximum bet of about \$61,572 in the 6 a.m. to 9 a.m. time category. Taken together, the findings suggest that betting among the youngest players was highly variable, with a proportion of younger players placing higher bets than other groups, but median values, particularly among 21 to 24-year-olds, were consistently lower across all time periods. In addition, players ages 55+ had the lowest mean wager across all time periods; those in the oldest age group (65+) had median wagers lower than all but the youngest age group, except during the 3 a.m. to 6 a.m. time period.

Table 18. Within Time of Day Comparisons of Casino Wagers By Age

Time of Day	Age category	Maximum (\$)	Mean (\$)	Std. Dev. (\$)	Median (\$)
6 a.m.-9 a.m.	21-24	20,000.00	3.39	49.09	0.60
	25-34	12,500.00	3.37	22.78	0.88
	35-44	12,227.00	3.21	18.97	1.00
	45-54	10,000.00	2.90	18.56	1.00
	55-64	61,571.77	2.50	21.56	1.00
	65+	9,600.00	2.87	33.38	0.80
9 a.m.-12 p.m.	21-24	20,000.00	3.35	59.72	0.60
	25-34	7,800.00	3.49	21.81	0.90
	35-44	20,000.00	3.13	23.60	1.00
	45-54	11,420.00	2.79	18.63	1.00
	55-64	15,107.44	2.38	14.77	1.00
	65+	8,000.00	2.54	26.23	0.80
12 p.m.-3 p.m.	21-24	5,000.00	3.92	48.83	0.75
	25-34	9,000.00	3.73	23.89	0.90
	35-44	20,561.20	3.23	25.14	0.99
	45-54	30,000.00	2.74	21.08	1.00
	55-64	18,625.54	2.27	15.06	0.90
	65+	7,000.00	2.40	22.03	0.80
3 p.m.-6 p.m.	21-24	25,000.00	4.90	88.37	0.75
	25-34	9,600.00	3.75	26.09	0.88
	35-44	49,856.31	3.16	26.42	0.88
	45-54	10,000.00	2.78	22.54	1.00
	55-64	13,086.79	2.18	15.22	0.88
	65+	12,000.00	2.45	26.06	0.80
6 p.m.-9 p.m.	21-24	25,000.00	5.95	81.13	0.60
	25-34	13,500.00	3.49	26.32	0.88
	35-44	10,000.00	2.80	17.88	0.88
	45-54	25,000.00	2.65	24.16	0.90
	55-64	7,965.20	2.13	14.27	0.88
	65+	12,050.00	2.55	31.74	0.80
9 p.m.-12 a.m.	21-24	6,150.00	4.88	61.59	0.60
	25-34	21,500.00	3.67	30.44	0.90
	35-44	20,000.00	3.02	22.31	0.90
	45-54	25,000.00	2.71	24.59	1.00
	55-64	10,597.76	2.29	16.82	0.90
	65+	10,000.00	2.60	27.58	0.80

12 a.m.-3 a.m.	21-24	6,000.00	3.68	45.87	0.60
	25-34	22,000.00	3.86	27.38	0.90
	35-44	24,000.00	3.54	26.75	1.00
	45-54	9,984.00	2.74	17.81	1.00
	55-64	54,155.66	2.60	20.68	1.00
	65+	6,400.00	2.32	17.57	0.90
3 a.m.-6 a.m.	21-24	5,000.00	3.27	37.47	0.60
	25-34	9,600.00	3.63	26.82	0.90
	35-44	24,000.00	3.55	27.91	1.00
	45-54	25,224.00	2.87	18.72	1.00
	55-64	10,085.07	2.78	15.72	1.00
	65+	6,000.00	2.63	20.37	1.00

V. The Top 10%

These analyses examined the top 10% of all casino gamblers in terms of gambling frequency and intensity. In 2018, a total of 6,453 — 2,218 more players than last year — qualified for inclusion in this group, characterized by highest average total of yearly bets placed, betting days, and total amount bet over the course of the year. These criteria have been utilized from the inception of legalized online gambling to include only players who met criteria on all indicators of high frequency and high intensity wagering. Improved data quality has allowed us to examine a larger proportion of data. For comparisons across years, where necessary, we have re-run select variables from previous years to conform to current inclusion parameters.

Table 19 provides comparisons across years of gender and age. Unlike in 2017, when a higher proportion of men versus women comprised the Top 10%, women were overrepresented in the 2018 sample. The proportion of men in the Top 10% has been variable, from a high of nearly 54% in 2014 to a low of 47% in 2015, followed by 48% in 2018. The percentage of women in this group has also shifted from a low in 2014 of about 46% to a high in 2015 of 53%, followed by 52% in 2018. It is notable that more than half of those in the Top 10% are women since women only made up about 31% of all gamblers in 2018.

The average age for men was lowest in 2017, about 45 years, and highest in 2018, nearly 49 years, with considerable but steady deviation of about ± 12 years. For women, the mean age also was lowest on average in 2017, 47 years, and highest in 2018 at 49 years (SD=12 years).

Table 19. Top 10% of Casino Gamblers Across Years by Gender, Age (n=5,299)

Males						
Year	%	N	Age			
			Minimum	Maximum	Mean	Std.
2014	*53.8	1,937	21.0	88.4	^a 46.5	12.8
2015	*47.4	1,168	21.1	89.3	^a 47.3	12.1
2016	49.1	1,830	21.0	93.0	^a 46.0	12.2
2017	51.9	2,198	21.0	86.9	^a 45.3	12.2
2018	*48.2	2,942	21.4	97.0	^a 48.6	12.1
Females						
Year	%	n	Age			
			Minimum	Maximum	Mean	Std.
2014	*46.2	1,664	21.0	96.2	48.5	11.8
2015	*52.6	1,297	21.0	82.8	48.6	11.4
2016	50.9	1,900	21.0	91.0	^b 47.5	11.6
2017	48.1	2,037	21.2	89.6	^b 47.4	11.6
2018	*51.8	3,165	21.0	87.8	^b 49.4	11.6

*Significant difference in proportion of males to females in 2014 compared with 2015 & 2018 ($p < .001$)

a. 2014, 2016 & 2017 lower than 2018; 2017 lower than 2015 ($p < .001$)

b. 2016 & 2017 lower than 2018 ($p < .001$)

In contrast to prior years, more than 87% of players in the Top 10% played only casino games, an increase of about 12% over 2017 (Table 20). The proportion of players playing both casino and poker nearly doubled compared to 2017, however, the percentage playing both casino and tournament poker or all three types was significantly lower, dropping from 8% to nearly 5%, and nearly 14% to 3%, respectively, in one year. These findings likely are accounted for by the migration of players from some poker playing, particularly in tournaments, to only playing casino games.

