Determining Evidence-Informed Options for Responsible Gambling and Harm Minimization in the Field of Online Lottery

Prepared for

ICRG

INTERNATIONAL CENTER FOR RESPONSIBLE GAMING

By

The Centre for the Advancement of Best Practices

The Responsible Gambling Council

RGC

OCTOBER

2020

Table of Contents

Project Overview

Principal Investigator

Alex Price, PhD
Senior Researcher, Centre for the Advancement of Best Practices

Institution

Responsible Gambling Council
411 Richmond St. East
Suite 205
Toronto, Ontario Canada M5A 3S5
www.responsiblegambling.org

Project Title

Determining Evidence-Informed Options for Responsible Gambling and Harm Minimization in the Field of Online Lottery

Original Abstract

This project will help determine innovative methods involving online technologies for promoting responsible gambling and harm minimization resources among online lottery players. Specifically, this study aims to conduct 1) a systematic search and rapid review of the literature relating to responsible gambling and online lottery; 2) a jurisdictional review of responsible gambling approaches adopted by online lottery operators; and 3) a synthesis of findings from the literature review with those of the jurisdictional review to determine adoption feasibility of evidence-informed initiatives for online lottery.

Along with the steady expansion of online lottery, globally and in Indiana, a growing body of evidence has also highlighted the potential risks associated with this form of gambling (Nower, Volberg, & Caler, 2017). The implications of emerging online lottery features, such as "second chance programs" and others, on gambling risk and approaches to responsible gambling also merit further review.

The systematic search and rapid review of evidence will primarily target peer-reviewed articles published over the last 15 years as well as relevant grey literature. Articles published in English will be identified using the University of Toronto's One Search database and Google Scholar, using conventional subject searches. In addition, citation search, reference list checking, and expert feedback will be used to maximize collection of significant articles. Grey documents will be identified using vetted sources (e.g., Alberta Gambling Research Institute, the NCRG/ICRG, etc.). Reviewed articles will be organized in an MS Excel matrix according to author, date, publication type, topic, methods, key findings and conclusions, limitations, and coded to key impact areas (e.g., policies, employee training, informed decision making, etc.). Evidence will be assessed by the research team and through external methods.

The jurisdictional review will focus on the well-developed online lottery operations around the world. The review will leverage RGC's evidence-informed RG Check accreditation standards for online gambling and be supplemented by evidence emerging from the literature review on online lottery. A final synthesis of reviewed information will illustrate the adoption feasibility of responsible gambling features reflected in the literature review and discuss their implementation context and any evidence of impact.

Specific Aims

This project supports the development of evidence-informed strategies for promoting responsible gambling principles of positive play, harm minimization, and treatment referral for online lottery players. Specifically, research literature (peer-reviewed and grey) and current standards of practice from around the world will be examined to produce a balanced understanding of responsible gambling best-practices for online lottery operations.

Hoosier Lottery is currently considering the effectiveness of introducing online ticket sales from a technological, marketing, capital and human resources perspective (Associated Press 2019). However, key questions surrounding how responsible gambling best-practices and key technologies can ensure optimal player safeguards for online lottery require further examination.

The specific aims of this study are:

1. To conduct a systematic search and rapid review of literature on responsible gambling and harm minimization that are relevant to online lottery;
2. To carry out a jurisdictional review of online lottery operations in various international jurisdictions and examine the adoption of responsible gambling and harm minimization initiatives; and
3. To synthesize and compare findings from the literature review with those of the jurisdictional review and determine adoption feasibility of evidence-informed initiatives for online lottery.

Research Activities

Systematic search and rapid review of research literature

In order to overcome the extensive time and evidentiary requirements of a traditional systematic review, while maintaining a rigorous and systematic approach, this study will adopt a systematic search and rapid review method. Rapid review approaches can be completed between five weeks and six months, typically, and are specifically designed to address the decision needs of policy makers and support the development of health promotion initiatives (Khangura et al. 2012). A systematic search and rapid review of evidence presented in peer-reviewed and grey literature is in turn able to establish a basis for quickly generating an understanding of the field of peer-reviewed and grey knowledge on online lottery.

The strategy for this evidence review involved the systematic search of peer-reviewed and grey literature from the last fifteen years. It is believed that this publication window is sufficient to capture all relevant and contemporary evidence coinciding with the expansion of online gambling and the development of the Reno Model for responsible gambling. This model represents a milestone in the development of a peer-reviewed conceptual framework of responsible gambling (Blaszczynski et al. 2004). Including literature that follows the publication of this framework ensures that most relevant and contemporary articles in the field of responsible gambling are eligible for consideration and review. Peer-reviewed articles are identified via Google Scholar search and the University of Toronto's One Search database—a comprehensive aggregator of multiple journal databases. Article abstracts published electronically, in English and accessible either online or through institutional holdings are then screened for inclusion.

The extant literature on online lottery and responsible gambling is limited. In order to ensure all relevant articles were identified, retrieved and reviewed, **a modification to the search strategy was made to enhance comprehensiveness of collection**. Instead of using more lottery-specific terms in the Boolean

search (e.g., 'lottery gambling,' 'lottery ticket,' 'instant games,' 'daily pick,' 'state lottery/lotteries,' 'scratch off,' etc.), as described in the original statement of work, a more general approach was taken. This approach involved a search of the term "responsible gambling" between 2004-2019 (English only), which identified 2,146 articles and then filtered for article keyword tags "responsible gambling," "lottery," "draw," "scratch," and "instant." The University of Toronto online library search function was used to complete the collection process and leveraged access to several large databases (e.g., EBSCO, JSTOR, OVID, ProQuest, PubMed, Scopus, Web of Science, etc.).

Jurisdictional review of responsible gambling strategies for online lottery

The jurisdictional review helps identify practical applications of various responsible gambling policies and programs adopted by online lottery operators. The purpose of this activity is to support an assessment of adoption feasibility relating to evidence-informed responsible gambling practices apparent in the literature review. The actual assessment takes the form of a synthesis and comparison of research literature and jurisdictional information (Aim 3).