Table 20. Top 10% by Play Type

Type	2014		2015		2016		2017		2018	
	%	n	%	n	%	n	%	n	%	n
All Types ^a	28.1	1,012	17.6	451	19.9	742	13.6	577	3.0	193
Casino Only ^b	61.6	2,219	71.0	1,824	76.9	2,870	75.5	3,196	87.4	5,637
Casino & Poker ^c	4.8	173	5.6	144	2.7	10	2.7	115	5.0	324
Casino & Tournament ^d	5.5	200	5.8	149	0.5	17	8.2	347	4.6	299

Significant differences across years for the specified play type ($p < .001$)

a. 2018 lower than all other years; 2017 lower than 2014-16; 2015 lower than 2014; 2014 lower than 2016

b. 2014 lower than all other years; 2015 lower than 2016-2018; 2016 & 2017 lower than 2018

c. 2016 & 2017 lower than 2014, 2015 & 2018

d. 2016 lower than all other years; 2014, 2015 & 2018 lower than 2017

In 2018, the average number of sites used by players in the Top 10% had increased from a low of about three sites in 2014 to a high of nearly five sites in 2017 and 2018; the median value remained unchanged since 2015 at four sites, suggesting that four sites have been most characteristic of play since that time (Table 21). Notably, the maximum number of sites played

has steadily increased across years, from a low in 2014 of six sites to a high in 2018 of 13 sites; this increase corresponds with an overall increase in the number of sites available to players.

Several other play patterns among the Top 10% decreased in 2018 (Table 21). The average total yearly wager for the Top 10% decreased for the first time in 2018 to about \$582,000 from a high in 2017 of about \$667,000, though the median values have fluctuated. The average total number of yearly bets likewise decreased in 2018 to about 206,000 after peaking in 2017 at about 223,000 bets. The total number of betting days also decreased slightly in 2018 compared to 2017 (222 v 230) but remained significantly higher than all other years; while some players gambled every day of the year, most players in the Top 10% were active about two-thirds of the year. The size of wagers in the Top 10% has remained consistent across all years except 2014, where the average single wager was significantly higher; from 2015 through 2018 single wagers have averaged about \$4 per bet, with the median at just under \$2 per bet across all years (Table 21).

Table 21. Play Patterns of Top 10 Percent Gamblers Compared to All Others (Casino Only)

Play Patterns	Variable	Maximum	Mean	Std.	Median
Top 10% 2014 n=3,604	# of Sites Wagered	6.0	^a 3.2	1.5	3.0
	Total Betting Days	364.0	^b 160.7	72.7	147.0
	Max Wager (\$)	36,750.00	232.28	878.23	62.50
	Avg. Single Wager (\$)	705.31	6.97	23.52	1.98
	Total Yearly Wager (\$)	78,756,599.90	^d 499,470.48	1,798,589.68	181,078.16
	Total Number of Yearly Bets	1,464,282.0	^e 130,019.6	124,067.2	91,912.50
Top 10% 2015 n=2,568	# of Sites Wagered	8.0	^a 3.9	2.2	4.0
	Total Betting Days	364.0	^b 209.6	72.0	202.5
	Max Wager (\$)	11,575.00	228.05	614.43	60.00
	Avg. Single Wager (\$)	415.49	^c 4.17	12.24	1.85
	Total Yearly Wager (\$)	20,403,084.42	554,725.81	1,059,088.60	269,482.17
	Total Number of Yearly Bets	1,016,555.0	^e 194,374.3	139,226.2	153,618.0
Top 10% 2016 n=3,730	# of Sites Wagered	10.0	^a 4.1	2.5	4.0
	Total Betting Days	365.0	^b 215.7	80.8	212.0
	Max Wager (\$)	29,860.00	197.06	715.68	50.00
	Avg. Single Wager (\$)	308.36	^c 4.36	10.95	1.86
	Total Yearly Wager (\$)	31,032,290.91	626,422.34	1,423,500.16	279,342.74
	Total Number of Yearly Bets	1,482,91.0	^e 196,776.0	152,429.7	152,744.50
Top 10% 2017 n=4,235	# of Sites Wagered	11.0	4.8	2.9	4.0
	Total Betting Days	365.0	230.3	72.5	226.0
	Max Wager (\$)	20,000.00	195.91	622.72	50.00
	Avg. Single Wager (\$)	521.73	^c 4.32	14.05	1.73
	Total Yearly Wager (\$)	121,146,575.80	666,528.90	2,533,799.07	270,183.59
	Total Number of Yearly Bets	1,480,312.0	222,815.7	169,506.4	174,853.00
Top 10% 2018 n=6,453	# of Sites Wagered	13.0	4.8	2.7	4.0
	Total Betting Days	365.0	^b 221.8	72.2	217.0
	Max Wager (\$)	61,571.77	237.23	1,279.16	59.19
	Avg. Single Wager (\$)	433.16	^c 3.96	12.09	1.71
	Total Yearly Wager (\$)	61,273,210.37	581,626.90	1,448,232.11	264,035.05
	Total Number of Yearly Bets	2,171,045.0	^e 205,889.5	162,492.4	159,585.0

All other Casino Bettors 2018 n=105,031	# of Sites Wagered	13.0	1.9	1.7	1.0
	Total Betting Days	365.0	18.8	38.7	3.0
	Max Wager (\$)	30,000.00	58.51	332.10	9.00
	Avg. Single Wager (\$)	19,999.50	6.70	73.26	1.27
	Total Yearly Wager (\$)	18,872,230.96	20,550.32	199,610.22	645.12
	Total Number of Yearly Bets	1,132,200.0	6,152.4	20,129.3	304.0

a. # of Sites Wagered: 2014 lower than all other years; 2015 & 2016 lower than 2017 & 2018

b. Total Betting Days: 2014 lower than all other years; 2015 lower than 2017 & 2018; 2016 lower than 2018; 2018 lower than 2017

c. Avg. Single Wager: 2015-2018 lower than 2014

d. Total Yearly Wager: 2014 lower than 2017

e. Total Number of Yearly Bets: 2014 lower than all other years; 2015, 2016 & 2018 lower than 2017

Comparing the Top 10% players to all other casino gamblers in 2018 highlights the significant differences in this group (see last two rows of Table 21 [above]). The average online casino gambler bet only about 19 days out of the year in 2018, with a median of three days, compared to 222 (median=217 days) for the Top 10%. While there were players who gambled on as many as 13 sites, the average casino bettor gambled on about two sites, compared to an average of five sites for Top 10% gamblers. Though the average single wager of all gamblers not in the Top 10% was about \$7, compared to just \$4 for the Top 10%, each median bet for the Top 10% was nearly \$0.50 more than for all other gamblers. In addition, the average maximum wager by those in the Top 10% was four times that of other gamblers. Similarly, the average total yearly wager for the Top 10% was about 28 times that of all other gamblers; notably, while Top 10% gamblers at the median bet about \$264,000 per year, the median bet for other gamblers was \$645 per year. Similar disparities were evident in the average number of total yearly bets, with Top 10% gamblers betting about 33 times more, on average, than other gamblers; the median Top 10% gambler placed an average of 159,585 bets in 2018, compared to just 304 bets by other gamblers.

VI. Responsible Gaming Features

A total of 7,437 casino or poker gamblers used responsible gaming (RG) features in 2018, a proportion similar to 2015 and a significant increase over the prior year (Table 22). Notably, increases in participation over the past two years follows a mandate from Division of Gaming Enforcement that operators install a standardized Responsible Gambling (RG) button to easily triage players to limit-setting features; increases in participation follow a significant decline in 2016 participation, though utilization still lags behind that of 2014.

Compared to the three prior years, where the mean age was around 39 years, RG players in 2018 averaged about 42 years old, ranging from 21 to about 99 years (Table 22). Participation among the youngest groups of players, ages 21 to 24 years and 25 to 34 years, dropped in 2018 to the lowest levels on record – from about 12% to 5% and 33% to 31%, respectively. In contrast, there were modest increases in older age groups, particularly in the 55 to 64-year-old age group, where participation increased from about 9% to 12%.

Table 22. RG Feature Users by Age Category (All Casino & Poker Gamblers)

Age Category	Use RG Features 2014		Use RG Features 2015		Use RG Features 2016		Use RG Features 2017		Use RG Features 2018	
	%	n	%	n	%	n	%	n	%	n
21 - 24 ^a	9.2	1,236	10.9	782	8.5	404	11.5	598	5.1	378
25 - 34 ^b	31.2	4,181	36.6	2,632	35.0	1,659	33.4	1,735	30.8	2,288
35 - 44 ^c	23.2	3,111	23.5	1,690	24.9	1,181	24.2	1,259	27.3	2,030
45 - 54 ^d	19.8	2,656	17.2	1,235	18.4	872	19.2	998	20.3	1,506
55 - 64 ^e	11.4	1,533	9.0	647	9.7	458	8.6	447	12.0	890
65+ ^f	5.3	705	2.9	205	3.6	171	3.2	165	4.6	345
N		13,422		7,191		4,745		5,467		7,437
Min		21.0		21.0		21.0		21.0		21.0
Max		95.0		110.0		91.0		95.0		98.6
Mean ^g		40.2		38.7		39.3		39.0		41.9

Significant differences in the proportion of RG users for the corresponding age range ($p < .001$)

a. 2018 lower than 2014-17; 2014 & 2016 lower than 2017; 2016 lower than 2015

b. 2014 & 2018 lower than 2015 & 2016

c. 2014 & 2015 lower than 2018

d. 2015 lower than 2014 & 2018

e. 2015 & 2017 lower than 2014 & 2018

f. 2015-2017 lower than 2014; 2015 lower than 2018

g. 2014-17 lower than 2018; 2015-17 lower than 2014

The proportion of women who utilized RG features in 2018, nearly 37%, was higher than all years except 2014 when they made up 40% of the sample (Table 23). In comparison, the proportion of men using RG features continued to decline from a high in 2015 of about 68% to slightly over 63% in 2018. Overall, more men than women gamble, so there are more men using RG features than women. However, within-gender comparisons found that a higher proportion of women versus men used RG features (Table 23). Nearly 8% of women and about 6% of men were RG users. In addition, across years, fewer men and more women used RG features in 2018 than in any other year except 2014.

Table 23. All RG Users (All Casino & Poker Gamblers)

Year	RG Users by Gender					
	Male		Female		Total	
	%	n	%	n	%	n
2014	60.0	8,106	40.0	5,394	100.0	13,500
2015	*68.1	3,328	*31.9	1,559	100.0	4,887
2016	65.5	3,106	34.5	1,639	100.0	4,745
2017	*65.4	3,418	*34.6	1,784	100.0	5,202
2018	*63.4	4,712	*36.6	2,725	100.0	7,437
	RG Users vs. Non-Users 2018					
	Male		Female		Total	
	%	n	%	n	%	n
Use RG	^6.1	4,712	^7.7	2,725	6.6	7,437
Don't Use RG	93.9	72,856	92.3	32,861	93.4	105,717

*Proportion of males to females is significantly different in 2018 compared to 2015 & 2017 ($p < .001$)

^Significant differences across RG usage and gender ($p < .001$)

For the next series of analyses, those who only played poker (n=257) were excluded in order to compare play patterns of casino gamblers. As in 2017, the maximum number of sites used by RG players increased, from six sites in 2014 to 13 sites in 2018, though the number was only a slight increase from 2017 (11 sites), and the median number of sites remained at three from 2016 through 2018 (Table 24). There were notable decreases in play patterns in 2018 compared to the prior year. The average number of total betting days decreased from 92 in 2017 to 80 in 2018, with a steeper decrease in the median betting days, from 56 to 39. In addition, the average total number of yearly bets decreased by more than 6,000 bets, with a similar, proportionate decrease in the median. The average total wager in 2018 was lower than both 2016 and 2017. These findings suggest that RG users playing casino games were betting across more sites but placing fewer bets and wagering less overall than in the prior year.