The jurisdictional review examines legal online lottery operations through their website features supporting responsible gambling and positive play promotion as well as harm minimization. A sample of online lottery operations from around the world form the selected case studies for the jurisdictional review. Greater emphasis is placed on operations in North America, which may bear the most relevance to Hoosier Lottery. These include Michigan, Illinois, Kentucky, Georgia, Pennsylvania, and New Hampshire. In Canada, British Columbia and Ontario feature two the largest online lottery operations. In Europe, the United Kingdom and Ireland feature English-speaking online lottery schemes with well-developed website platforms. In Asia, Hong Kong's Mark Six online lottery is the most well-established operator in the jurisdiction. Finally, in Australia, the Lott provides access to a wide variety of official lottery products across the country, including the option of online ticket purchases from various states. Jurisdictional lottery operations are reviewed for responsible gambling, positive play and harm minimization practices using RG standards and criteria for online gambling.

No modifications to the jurisdictional review were made.

Synthesis of RG findings from literature and online lotteries

The synthesis of the research literature and the jurisdictional review provides online lottery operators, such as the Hoosier Lottery, regulators, and other RG stakeholders with evidence for responsible gambling best-practice as well as examples of strategies and features adopted by online lottery operators around the world. The synthesis highlights which practices are supported most heavily by the research evidence as well as those that may only feature emerging or limited evidence. On the other hand, the synthesis will also identify those practices or key factors that have not been adopted or addressed by operators and discuss potential reasoning behind these instances. Together, this study contributes to understanding of optimal strategies for promoting responsible gambling principles of positive play, harm minimization, and treatment referral for lottery players and the key factors and technologies that can facilitate implementation.

No modifications to the jurisdictional review were made.

Summary of Findings for Non-Scientific Audience

This project reviewed and assessed scientific and practical evidence supporting best practices for responsible gambling (RG) relevant to online lottery. In so doing, 18 research articles and 13 online gambling websites were reviewed according to a set of RG standards reflecting five established accreditation frameworks.[1]

Key Findings

Research Literature Review

- Research in the area of lottery and online lottery provide a breadth of support for RG practice standards, but lack depth that other areas of gambling research appear to have (e.g., online casino, sports betting, electronic gambling machines, etc.)
- Evidence was strongest in areas of RG practice focusing on safeguards for underage gamblers
- Research relating to assisting players and informed decision making demonstrated the strongest evidence
- In many instances, research evidence was not directly applicable to RG practice and required expert interpretation (e.g., evidence supporting the principle of leadership accountability to RG without indications for development)
- Areas of RG practice including program evaluation, employee training, and self-exclusion were particularly under-developed in the field of lottery and online lottery research

Jurisdictional Review

- There was stronger alignment between RG standards and industry practices than with lottery research
- Self-exclusion, informed decision making, and RG practices related to accounts and payments were almost universally adopted by online lottery operators
- Program evaluation for RG policies and programs as well as support for RG research and innovation had the most limited adoption among operators
- US online lottery operators appeared to generally have more limited adoption of RG standard practices than other international lotteries, particularly in the areas of RG policies and strategy, program evaluation, research and innovation, assisting players, and employee training
- RG standard practice adoption also demonstrated differences in the quality and depth, with some operators (e.g., Ontario and British Columbia, Canada) featuring much more developed and extensive policies, programs and practices than others (see Table 3 on pg. 8)

Research Significance and Areas of Future Development

These reviews provide a general indication of the development of evidence supporting RG practices in the area of online lottery and patterns of industry adoption. Future research and development should focus on *replicating* and strengthening existing evidence, *validating* evidence informed practices from other areas of gaming for online lottery, and *exploring* new developments in online lottery that have not been examined yet (see Table below).

---

[1] These standards have been synthesized from RGC's RG Check iGaming and Venue standards, WLA's RG Framework, the NCPG/ICRG's Internet RG Standards, and the AMA's RG Effectiveness Principles (see Table 1 and Appendix B)

Table: Types and Areas of Potential Research Relating to RG Practice

Future Research Development	Description	Topics
Replicate or expand lottery evidence	Areas of RG practice for lottery that have a formative level of evidence support, but require further validation.	• Internal accountability measures for RG • Systems to identify at-risk lottery players • Cognitive distortions associated with lottery marketing and advertising • RG messaging targeting specific risk groups • Systems of age verification and underage gambling prevention
Validate evidence-informed practice	Some RG practices that have a basis of evidence in other areas of gaming, but require validation in the lottery context.	• Employee training • Stakeholder engagement • Program evaluation • Self-exclusion
Explore and generate hypotheses	Some phenomena specific to lottery gaming have not yet been investigated. Such areas require exploratory study and the generation of testable hypotheses to build positions for developing and testing RG practices.	• Second-chance lottery games • Online instant win games • Online raffle draws for live events

Research Findings

Literature Review

The original literature search returned over 2,000 articles using the search term "responsible gambling." After further filtering articles tagged with the embedded keyword "responsible gambling," 216 articles met criteria for general review. All articles were coded according to the area of gambling they pertained to. With regard to articles coded as *lottery*, further code distinctions were made for *draw, scratch*, and *online gaming*. A total of 18 articles were highlighted from this coding procedure. 17 articles were classified as *empirical*, the other was a *review*. A brief appraisal of these studies is found in Appendix A.

Five responsible gambling accreditation frameworks were compared and synthesized to derive a set of cross-cutting standards and criteria and used to assess evidence (Table 1). Literature on lottery and responsible gambling was then assessed to see which synthesized standard areas were most reflective of the research evidence (see Appendix B for definitions of synthesized standards).