Table 24. Play Patterns of RG Gamblers between 2014-2018 (Casino Only)

Play Patterns	RG Gamblers 2014 (n=10,421)			
	Max	Mean	Std.	Median
#Sites Wagered	6.0	^a 2.3	1.5	Not reported in
Total Betting Days	364.0	^b 54.6	72.5	2014
Min. Wager (\$)	127.50	^c 0.41	2.67	
Max. Wager (\$)	36,750.00	^d 143.61	688.32	
Avg. single Wager (\$)	705.31	8.38	24.83	
Total Yearly Wager (\$)	421,950.67	^e 139,289.25	697,860.80	
Total Number of Yearly Bets	1,464,282.0	^f 36,000.0	80,753.9	
Play Patterns	RG Gamblers 2015 (n=4,640)			
	Max	Mean	Std.	Median
#Sites Wagered	8.0	^a 3.2	2.2	2.0
Total Betting Days	364.0	^b 73.1	84.6	37.0
Min. Wager (\$)	500.00	0.60	8.79	0.05
Max. Wager (\$)	35,996.00	209.85	780.38	49.60
Avg. single Wager (\$)	739.67	9.63	26.50	2.44
Total Yearly Wager (\$)	13,914,295.50	^e 194,177.21	600,300.60	36,937.58
Total Number of Yearly Bets	976,557.0	^f 48,500.4	91,146.7	10,198.5
Play Patterns	RG Gamblers 2016 (n=4,745)			
	Max	Mean	Std	Median
#Sites Wagered	10.0	^a 3.5	2.5	3.0
Total Betting Days	365.0	85.8	92.7	48.0
Min. Wager (\$)	75.00	0.35	2.38	0.01
Max. Wager (\$)	19,935.00	220.07	708.96	50.00
Avg. single Wager (\$)	308.36	4.18	11.50	1.69
Total Yearly Wager (\$)	25,552,745.38	260,236.45	890,169.50	50,006.05
Total Number of Yearly Bets	1,116,086.0	^f 59,450.1	103,929.2	15,119.0

Play Patterns	RG Gamblers 2017 (n=5,202)			
	Max	Mean	Std	Median
#Sites Wagered	11.0	^a 3.9	2.8	3.0
Total Betting Days	365.0	92.3	94.8	56.0
Min. Wager (\$)	76.00	0.26	2.26	0.00
Max. Wager (\$)	20,000.00	205.73	661.46	50.00
Avg. single Wager (\$)	1,008.38	11.36	38.18	2.40
Total Yearly Wager (\$)	95,523,063.50	297,841.32	1,733,687.12	51,735.66
Total Number of Yearly Bets	1,349,317.0	71,797.3	122,192.1	20,563.0
Play Patterns	RG Gamblers 2018 (n=7,180)			
	Max	Mean	Std	Median
#Sites Wagered	13.0	4.1	3.0	3.0
Total Betting Days	365.0	^b 79.5	92.3	39.0
Min. Wager (\$)	300.00	0.35	5.76	0.01
Max. Wager (\$)	28,800.00	212.70	792.90	50.00
Avg. single Wager (\$)	4,112.19	11.02	64.82	1.98
Total Yearly Wager (\$)	61,272,210.36	253,626.89	1,170,509.16	50,195.42
Total Number of Yearly Bets	1,165,909.0	65,701.5	112,215.1	18,725.5

Significant differences across years (p<.001)

^a2014 lower than 2015-18; 2015 lower than 2016-18; 2016 lower than 2017-18; 2017 lower than 2018

^b2014 lower than all other years; 2015 lower than 2016 and 2017; 2018 lower than 2017

^c2014 lower than all other years

^d2014 lower than 2016

^e2014 lower than 2017 & 2018; 2015 lower than 2017

^f2014 lower than all other years; 2015 lower than 2017 & 2018; 2016 lower than 2017

As in 2017, there were significant differences in play patterns between those who did and did not use RG features in 2018 (Table 25). RG players patronized twice the average number of gambling sites (4 sites), compared to non-RG players (2 sites), with RG players at the median playing on three times as many sites as non-RG players. The average RG player placed bets three times as many days (80 v 25) compared to non-RG players; that comparison is more pronounced when focusing on the median, where RG players in the middle of the sample were betting 39 days over the year, compared to only three days for non-RG gamblers. The mean maximum wager and single wager were, likewise, significantly higher in the RG group; the average total yearly wager was nearly seven times and the average total number of yearly bets, more than four times, higher than that of the non-RG group. Median values revealed a greater disparity, with the median total yearly wager of the RG group more than 88 times, and the total number of yearly bets, more than 52 times, that of the non-RG group. These findings suggest that, despite wide variation in betting patterns and amounts, and the small proportion of RG users, those who do use the features have comparatively higher betting and spending patterns that could benefit from limit-setting.

Table 25. Play Patterns of RG and Non-RG Gamblers (Casino Only)

Play Patterns	RG Gamblers 2018 (n=7,180)			
	Max	Mean	Std	Median
#Sites Wagered	13.0	*4.1	3.0	3.0
Total Betting Days	365.0	*79.5	92.3	39.0
Min. Wager (\$)	300.00	0.35	5.76	0.01
Max. Wager (\$)	28,800.00	*212.70	792.90	50.00
Avg. single Wager (\$)	4,112.20	*11.02	64.82	1.98
Total Yearly Wager (\$)	61,272,210.37	*253,626.89	1,170,509.16	50,195.42
Total Number of Yearly Bets	1,165,909.0	*65,701.5	112,215.1	18,725.5
Play Patterns	Non-RG Gamblers 2018 (n=92,257)			
	Max	Mean	Std	Median
#Sites Wagered	13.0	2.0	1.8	1.0
Total Betting Days	365.0	24.5	56.4	3.0
Min. Wager (\$)	9,999.00	1.18	36.73	0.01
Max. Wager (\$)	61,571.77	59.68	424.18	9.00
Avg. single Wager (\$)	19,999.50	6.14	75.70	1.19
Total Yearly Wager (\$)	31,551,713.65	39,212.03	303,493.17	567.10
Total Number of Yearly Bets	2,171,045.0	15,232.7	59298.1	359.0

*Significant differences between RG Gamblers and Non-RG Gamblers ($p < .001$)

Players in New Jersey have the option to enact, change, and/or discontinue RG features on each site. RG features, ranging from deposit, loss, and time limit-setting to cool-off and self-exclusion, are listed in Table 26 with the number and proportion of patrons choosing each RG feature. The parameters of each feature have been detailed in a prior report. Overall, setting deposit limits was the most popular option, with nearly a quarter of all RG patrons selecting this feature exclusively. About 16% of RG users chose to use only the cool-off, and 13% chose the self-exclusion features. Among those who engaged multiple features, the combination of deposit and loss (spend) limits was the most popular (8%), followed by cool-off combined with either deposit limits (7%) or self-exclusion (5%).