Table 1: Synthesis of Responsible Gambling Accreditation Standards

RG Check iGaming[2]	RG Check Venue[1]	WLA RG Framework[2]	NCPG IRGS[3]	AGA RG Effectiveness Principles[4]	Synthesized Standard Areas
RG Policies	RG Policies		Policy	RG Plan	*Policies & Strategy*
Employee Training	Employee Training	Employee Program	Staff Training	Employee Training	*Employee Training*
Self-Ban	Self-Ban		Self-Exclusion	Self-Exclusion	*Self-Exclusion*
Assisting Players who May Have Problems with Gambling	Assisting Players who May Have Problems with Gambling	Retailer Program | Treatment Referral	Assisting Players		*Assisting Players*
Informed Decision Making	Informed Decision Making	Player Education	Supporting Informed Decision Making by Players	Disclosure Messaging | Consumer Tools	*Informed Decision Making*
Advertising and Promotion	Advertising and Promotion	Advertising and Marketing Communications	Advertising and Promotion	RG Messaging in Advertisements | On Property Messaging	*Marketing Communications*
Game and Site Features	Venue and Game Features	Game Design | Remote Gaming Channels	Game and Site Features	Policies on Alcoholic Beverage Service	*Product Design*
	Access to Money		Payments	Extension of Credit	*Accounts & Payments*
		Research	Research (transparency)	Support funding for research and evaluation.	*Research & Innovation*
		Stakeholder Engagement		Support funding for problem gambling treatment.	*Stakeholder Engagement*
		Reporting and Measurement	Research (evaluation)		*Program Evaluation*

---

[2](RG Check 2011, 2014), [2](World Lottery Association 2016), [3](National Council on Problem Gambling 2019), [4](American Gaming Association 2020)

Overall, research evidence presented a moderate level of support for synthesized RG standards and best practices, though it was often implied and not explicit (Table 2). The articles reviewed covered *policies and strategy, assisting players, informed decision making, research and innovation, product design, accounts and payments,* and *marketing communications.* Lottery-specific evidence reflecting *stakeholder engagement, employee training, program evaluation* and *self-exclusion* was not identified.

Table 2: Summary of Reviewed Lottery Articles and Supported RG Standards

Authors	Date	Title	Study Design	Data Type
Felsher et al.	2004	Lottery participation by youth with gambling problems: are lottery tickets a gateway to other gambling venues?	Cross-sectional survey	Student/convenience sample; n=1,072
Ariyabuddhiphongs and Chanchalermporn	2007	A Test of Social Cognitive Theory Reciprocal and Sequential Effects: Hope, Superstitious Belief and Environmental Factors among Lottery Gamblers in Thailand	Cross-sectional survey	Ecological sample; n=150
Ariyabuddhiphongs and Phengphol	2008	Near miss, gambler's fallacy and entrapment: Their influence on lottery gamblers in Thailand	Field experiment	Ecological sample; n=400
Garrett and Coughlin	2008	Inter-temporal differences in the income elasticity of demand for lottery tickets	Repeated measure/longitudinal survey	Player data; n=220 (transactional)
Haisley et al.	2008	Myopic risk-seeking: The impact of narrow decision bracketing on lottery play	Field experiment	Ecological sample; n=239
McMullan and Miller	2009	Wins, Winning and Winners: The Commercial Advertising of Lottery Gambling	Secondary analysis of advertising data	Ecological sample; n=920
Ghent and Grant	2010	The demand for lottery products and their distributional consequences	Laboratory experiment	Player data; n=unknown (transactional)
Ariyabuddhiphongs	2011	Lottery Gambling: A Review	Review	N/A
Barnes et al.	2011	Gambling on the Lottery: Sociodemographic Correlates Across the Lifespan	Repeated measure/longitudinal survey	Community sample; n_1=2,631, n_2=2,274
Ding	2011	What numbers to choose for my lottery ticket? Behavior anomalies in the Chinese online lottery market	Field experiment	Player data; n=unknown (transactional)
Ye et al.	2012	Comparison of the addiction levels, sociodemographics and buying behaviours of three main types of lottery buyers in China	Cross-sectional survey	Recruited player/gambler sample; n=856
Wood and Griffiths	2014	Understanding Positive Play: An Exploration of Playing Experiences and Responsible Gambling Practices	Cross-sectional survey	Recruited player/gambler sample; n=1,693
Lien and Yuan	2015	Selling to Biased Believers: Strategies of Online Lottery Ticket Vendors	Field experiment	Ecological sample; n=41,418
Redondo	2015	Assessing the Risks Associated With Online Lottery and Casino Gambling: A Comparative Analysis of Players' Individual Characteristics and Types of Gambling	Cross-sectional survey	Recruited community sample; n=10,409
Apouey and Clark	2015	Winning big but feeling no better? The effect of lottery prizes on physical and mental health	Repeated measures/longitudinal survey	General population sample; n>15,000
Gainsbury et al.	2016	An Exploratory Study of Gambling Operators' Use of Social Media and the Latent Messages Conveyed	Gambling website audit	Australian casino, EGM, lottery and wagering providers; n=101
Cesarini et al.	2016	Wealth, Health, and Child Development: Evidence from Administrative Data on Swedish Lottery Players	Repeated measures/longitudinal survey	Player data; n=439,234 (secondary)
He and Klein	2018	Advertising as a Reminder: Evidence from the Dutch State Lottery	Observational	Player data; n=unknown (transactional)

Policies and Strategy

Policies and strategy pertain to formal structures, plans and processes illustrating how RG is formed within the operator's organization and help provide a reference point for all RG initiatives and practices. This standard of practice was reflected in some articles, though mostly as an implied discussion point. In particular, there was general support for a policy-based and strategic approach to RG. Framing such policies and strategic plans, some research highlighted the need to consider and integrate evidence-based risk factors for lottery, such as gender, age, and community disadvantage (Barnes et al. 2011). Another key aspect for policy consideration noted in the literature was the issue of informed choice or ensuring that ticket purchasers know their chances of winning across all customer points of contact (e.g., printed on tickets, online messages, etc.). A clear policy emphasis was also placed on the importance of protecting underage youth from playing the lottery, due to their higher risk of gambling problems and the illegality of their participation (Felsher et al. 2004; McMullan and Miller 2009).

In addition, one study strongly implied the importance of senior leadership accountability to RG across all activities of an organization and regular review of RG policies and the strategic plan. McMullan and Miller (2009) highlight the broad and risky appeal of lottery among young people in their analysis of lottery advertisements (n=920) in Atlantic Canada. Their key findings show that lottery operators leverage an "ethos of winning" in marketing practices, which can contribute to at-risk gambling associated with the propensity to play more continuously, chase losses, perpetuate gambling myths and so on. At the time, the investigators did not perceive strong accountability on the part of operators for RG in this line of gambling business, but argued the merits of increased review of codes of practice to specifically address lottery volume, frequency, and overall restraints on the use of advertising. The authors conclude by emphasizing the need to adopt a precautionary and preventative approach to RG in lottery, else face failure in the protection of citizens from gambling-related harms.

Assisting Players

Assisting players with gambling concerns includes the ability to identify warning signs, appropriately engage customers, intervene if necessary, and leverage player data. For instance, this may include having policies and procedures to handle situations where players may be experiencing gambling problems. To this end, some research focusing on youth gambling has noted that lottery can promote pathological tendencies and lead to more severe gambling behaviours in the future (Felsher et al. 2004). The authors imply from this and other findings that specific safeguards should be put in place to prevent underage gambling, provide support when necessary, and monitor products that could appeal to youth.

Systems to identify players at-risk of having or developing gambling problems was implied as one way of monitoring lottery from an RG perspective (Felsher et al. 2004; Ye et al. 2012; Redondo 2015). One study of lottery players in China (n=856) highlighted the utility of using measures of addiction, sociodemographic information, and purchasing behaviours to identify player risk as well as higher-risk products (Ye et al. 2012). In this instance, investigators noted that those engaged in common 3-digit lottery games and other online lotteries scored highest on the Lottery Addiction Scale. They were typically older and had lower education and income levels—though nearly half allocated more than 20% of their income to lottery each month. A converse relationship was found for non-3-digit and online lottery games where players were typically younger, more educated and had higher income. Other examples of lottery player risk assessment have leveraged psychographic indicators (e.g., ethical orientation, religious

orientation, degree of sociability, impulsivity, thriftlessness, etc.) to show correlations between higher levels of trust in the internet and susceptibility to manipulation (Redondo 2015).

Player assistance programs should also consider the needs of different individuals and health impacts associated with lottery play. While many of the risk factors associated with excessive gambling losses is noted below in the section on *informed decision making*, other risk factors presented themselves in the context of winning (Apouey and Clark 2015). One study examining the exogenous impact of lottery prizes (£245 on average) on health outcomes using British panel data (n>15,000) point out distinctions between physical and mental health. For instance, lottery wins were associated with positive mental health outcomes, but decreased physical health due to increases in risk factors such as smoking and social drinking. Inferring upon these findings, it appears that player assistance programs may benefit from consideration of the secondary health effects of lottery play, following a public health approach and the social determinants of health.

Marketing Communications

Marketing communications involves process that help ensure that marketing and advertising practices are responsible, do not promote false gambling expectations, do not target at-risk groups, and do not conflict with RG messaging. McMullan and Miller (2009) note that lottery advertising has a propensity to foster an "ethos of winning," conveying imagery of winning that bares little reference to the actual odds of winning. For example, the authors found that nearly 90% of the advertisements they reviewed (n=680) disproportionately emphasized the narrative of winning, being a winner or having one's life changed by a big win. In an examination of online ticket vendors, Lien and Yuan (2015) found that buyer's belief in the hot hand fallacy—the belief that vendors who sold winning tickets are more likely to dispense them in the future—was actively exploited in order to increase the commissions of online sellers. He and Klein's (2018) modelling on advertising timing and schedules, based on fixed time lottery ticket draws, show that marketers can optimize sales by having ads closer to the draw time as a reminder to customers and to address purchasing bias. Depending on the nature of these advertisements, where, and to whom they are targeted, marketing practices to increase ticket purchases can also theoretically increase the impact of gambling risk and harm.

In this light, marketing communications may benefit from processes that ensure advertising practices are responsible, do not promote false gambling expectations, do not target at-risk groups or youth, and do not conflict with RG messaging. For instance, a few studies touched on the importance of addressing false expectations through messaging detailing the probability of winning, which could be included at the point of purchase (Ariyabuddhiphongs and Chanchalermporn 2007; Ariyabuddhiphongs and Phengphol 2008). These studies, and others (Ding 2011; Lien and Yuan 2015), base this position on findings that show some at-risk lottery players endorse superstition, the gambler's fallacy (belief an event happening again has lower probability), and entrapment (an escalation of commitment to a course of action). Applying this knowledge to marketing communications would typically involve ensuring advertising does not foster or encourage these false gambling beliefs. Ariyabuddhiphongs (2011) argues that RG messaging meant to balance marketing messages about the odds and probability of winning need to be practical and understandable: "if you bought a ticket every day from birth and lived to be 100 it would take you 383 life times to win a lotto (28)."

The focus on at-risk groups and minors was strongly reflected in the literature and provided evidence for targeted safeguards. Among youth ages 10-18 years in Ontario, Canada (n=1,072), Felsher and colleagues (2004) show that at-risk and probably pathological gamblers displayed the highest levels of engagement in lottery draws, sports tickets and scratch tickets. McMullan and Miller (2009) add that lottery advertisements can present tangible and emotional qualities that can be especially inviting and appealing to young people, which reinforces this form of gambling as a part of a youthful consumption practice. More recently, the study of operators' use of social media can result in imbalanced advertising messages that tend not to feature the same responsible gambling information as land-based gambling promotions (Gainsbury et al. 2016). Moreover, social media advertisements tended to emphasize the winning aspects of gambling without addressing the false beliefs or practical odds of winning, which target audiences (usually younger individuals) and seek to inform their gambling decisions. Ariyabuddhiphongs' (2011) review of lottery research also highlighted the importance of RG messaging at points of sale that clearly state that it is illegal for minors to purchase lottery products.

Informed Decision Making

Informed decision making involves educating players about safer gambling habits, gambling myths, how games work, gambling risks and other key points that all help enable more informed gambling decisions. More recent additions to the literature relating to RG and lottery argue that policy and educational initiatives to prevent gambling risks and harms may be optimally designed to address specific levels of risk associated with different forms of lottery and player risk profiles (Redondo 2015). While specific details on the development and implementation of such an approach has not been outlined, it can be assumed that games that feature higher rates of play, such as online instant win lottery and games with higher ticket prices could benefit from more direct and active RG messaging.