Table 26. RG Feature Preferences (Casino Only) n=7,180

Single RG Feature Engaged	%	n
Deposit Only	23.8	1707
Cool Off Only	15.7	1128
Self-Exclusion Only	12.8	921
Loss (Spend) Only	5.0	357
Time Limit Only	3.1	219
Total of Single RG Feature Engaged	60.4	4,332
Two or More RG Features Engaged	%	n
Deposit and Loss (Spend) Limits	7.9	570
Cool Off and Deposit Limit	6.6	474
Cool Off and Self-Exclusion	4.7	340
Cool Off, Deposit and Loss (Spend) Limits	3.7	269
Deposit, Loss (Spend) and Time Limits	3.1	222
Cool Off, Deposit Limit and Self-Exclusion	1.9	138
Cool Off, Deposit, Loss (Spend) & Time Limits	1.9	137
Deposit Limit and Self-Exclusion	1.7	124
Self-Exclusion, Cool Off, Deposit and Loss (Spend) Limits	1.3	92
Loss (Spend) and Time Limits	1.2	83
Deposit and Time Limits	1.0	74
Self-Exclusion, Cool Off, Deposit, Loss (Spend) & Time Limits	0.8	57
Cool Off and Loss (Spend) Limit	0.7	53
Deposit Limit, Loss (Spend) Limit and Self-Exclusion	0.7	51
Cool Off, Deposit and Time Limits	0.5	37
Self-Exclusion, Deposit, Loss (Spend) & Time Limits	0.4	27
Cool Off, Loss (Spend) Limit and Self-Exclusion	0.3	22
Cool Off and Time Limit	0.2	13
Loss (Spend) Limit and Self-Exclusion	0.2	15
Self-Exclusion, Cool Off, Deposit & Time Limits	0.2	14
Cool Off, Time Limit and Self-Exclusion	0.2	11
Cool Off, Loss (Spend) and Time Limits	0.1	8
Deposit, Time Limit and Self-Exclusion	0.1	7
Time Limit and Self-Exclusion	0.1	6
Self-Exclusion, Cool Off, Loss (Spend) & Time Limits	0.1	4
Total of Two or More RG Features Engaged	39.6	2,848

By gender, men were more likely than women to choose self-exclusion, but almost equally likely to choose each of the other individual options (Table 27). Across all age categories, deposit limits were the most popular RG feature, followed by cool-off and self-exclusion; time limits were the least popular feature across all groups. Across almost all gender and age groups, combining deposit and loss limits, followed by cool-off and deposit limit, were the most popular options.

Table 27. RG Feature Preferences (Casino Only): By Gender and Age Group

RG Features (Single Selection)																
	Male		Female		21-24		25-34		35-44		45-54		55-64		65+	
	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n
Deposit Only	23.2	1,042	24.7	665	26.4	96	25.5	560	22.8	442	24.2	356	19.1	168	25.4	85
Cool-Off Only	15.6	700	15.9	428	17.3	63	15.5	339	14.4	280	15.8	232	18.3	161	15.8	53
Self-Exclusion Only	14.3	643	10.3	278	15.9	58	15.7	345	12.6	244	9.3	137	10.8	95	12.5	42
Loss (Spend) Only	5.4	244	4.2	113	6.0	22	5.1	111	4.4	85	5.1	75	5.1	45	5.7	19
Time Limit Only	3.0	136	3.1	83	1.4	5	2.4	52	3.1	60	3.6	53	4.2	37	3.6	12
Two or More RG Features	38.4	1,720	41.9	1,128	33.0	120	35.8	786	42.7	829	42.0	617	42.4	372	37.0	8.9
Two or More RG Features (Most prevalent)																
	Male		Female		21-24		25-34		35-44		45-54		55-64		65+	
	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n
Deposit and Loss (Spend) Limit	7.8	348	8.2	222	4.9	18	6.1	134	8.6	166	9.6	142	9.6	84	7.8	26
Cool Off and Deposit Limit	6.0	271	7.5	203	4.7	17	6.7	146	6.9	134	6.6	97	6.8	60	6.0	20
Cool Off and Self-Exclusion	4.6	208	4.9	132	4.1	15	5.1	112	5.7	110	4.0	59	4.1	36	2.4	8
Deposit, Loss (Spend) and Time Limits	3.2	143	2.9	79	3.0	11	2.6	56	2.6	51	3.9	57	3.6	32	4.5	15
Cool Off, Deposit and Loss (Spend)	3.2	145	4.6	124	0.8	3	3.0	65	4.4	85	3.9	58	5.2	46	3.6	12
Deposit Limit and Self-Exclusion	2.1	92	1.2	32	3.0	11	2.1	46	1.6	32	1.3	19	1.5	13	0.9	3
Cool Off, Deposit, Loss (Spend) & Time Limits	1.9	87	1.9	50	2.7	10	1.3	29	2.2	43	1.8	27	2.5	22	1.8	6
Cool Off, Deposit Limits and Self-Exclusion	1.7	77	2.3	61	1.9	7	2.1	45	2.1	40	1.8	27	1.8	16	0.9	3
Self-Exclusion, Cool Off, Deposit and Loss (Spend) Limits	1.2	54	1.4	38	0.5	2	1.2	27	1.3	26	1.5	22	0.9	8	2.1	7
Loss (Spend) and Time Limits	1.1	50	1.2	33	2.2	8	1.3	29	0.9	18	1.1	16	0.9	8	1.2	4
Deposit and Time Limits	0.8	38	1.3	36	0.8	3	0.6	14	1.2	24	1.1	16	1.3	11	1.8	6
Cool Off and Loss (Spend)	0.8	37	0.6	16	0.8	3	0.7	15	0.8	16	0.7	10	0.7	6	0.9	3
Self-Exclusion, Cool Off, Deposit, Loss (Spend) & Time Limits	0.7	33	0.9	24	0.5	2	0.5	12	0.8	16	1.4	20	0.6	5	0.6	2

Table 28 provides detailed comparisons of the use of each feature across years by gender. Significant differences across years are detailed below the table. Notably for men, the proportion who used only deposit limits has fluctuated between 2014 (7%) to 2018 (23%). Use of cool-off only and two or more features was significantly lower in 2014 than in other years for men, though the proportion of users has also fluctuated over time. In contrast, exclusive use of the self-exclusion feature has largely stabilized after prevalent use at the onset of online gambling availability in 2014. For women, exclusive use of cool-off and deposit limits have, likewise, increased significantly since 2014, albeit with more variability than for men. Conversely, after an initial increase in utilization following 2014, the exclusive use of time limits has fluctuated and decreased in recent years (Table 28).