In other instances, providing information to correct common false beliefs, including how games work, was another area of practice supported in the literature. As noted previously, the gambler's fallacy, entrapment, and hot hand fallacy have all seen endorsement by lottery players in the research literature (Ariyabuddhiphongs and Phengphol 2008; Ding 2011; Lien and Yuan 2015). Another important issue that is somewhat unique to lottery is the "ethos of winning," superstitions surrounding lucky numbers and the distortion of hope that can influence excessive purchases (Ariyabuddhiphongs and Chanchalermporn 2007; McMullan and Miller 2009). Correcting these erroneous beliefs directly through key messaging and supportive information was strongly implied.

Some lottery-specific evidence also supported the promotion of positive gambling behaviour. Positive play revolves around the concept of the sustainable, low-risk gambler and what they do to maintain control and balance over their wagering activities (Wood and Griffiths 2014; Wood et al. 2017). In a comparison of positive players (n=1484) and problem gamblers (n=209) in the United Kingdom, the investigators noted that most of those engaged in lottery draw purchases (54.5%) reported that it was easier to keep their spending limits when playing online in comparison with in-person retail purchases (Wood and Griffiths 2014). In addition, problem gamblers reported an increased willingness to consider setting a spending limit when playing instant win games online. These findings provide encouraging support for the integration and promotion of pre-commitment features for online lottery play.

Research evidence also indicates the nature of problem gambling risk relating to online lottery and the importance of conveying this to gamblers to inform decision making. In particular, a very strong emphasis

has been placed on the gambling risks affecting young people (Ariyabuddhiphongs 2011). For example, Felsher and colleagues (2004) show that nearly 10% of youth may either have a lottery gambling problem or be at-risk of developing one. Barnes (2011) also points out that the frequency of lottery gambling can increase sharply from mid-adolescence to age 18 in the US, raising the value of targeted public health messaging for this demographic population. In addition, psychographic comparisons of online and offline lottery play demonstrate that the internet may be providing a more appealing medium to individuals exhibiting higher levels of vulnerability to gambling problems (Redondo 2015). Unlike other forms of gambling, such as slot machines and casino table games, high risk lottery players were significantly more likely to gamble socially, with friends and family.

Product Design

Product design emphasizes the review gambling products from an RG perspective to ensure they do not reinforce false beliefs about gambling and promote safer play. In this sense, RG practices in the area of product design reflect the intent of key messages, the provision of information, and limit setting tools, but with a more substantial emphasis on the structures of games and their environments. Many contributions from the research literature on this topic focused on addressing cognitive biases and false beliefs. Some studies have noted, for example, the near certainty that those experiencing near misses are likely to gamble on the next lottery draw, reflecting endorsement of the gambler's fallacy and entrapment (Ariyabuddhiphongs and Phengphol 2008). Overall, Ariyabuddhiphongs' (2011) review of lottery gambling research highlights the potential addictiveness of lottery gambling and the impact of cognitive biases, which may, in part, be addressed through embedded RG and problem gambling information printed directly on tickets and displayed at points of purchase.

Another aspect of RG practice relating to product design is ensuring games and environments promote breaks in play and discourage excessive play. This relates to research noting changes in the lottery industry that include an expansion towards more engaging, challenging and active lottery products in contrast with traditional, passive lottery draws (Felsher et al. 2004). Further elaboration on this important discussion point was not available.

Accounts and Payments

In the realm of RG, accounts and payments focus on point of sale systems and practices meant to protect under-age individuals and those who have self-excluded. In addition, this area of operations ensures that methods of payment do not pose an excessive risk to players. Felsher and colleagues (2004) were the only lottery source identified that made reference to practices underlying accounts and payments. In this study focused primarily on youth gambling (ages 10-18, n=1,072), the authors find that lottery play was the most popular form of gambling and one that included negative outcomes for some. As a point of discussion, Felsher et al. (2004) argue that the relative ease of accessing lottery products by youth in comparison with other forms of gambling highlight the importance and need for effective age verification mechanisms.

Research and Innovation

Research and innovation encourages gambling operations to devise ways of supporting the ongoing development of research evidence that benefits RG practice and improvement. Ghent and Grant (2010)

were the only source to specifically make reference to best practices for RG research and innovation relevant to lottery operations. In their study of the distributional impact of different lottery games in the US, the authors were able to estimate significant participation in instant win games by those 65 years and older as well as the strong participation in fixed-odds games by African Americans. While subsequent studies (Ye et al. 2012) have noted similar results through the use of cross-sectional surveys, Ghent and Grant's (2010) paper highlights the utility and value of analyses leveraging access to operator data. While RG implications from their findings were not clearly drawn in their paper, one can imagine that evidence derived from behavioural data can provide valuable information for policy and program decision makers.

Jurisdictional Review

The jurisdictional review involved a comprehensive search of operator websites for information pertaining to the eleven synthesized standards and associated practices (Appendix C). Specifically, the review process attempted to identify practical applications of various RG initiatives reflecting the synthesized standards and evidence from the literature review. The purpose of this activity was to support an assessment of adoption feasibility relating to evidence-informed RG practices.

The review included Indiana, which does not currently offer online lottery, and twelve other English-speaking jurisdictions with legal online lottery operations in the United States, Canada, Europe, Asian and Oceania (see Table 3). Generally, jurisdictions featured strong representation of standards related to *self-exclusion, informed decision making* and *accounts and payments*. Standards related to *assisting players* and *product design* were consistently less developed across the sample of jurisdictions. In addition, certain jurisdictions featured more comprehensive adoption RG practices reflecting the synthesized RG standards in this review (e.g., Ontario, British Columbia, Ireland) than others (e.g., New Hampshire, Pennsylvania, Kentucky). Detailed description of the jurisdictions reviewed are presented below.