Table 28. Within Gender Comparisons across Years of RG Features (Casino Only)

RG Type 2014	Male		Female		Total	
	%	n	%	n	n (%)	
Cool-off only	^a 6.4	514	^b 5.4	289	803 (6.0)	
Deposit Limit only	^b 7.4	597	^h 3.6	194	791 (5.9)	
Loss (Spend) Limit only	^c 3.0	243	^f 0.9	47	290 (2.2)	
Time Limit only	7.0	559	5.0	270	829 (6.2)	
Self-exclusion only	54.0	4,326	68.3	3,684	8,010 (59.7)	
Two or more RG features	^f 22.2	1,777	^f 16.9	910	2,687 (20.0)	
Total N % of gender	100.0	8,016	100.0	5,394	13,410 (100.0)	
	Mean	Std	Mean	Std	Mean	Std
# of RG features used	1.7	1.0	1.7	1.0	1.7	1.0
RG Type 2015	Male		Female		Total	
	%	n	%	n	n (%)	
Cool-off only	^a 10.5	301	^g 7.1	109	410 (9.3)	
Deposit Limit only	24.8	713	22.7	348	1,061 (24.0)	
Loss (Spend) Limit only	^c 4.8	137	4.6	70	207 (4.7)	
Time Limit only	7.3	211	7.0	107	318 (7.2)	
Self-exclusion only	^e 12.6	363	^e 13.8	212	575 (13.0)	
Two or more RG features	40.0	1,152	44.9	690	1,842 (41.7)	
Total N % of gender	100.0	2,877	100.0	1,536	4,413 (100.0)	
	Mean	Std	Mean	Std	Mean	Std
# of RG features used	1.6	0.9	1.7	0.9	1.6	0.9
RG Type 2016	Male		Female		Total	
	%	n	%	n	n (%)	
Cool-off only	^a 13.1	404	13.7	224	628 (13.3)	
Deposit Limit only	^b 20.0	617	21.0	343	960 (20.3)	
Loss (Spend) Limit only	7.3	227	3.8	62	289 (6.1)	
Time Limit only	^d 4.7	144	5.9	97	241 (5.1)	
Self-Exclusion only	^e 12.7	392	^e 13.0	212	604 (12.8)	
Two or more RG Features	42.3	1,306	42.7	698	2,004 (42.4)	
Total N % of gender	100.0	3,090	100.0	1,636	4,726 (100.0)	
	Mean	Std	Mean	Std	Mean	Std
# of RG features used	1.7	1.0	1.7	1.0	1.7	1.0
RG Type 2017	Male		Female		Total	
	%	n	%	n	n (%)	
Cool-off only	16.8	562	16.5	289	851 (16.7)	
Deposit Limit only	^b 18.5	619	^h 19.0	332	951 (18.6)	
Loss (Spend) Limit only	5.7	192	4.5	78	270 (5.3)	
Time Limit only	^d 4.8	162	6.1	107	269 (5.3)	
Self-Exclusion only	^e 15.2	510	^e 14.6	255	765 (15.0)	
Two or more RG Features	39.0	1,307	39.4	690	1,997 (39.1)	
Total N % of gender	100.0	3,352	100.0	1,751	5,103 (100.0)	
	Mean	Std	Mean	Std	Mean	Std
# of RG features used	1.6	0.9	1.6	0.9	1.6	0.9

RG Type 2018	Male		Female		Total	
	%	n	%	n	n (%)	
Cool-off only	15.6	700	15.9	428	1,128 (15.7)	
Deposit Limit only	^b 23.2	1,042	24.7	665	1,707 (23.8)	
Loss (Spend) Limit only	5.4	244	4.2	113	357 (5.0)	
Time Limit only	^d 3.0	136	ⁱ 3.1	83	219 (3.1)	
Self-Exclusion only	^e 14.3	643	^e 10.3	278	921 (12.8)	
Two Or More Features	38.4	1,720	41.9	1,128	2,848 (39.7)	
Total N % of gender	100.0	4,485	100.0	2,695	7,180 (100.00)	
	Mean	Std	Mean	Std	Mean	Std
# of RG features used	1.6	0.9	1.6	0.9	1.6	0.9

Significant difference in proportion of males or females by RG Feature type (p<.001)

a. 2014 lower than all other years; 2015 lower than 2017 and 2018; 2016 lower than 2017

b. 2014 lower than all other years; 2016 & 2018 lower than 2015; 2017 lower than 2015 & 2018

c. 2014 lower than 2016-18; 2015 lower than 2016

d. 2016-18 lower than 2014-15

e. 2015-18 lower than 2014

f. 2014 lower than all other years

g. 2014 & 2015 lower than 2016-18

h. 2014 lower than all other years; 2017 lower than 2018

i. 2018 lower than 2015 & 2017

Once selected, players can make changes to individual RG limits, such as increasing or decreasing the total amount of deposited, money lost, and time spent. Table 29 details the average and median number of changes for those who exclusively preferred one feature or two or more features. Players who used only deposit limits made an average of just under four changes, with players at the median making two changes. While fewer players used the cool-off feature compared to deposit limits, those who did made more changes than to any other single feature, 8,561, with the average player making nearly eight changes and the median player making two changes to the feature.

Table 29. Changes to RG Features by RG Type (Casino Only)

RG feature	n	Mean	Std.	Median	Total number of changes
Cool-off Only	1,128	7.6	17.8	2.0	8,561
Deposit Limit Only	1,707	3.7	6.6	2.0	6359
Loss (Spend) Limit Only	357	2.5	2.4	2.0	887
Time Limit Only	219	1.5	1.2	1.0	318
Two or More Features	2,848	23.5	40.5	11.0	66803

Table 30 compares players in the Top 10% who use RG features with other casino RG gamblers. Across all features, players in the Top 10% using cool-off, deposit limits, or two or more features made significantly more changes to the features than other players. Those differences were likewise reflected in similar disparities in the median values for those features.

Table 30. Changes to RG features: Top 10% v. Other Gamblers (Casino Only)

RG Feature	n	Mean	Std.	Median
Cool-off Only Top 10%	246	*15.6	30.4	6.0
Cool-off Only Other Gamblers	882	*5.4	11.2	2.0
Deposit Limit Only Top 10%	337	*5.5	9.5	3.0
Deposit Limit Only Other Gamblers	1,370	*3.3	5.6	2.0
Loss (Spend) Limit Only Top 10%	68	2.4	2.3	1.0
Loss (Spend) Limit Only Other Gamblers	289	2.5	2.4	2.0
Time Limit Only Top 10%	32	1.5	1.5	1.0
Time Limit Only Other Gamblers	187	1.4	1.2	1.0
Two or More Features Top 10%	746	*37.0	58.9	15.0
Two or more Features Other Gamblers	2,102	*18.6	30.0	10.0

*Significant difference in number of changes made between Top 10% and Others for RG Feature(s) (p<.001)

In 2018, casino players in the middle age ranges made the most changes, with those in the 21 to 24 age group making the fewest. Players ages 35 to 44 made the most total changes, followed by those in the 45 to 54 and 25 to 34 age groups. By feature, gamblers in the 25 to 34 age range made significantly fewer changes to cool-off compared to those aged 45 to 64, and gamblers age 21 to 34 made fewer changes to two or more features compared to those 45 to 54.

Table 31. Number of Changes Made to RG Features: By Age Group (Casino Only)

Age Group		Cool-off Only	Deposit Limit Only	Loss (Spend) Limit Only	Time Limit Only	Two or More Features	Total changes
21 - 24 n=306	Maximum	19.0	22.0	6.0	2.0	122.0	2,048.0
	Mean	3.2	2.5	2.0	1.2	^b 13.0	
	Std.	3.6	2.9	1.5	0.4	16.6	
	Median	2.0	2.0	1.5	1.0	8.0	
	Total # of Changes	202.0	239.0	45.0	6.0	1,556.0	
25 - 34 n=1,848	Maximum	41.0	43.0	26.0	12.0	804.0	20,268.0
	Mean	^a 4.2	3.6	2.6	1.7	^b 20.9	
	Std.	6.0	4.7	3.0	1.9	43.0	
	Median	2.0	2.0	2.0	1.0	10.0	
	Total # of Changes	1,436.0	2,001.0	292.0	90.0	16,449.0	
35 - 44 n=1,696	Maximum	114.0	84.0	13.0	3.0	579.0	23,463.0
	Mean	6.6	3.6	2.2	1.3	23.9	
	Std.	11.3	6.0	2.0	0.5	40.1	
	Median	2.0	2.0	1.0	1.0	11.0	
	Total # of Changes	1,843.0	1,569.0	187.0	77.0	19,787.0	
45 - 54 n=1,333	Maximum	96.0	85.0	11.0	8.0	405.0	20,764.0
	Mean	^a 8.5	4.1	2.6	1.5	^b 27.7	
	Std.	14.7	7.1	2.1	1.3	42.0	
	Median	3.0	2.0	2.0	1.0	13.0	
	Total # of Changes	1,965.0	1,457.0	197.0	82.0	17,063.0	
55 - 64 n=783	Maximum	246.0	92.0	12.0	4.0	335.0	12,496.0
	Mean	^a 15.0	4.6	2.7	1.3	24.6	
	Std.	36.5	10.1	2.2	0.6	39.2	
	Median	3.0	3.0	2.0	1.0	12.0	
	Total # of Changes	2,407.0	775.0	120.0	47.0	9,147.0	
65+ n=293	Maximum	119.0	91.0	12.0	4.0	278.0	3,889.0
	Mean	13.4	3.7	2.4	1.3	22.6	
	Std.	24.3	10.4	2.6	0.9	36.7	
	Median	4.0	2.0	2.0	1.0	10.0	
	Total # of Changes	708.0	318.0	46.0	16.0	2,801.0	

Significant differences between age ranges for indicated feature(s) (p<0.001)

a. 25-34 made fewer changes than 45-54 and 55-64

b. 21-24 and 25-34 made fewer changes than 45-54

As indicated in Table 32, there were no significant differences by gender in the average number of changes made to any feature or combination of features except to cool-off, where women made significantly more changes than men.

Table 32. Number of Changes Made to RG features: By Gender (Casino Only)

Gender		Cool-off Only	Deposit Limit Only	Loss (Spend) Limit Only	Time Limit Only	Two or More Features	Total Changes
Male n=3,842	Maximum	246.0	84.0	26.0	12.0	804.0	
	Mean	*6.6	3.6	2.7	1.5	23.4	
	Std.	15.5	5.7	2.6	1.3	42.1	
	Median	2.0	2.0	2.0	1.0	11.0	
	Total # of Changes	4,610.0	2,775.0	651.0	203.0	40,189.0	48,428.0
Female n=2,417	Maximum	213.0	92.0	13.0	8.0	405.0	
	Mean	*9.2	3.9	2.1	1.4	23.6	
	Std.	21.0	7.8	1.9	1.0	37.8	
	Median	3.0	2.0	2.0	1.0	11.0	
	Total # of Changes	3,951.0	2,584.0	236.0	115.0	26,614.0	33,500.0

*Significant differences between genders of indicated feature ($p < 0.001$)

The next analysis examined the number of changes made to RG features by players across play types (Table 33). Among those who used multiple RG features, the average casino-only player made significantly fewer changes than those who played both casino and tournament poker (22 v 38 changes). Those who played all three activities had the highest median number of changes across cool-off, loss, and time limits, with the median casino and tournament player reporting the highest median number of changes for those using multiple features, at 16, and the same number as those who played all three types, 3, for deposit limit.

Table 33. Number of Changes Made to RG features: By Play Type (Casino Only)

Play Type		Cool-off Only	Deposit Limit Only	Loss (Spend) Limit Only	Time Limit Only	Multiple Features	
All 3 types n=507	Maximum	40.0	85.0	10.0	4.0	258.0	
	Mean	5.0	5.1	3.2	2.0	25.0	
	Std.	6.9	10.6	2.3	1.1	35.4	
	Median	3.0	3.0	3.0	2.0	13.0	
	Total # of Changes	362.0	727.0	139.0	20.0	5,977.0	7,225.0
Casino Only n=4,897	Maximum	246.0	92.0	13.0	8.0	804.0	
	Mean	8.1	3.5	2.2	1.4	^a 22.3	
	Std.	19.3	6.2	1.9	0.9	38.2	
	Median	2.0	2.0	2.0	1.0	10.0	
	Total # of Changes	7,361.0	4,678.0	559.0	215.0	49,913.0	62,726.0
Casino & Poker n=430	Maximum	22.0	31.0	7.0	2.0	274.0	
	Mean	4.2	4.0	2.5	1.2	23.9	
	Std.	5.2	4.8	1.6	0.4	39.2	
	Median	2.0	2.0	2.0	1.0	10.0	
	Total # of Changes	201.0	489.0	52.0	34.0	4,987.0	5763.0
Casino & Tournament n=425	Maximum	68.0	41.0	26.0	12.0	579.0	
	Mean	6.5	4.3	3.6	2.0	^a 37.5	
	Std.	11.5	5.6	4.5	2.7	68.9	
	Median	2.0	3.0	2.0	1.0	16.0	
	Total # of Changes	637.0	246.0	137.0	49.0	5,926.0	6995.0