Table 3: Apparent Development of RG Standards and Best Practices Among Online Lottery Operators

Region	Jurisdiction	Policies and Strategy	Program Evaluation	Research and Innovation	Stakeholder Engagement	Employee Training	Assisting Players	Self-Exclusion	Informed Decision Making	Marketing Communications	Product Design	Accounts and Payments
United States	Indiana	Moderate		Moderate	Low	Low			Moderate	High	Low	Moderate
	Michigan							High	High			Moderate
	Illinois				Moderate	Low		High	High	Moderate	Low	Moderate
	Kentucky						Low	Moderate	High			Moderate
	Georgia				Low			High	High		Low	Moderate
	Pennsylvania							Moderate	High	Low		Moderate
	New Hampshire							High	Moderate			Moderate
Canada	Ontario	High	Moderate	High	High	High	Low	High	High	High	Low	High
	British Columbia	High	Moderate	Moderate	Moderate	High	Moderate	High	High	Moderate	Low	Moderate
Europe	United Kingdom	Low	Low	Moderate		Low	Moderate	Moderate	Moderate	Moderate	Low	Moderate
	Ireland	High			Moderate		Low	Moderate	High	High	Moderate	Moderate
Asia	Hong Kong	Low		Low	High	Moderate	Low	High	Moderate			Moderate
Oceania	Australia	High	Low			Moderate	Moderate	High	High	Moderate	Low	High

Note. Assessment of RG practice development was based on the presence and review of publicly available, web-accessible information. It is possible RG development is more or less advanced.

Scoring: blank spaces indicate no evidence of specific standard-based practice was found; *low*=at least one related best practice assessed; *moderate*=2-3 best practices assessed; *high*=more than 3 best practices assessed.

United States

Indiana

While the Hoosier Lottery does not yet offer online lottery, its RG practices were assessed given their interest in this line of business and their funding of this research grant. Overall, Indiana demonstrated a moderate level of RG practice across the synthesized standard areas described in this review. The areas of *marketing communications, policies and strategy, research and innovation, informed decision making,* and *accounts and payments* featured the greatest amount of RG development. In contrast, limited evidence of RG practice was found in the areas of *program evaluation, assisting players,* or *self-exclusion.*

Policies and strategy was an area of RG development and practice that stood out in Indiana, being the only US state with noted information on it. For instance, the Hoosier Lottery appeared to be one of the only operators to feature positive play messaging as a central feature of its RG strategy. In this regard, the operator aims to encourage customers to adopt knowledge and behaviours that enable safer, sustainable play. As a measure to promote senior leadership accountability to RG, Hoosier Lottery has also established a corporate social responsibility advisory board consisting of RG content experts and executive leaders to support the development and implementation of initiatives related to positive play, business impact, community impact, and environmental impact. The operator has said that these pillars of social responsibility feed into all activities of the organization.

Research and innovation in Indiana was another area that stood out among the US lottery operators as being a lone adopter. Hoosier Lottery's adoption of research and innovation appeared to be founded on a systematic approach focusing on market research, positive play scale measurement, the provision of research grants, and applied research. Each of these streams of research have the stated intention of providing insight and expanded knowledge of lottery play in Indiana. Research on RG and problem gambling has specifically been directed through the Hoosier Lottery Research Grant Program, which launched in 2017 and provides funding for small research grants, conference support, training grants, and student grants. In addition, the Hoosier Lottery conducts its own survey research on the positive play beliefs and behaviours of its customers. It is not known if this data is made available for independent secondary analysis.

Stakeholder engagement was apparent to a limited degree in Indiana. The operator indicated its intent to integrate RG stakeholders' needs into business decisions and program development. Specifically, they state that they work closely with external stakeholders such as the Indiana Council on Problem Gambling and local treatment and communities in order to strengthen the operator's Treatment Referral program.

Employee training also appeared to have indications of development, though it appeared limited. In this regard, Hoosier Lottery reported the presence of specific policies on employee training, including their policy manual. This manual was presented as a resource with rules and regulations for retailers to adhere to. It was not clear if the operator's online operations and staff associated with it received any form of RG training.

Informed decision making as an area of RG practice featured a moderate level of development. Again, positive play formed a central framework and approach for supporting players and integrating and delivering RG information. RG information was presented in the standard textual formats as well as some more dynamic ones, such as video vignettes designed to convey key messages such as understanding

game odds and setting limits on time and money spent. With regard to problem gambling risk and harm, Hoosier Lottery provides information on their website pertaining to how to identify financial risk factors (e.g., accumulating debt, borrowing money to gamble, spending more than can be afforded, etc.) as well as others (e.g., visiting the vendor multiple times per day, relationship troubles, gambling obsession and preoccupation, etc.). The operator also provides customers with a problem gambling self-assessment quiz supplied by Gambler's Anonymous.

Marketing communications appeared to be one of the most well developed areas of RG lottery practice in Indiana. The operator presented several policies and guidelines pertaining to marketing and advertising, including a Marketing Self-Assessment, Media Channel Guideline, Mascot Guideline, a Corporate Social Responsibility Style Guide, and a jackpot trigger message. In addition, Hoosier Lottery's Marketing Code of Conduct, acting as a foundational policy for marketing communications, includes RG screening processes, guidelines for underlying policy development, training, and various other compliance initiatives related to advertising. This Code of Conduct also adopts advertising standards from the North American Association of State and Provincial Lotteries and the World Lottery Association, which supports the aim of not targeting marketing to individuals under the age of 18.

Product design was generally represented by what resembled to be a system of review from an RG perspective. To this end, the Hoosier Lottery states that all games are evaluated for their structural design. This system apparently examines game design with the intention of identifying potential gambling risks and implements strategies to address them, which includes feedback from the treatment community.

Accounts and payments was an area of Hoosier Lottery RG practice that focused on the prevention of underage gambling. The website includes clear messaging that lottery is not intended for anyone under the age of 18 years. The operator also noted that only one account would be allowed per individual and that it would reserve the right to delete or close any account for any reason, including the presence of multiple accounts for a single person. It was not clear, however, if an active process of age verification was used or if account creation relies on self-reported age declarations.

Michigan

The Michigan Lottery has offered online ticket and scratch game purchases since 2014 and includes lottery draws, instant win games, and keno. Overall, Michigan did not appear to feature many of the synthesized RG standards described previously or in comparison with other online lottery operators. For instance, the jurisdictional review did not find evidence of RG practice in the areas of *stakeholder engagement, employee training, assisting players, marketing and communication,* and *product design*, which many other operators reflected. In contrast, Michigan reflected strong RG practices in the areas of *self-exclusion, informed decision making,* and *accounts and payments*.