Significant difference in average number of changes made to RG feature(s) across play type groups (p < .001)

a. Casino-only players made fewer changes than casino & tournament players

VII. Summary and Recommendations

The number of online players and new sign-ups have continued to increase, however, in 2018, there were slight decreases in the younger, and increases in the older, age groups. Involvement in casino-only play has increased, while poker play, excluding tournaments, has decreased in popularity. The overall proportion of women who gambled, particularly in online casinos, has also continued to increase. More than three-fourths of players gambled on one or two gambling sites, however, 7% of players wagered on 6 to 13 sites last year. Given these trends, we offer the following recommendations for enhancing efforts aimed at decreasing problem gambling and gambling-related harm among individuals who gamble online:

Recommendation 1: Develop a uniform platform and requirements for self-exclusion across all gambling activities in the state.

This recommendation would require cooperation from regulatory bodies beyond the DGE but would benefit those who struggle with gambling problems who find using multiple systems daunting and feel self-exclusion is the only recourse to arrest the progression of problem gambling. We strongly support any effort the DGE might make to bring those regulatory agencies together to offer a uniform system of self-exclusion across all platforms and operators with consistent periods of self-exclusion. We also recognize this is beyond the sole discretion of the DGE and would likely require legislative action. In this era of online meeting platforms, however, it should be possible for the DGE to offer lifetime self-exclusion to those who wager online, using online or telephone verification rather than in-person meeting, to afford online players with transportation limitations the same level of protection as those who wager in land-based casinos.

Recommendation 2: Develop an early warning system to inform players about their play and expenditures, featuring a uniform player information display (PID) for use across games and operators.

We recommend the use of an early warning system for players with sufficient information to guide informed choice regarding limit-setting. Specifics of the system could be informed by findings in the empirical literature with input from industry stakeholders. Such a system could ultimately incorporate pop-up messages to alert players when they have reached limit-setting thresholds or when their play patterns approach or exceed median amounts characteristic of the highest intensity players, based on median values from our yearly reports and other analyses.

The first step in developing such a system would be to require a uniform player information display (PID), containing prescribed information for each game and session. The mandated contents of the display would include information currently required by regulation to be uniformly presented on one display: (a) return to player percentage and definition; (b) amount deposited by the player per session; (c) amount lost by the player per session; (d) the amount available for cash-out; (e) session start time; (f) total time on machine (i.e., session start time to present); (g) time of day; (h) total amount cashed out since Jan 1 (beginning of the year); (i) total amount deposited since Jan 1; and (j) total amount lost (spent) since Jan 1. Similar PIDs have been used successfully on land-based machines in jurisdictions like Australia and should be easily adaptable to an online environment.

Recommendation 3: Promote and incorporate standardized RG education and features at sign-up.

Over the past two years, we have seen a small but significant increase in the number of players accessing RG features after the DGE mandated the use of the RG button on all websites. Commonly assessed markers of gambling intensity – number of sites wagered, total betting days, average single wager, maximum wager, total yearly wager, total number of yearly bets – were all significantly higher in RG users compared to other players. Players also utilized a number of feature combinations and changes to features that suggest they are fine-tuning

usage to suit their individual needs and/or possibly responding to urges toward escalations in play by interacting with RG limits, which adds a component of mindfulness to play.

These findings suggest that at least some players who are gambling at high levels of intensity are engaging with limit-setting features. Unfortunately, they are already gambling at high levels by the time they set their limits. If these features could be incorporated into and promoted prior to placing the first bet, it is possible that this group of players could make informed choices about their gambling before play escalated to levels that are disproportionate to the overall population of online gamblers.

We, therefore, recommend developing a simple click-through educational tutorial that would teach players about the loss(spend), deposit, and time limit options, provide information to guide limit setting, and offer the opportunity to set limits. Operators could be required to incorporate this standardized educational module into their platform, to be completed by players before they are permitted to gamble. The module would also include information on how to access the PID for each game and the potential utility of other features (e.g., cool-off, self-exclusion), which could be accessed at a future time. Incorporating features and education at sign-up and, ideally, reintroducing those features each year based on betting milestones or time intervals, are logical next steps in the promotion of responsible gambling.

We also note that the regulations for some RG features permit vendors to implement them differently. For example, if a player sets a daily loss limit at \$100, that limit may exclude or include winnings during play. As such, we recommend modifying the regulations to require only one uniform implementation of RG features that are consistently applied across all platforms. We would recommend that the limit apply to the money the player actually deposits, exclusive of winnings, as winnings are theoretical in the mind of most players and don't represent an actual loss in their mind. Given that the goal of responsible gambling is to assist players in setting limits on the money they spend on gambling, limiting actual expenditures by the player, irrespective of theoretical win, would best assist them in making informed choices about personal expenditures.

Recommendation 4: Obtain and evaluate player feedback to guide future enhancements to RG.

To increase uptake, respond to player needs, and develop targeted strategies for at-risk players, we propose conducting a survey of players, representative of select player groups, to determine the efficacy of current features, the appeal of new features and offerings, barriers to use of RG, and enhancements that could encourage uptake. In the future, similar surveys could be used to inform targeted outreach to specific at-risk player groups. For example, examining preferences of women and older adults who gamble online, two groups with increasing participation, would provide insight into strategies that might prove most effective in assisting them in avoiding or reducing harm. Targeted emails or messaging, similar to those used by operators for marketing, which highlight or explain RG features preferred by player subgroups, could assist players in limiting excessive play, managing urges, countering illogical cognitions, and otherwise engaging in positive play before they need to opt for self-exclusion.

Taken together, these recommendations are meant to respond to the changing demographics of online players and to guide the development of a robust RG system that provides information and options to all players across all platforms to guide decision-making.