Self-exclusion appeared to be well developed for Michigan's online lottery platform. The initiative was clearly promoted on the "Responsible Gaming" page of the operator's website. Registration also appeared to be convenient and available in multiple formats, including in person at the Michigan Gaming Control Board or online through the use of "Responsible Gaming Tools" section of the "My Account" page, as well as through interactions with Michigan Lottery Support Centre staff. The operator's self-exclusion program provides choice in term lengths, during which player accounts are closed and cannot be reopened and excluded gamblers do not receive any promotional materials.

Informed decision making was another area of RG practice that was well developed. For instance, information is provided about common false beliefs, including how games work through key messaging on common lottery myths. Michigan Lottery also provides information about positive gambling behaviours including how RG tools work, underlined by the message "moderation is the key to responsible gaming." In addition, information was also made available about problem gambling risks, including support services. Finally, the operator's online lottery platform also included tools for players to set a variety of spending limits, such as daily and weekly deposit limits. By default, weekly limits of $505 USD are established at registration and can be raised or lowered at any time, although increasing limits only take effect after 48 hours.

Accounts and payments was an area of RG practice that featured a moderate level of development. First and foremost, players are required to undergo age and identity verification when registering their account. If a minor is found playing on the online platform, their winnings are forfeited and may face referral to local law enforcement. The Michigan Lottery defines minors are anyone under the age of 18 years, and notifications and warning messages of this threshold for gambling participation is indicated during account registration. Players who participate in lottery play online also have the ability to monitor the time and money they spend through access to their personal account history, in addition to information on the games played, wins, losses, deposits, and withdrawals.

Illinois

The Illinois State Lottery, operated by Camelot Group, was the first state to offer online ticket sales in 2012 and includes lottery draws and instant win games. Illinois featured one of the most robust examples of RG practice adoption in the US. Areas where little information was evident included *policies and strategy, program evaluation, research and innovation, and assisting players.* However, RG practice was apparent in the areas of *stakeholder engagement, employee training, self-exclusion, informed decision making, marketing communications, product design,* and *accounts and payments.*

Stakeholder engagement resembled a systematic approach to understanding RG stakeholder needs. In this regard the Illinois Lottery has helped form the Illinois Alliance on Problem Gambling (2013) to promote widespread public awareness of problem gambling and includes representatives from the gaming industry, state regulators, and addiction experts. The operator has also partnered with the National Council on Problem Gambling to advocate for programs and services that assist problem gamblers and their close relations. These associations have enabled the Illinois Lottery to consult with experts in RG and problem gambling during the development and implementation of their operations. Although it is uncertain if the operator supports evidence-based problem gambling treatment directly, they do provide financial support for the problem gambling helpline, which connects Ilinoisians with support services.

Employee training was an area that featured only minimal evidence of development, though more detailed information may not have been publicly available. However, this review did note that Illinois Lottery employees do receive some form of training that serves to raise awareness and knowledge of responsible gaming.

Self-exclusion from online lottery was a well-developed area of RG practice with at least four distinct elements. Firstly, evidence was found to show that registration could be processed through forms available on the operator website and by calling the Illinois Player Hotline—though documents needed to be signed in front of a notary public, challenging the convenience of the process. Exclusion periods

included a minimum of five years. In addition, the operator notes that reinstating to resume gambling can be achieved by requesting approval. Finally, conditions of self-exclusion include a commitment from the operator to remove the player's name from existing promotional mailing lists, electronic distributions and other promotional listings and to prevent the inclusion of the player in future promotional lists.

Informed decision making was, like many other operators, an area of RG practice with several developed facets. These included the provision of information about common false beliefs related to lottery, specifically. In addition, information on positive play habits, such as only playing for fun and setting limits on time and money were emphasized. In support of pre-commitment limit-setting, the Illinois Lottery also establishes mandatory maximum weekly deposit and account limits to prevent players from adding more funds once a limit is reached. With regard to weekly monetary limits, players are allowed to set their own limit when it is lower than the maximum. Session timers also emerged as another tool for managing time spent.

Marketing communications was reflected in three dimensions of RG practice. It was noted that the Illinois Lottery featured a policy for responsible advertising and standards to guide marketing practices through its Private Manager. The operator states explicitly its commitment to the ethical and socially responsible conduct of all aspects of its business, including marketing and advertising. In addition, the Illinois Lottery ensures that responsible play messaging is displayed on marketing and advertising materials disseminated through radio, print, and television advertisements. Other advertising principles apparent in the review included the operator's efforts not to target at-risk groups who may be characterized by gender, race, religion, sexual orientation or sociodemographic factors.

Product design was not an area where a great deal of information was available for review. However, it was apparent that some form of system was in place to review games and technology from an RG perspective. In this regard, the Illinois Lottery stated it assesses the risk provide of each of its games using an external game evaluation tool, the Gambling Assessment Measure—Guidance about Responsible Design (GAMGaRD). This tool has been designed to aid in the adoption of socially responsible games.

Accounts and payments was an area of RG practice featuring moderate development. The main emphasis in this area was on age and identity verification to block those under the age of 18 from playing on the platform or out-of-state residents. In addition, the operator's account management system also enabled registered users to receive all of their account information upon request, such as financial and gaming history.

Kentucky

The Kentucky Lottery offers an array of lottery draws, instant win games, and keno. Kentucky's online lottery featured a similar level of RG practice adoption as Michigan. Areas where RG practice were evident included *assisting players, self-exclusion, informed decision making,* and *accounts and payments*.

Assisting players was not an area of RG practice that featured extensive development, according to publicly available information. What was apparent was the operator's establishment of a system for staff to respond appropriately to players in crisis or distress. This system was integrated with the Kentucky Council for Problem Gambling's helpline and website information for players and staff to refer to for additional assistance provided by trained counselors. These services are available 24-hours a day, seven days per week.

Self-exclusion was an area of moderate RG practice development. For instance, the Kentucky Lottery provides individuals options in term lengths for self-exclusion, including permanent bans. In addition, a process is in place for self-excluded players to reinstate once their term length has expired, which involves an interaction with a customer service representative. Notably, individuals may not create a new account when reinstating, they may only reactivate their old one. During self-exclusion, the operator emphasizes that registrants will no longer receive any marketing materials or communications and are instructed to unfollow Kentucky Lottery on social media networks.

Informed decision making was the most developed area of RG practice in the review of the Kentucky Lottery online platform. As evident in other operator platforms, information was provided about common lottery myths and false beliefs. To this end, the operator provided information on the odds of their games and dispelling the effects of concepts such as "luck" on game outcomes. Information was also presented on positive gambling behaviours and tools relating to limit setting and timeouts as well as how to keep gambling safe. Additional messaging concerning problem gambling risk, including support services, were reflected in warning messages about signs of gambling problems and contact information for support services. Kentucky's online lottery platform also featured a variety of monetary limits, such as maximum deposit limits per day ($499 USD), per week ($500), and per month ($2,000). The ability to reduce these limits were also provided in the account management page of the website followed a 24-hour "cooling off period" prior to new limits taking effect. Tools for keeping track of time were also evident through a clock feature, but not option for setting a time limit followed by a prompted notification was found.

Accounts and payments focused primarily on age verification and enforcing minimum age requirements (18 years and older) to play the lottery. No further information was found on enforcement of multiple account creation, retrieval of account information and play history, access to credit or cheque cashing restrictions.

Georgia

The Georgia Lottery offers several types of instant win games, keno and lottery draws. Overall, Georgia featured almost the same level of RG practice as Illinois. In particular, evidence was found of RG practice in the areas of *stakeholder engagement, self-exclusion, informed decision making, product design,* and *accounts and payments.*

Stakeholder engagement was evident through support for evidence-based problem gambling treatment. Specifically, Georgia Lottery states that it contributes $400,000 USD annually to the Georgia Department of Behavioural Health and Developmental Disabilities to fund, in part, treatment of gambling addiction.

Self-exclusion was one of the most fully developed areas of RG practice evident in the review of the Georgia Lottery online platform. The operator included a detailed self-exclusion policy detailed in its terms and agreements relating to self-exclusion and the program was promoted on its gaming website. Those who choose to enroll appeared to have a choice in term lengths of 3 months, 6 months, 9 months, and 1 year. Importantly, once enrolled terms of self-exclusion are irrevocable. In addition, self-excluded gamblers are removed from all mailing limits and do not receive promotional materials during the period of exclusion. Finally, individuals who may be considering self-exclusion are provided with clearly worded information outlining the conditions of the program and consequences of breaching through the terms and agreements section of the self-exclusion form.

Informed decision making was another area of RG practice that features strong development. For instance, gambling myths and common false beliefs about lottery were addressed through information and messaging on the operator website. Information on positive gambling behaviours, such as never spending more than can be afforded, not playing when dealing with mental health concerns or negative mood, and referring to the odds of winning particular games before play. Problem gambling risk and supports were reflected in the provision of self-assessment tools, support service referral information, and encouraging key messaging for those who may need help to seek it. With regard to money limit features, the Georgia Lottery set mandatory maximum deposit limits for online play, which include $250 USD per day, $750 per week, and $2,500 per month. Also, players may only have a maximum of $2,000 in their account at a given time. In addition, the operator enables and encourages players to set personal limits that are lower and enforces a waiting period of 24 hours in individuals choose to increase their limits. With regard to time limits, the online platform triggers hourly notifications informing players how long they have been logged in and requires player input before gaming sessions can continue—if no response is logged within 15 minutes of the notification, the player's session will end. Options for setting additional pop-up reminders for time and the presence of a clock allow players to monitor their time spend on the platform.

Product design was not an area of extensive RG practice, as far as the review could discern. It was noted that the Georgia Lottery made efforts to ensure products and environments were designed to promote breaks in play and avoid excessive play. In this end, the operator did not induce players to continue purchasing games when in a play session or when sessions were about to end. Communications with players were also said to not intentionally encourage players to increase the amount they wagered, gamble continuously, re-stake winnings, or chase losses.

Accounts and payments reflected a similar emphasis on verifying customer age at registration and enforcing restrictions on play for those under the age of 18 years. In addition, the operator also promoted the ability of players to readily access their personal account history. This included game history, games played, dates and times of ticket purchases, financial history (e.g., deposits, withdrawals, etc.), account balances, deposit limits and any pending limit changes.

Pennsylvania

The Pennsylvania Lottery began online operations in 2018 and offers lottery draws, instant win games, keno, and sports-based parlay games. The Pennsylvania lottery did not appear to have developed RG practices in many areas, with the exception of *self-exclusion, informed decision making, marketing communications,* and *accounts and payments*.

Self-exclusion for the Pennsylvania Lottery only applies to online participation. Registration is offered through the website and includes options for "cooling off periods" of 3 to 30 days or full self-exclusion for one or five years. Although self-exclusion terms are irrevocable, players can request to be reinstated after their term has expired by contacting the operator's email support and completing an application.

Informed decision making was an area of RG practice that was primarily reflected in positive play and problem gambling messaging and pre-commitment. For instance, the Pennsylvania Lottery promotes responsible play by only wagering what an individual can afford to lose, not chasing losses, and not playing when the experience is no longer "fun." Information is posted on how to recognize signs of gambling problems and steps that can be taken to get help—the gambling helpline was the main referral. In

addition, the online lottery platform enables players to set deposit and spending limits through the account management system. A session timer also allows players to set a time limit on play, if they wish.

Marketing communications was reflected in RG practices related to prevention messaging extended to all customer contact points. For instance, the operator funds and actively promotes the Problem Gambling helpline and, as noted above, encourages responsible play—these messages appear on tickets, advertising and nightly televised draws.

Accounts and payments was not an area revealing considerable information on RG practices. What was presented was the requirement that eligible account holders be 18 years or older. It also appeared that players could review their account information upon request through the online account management system, but details on what types of information are accessible was not entirely clear.

New Hampshire

The New Hampshire Lottery has operated online ticket sales since 2018 and offers lottery draws, keno, and numerous instant win games. In terms of RG practice development, New Hampshire appeared to be on par with Michigan with adoption in the areas of *self-exclusion, informed decision making,* and *accounts and payments*.

Self-exclusion was evident and promoted in specific sections of the website—individuals had to search the website FAQ or the lottery terms and conditions. Registration was accessible through the New Hampshire Lottery Responsible Gaming Tools or by contact the Support Centre telephone line. Options for term lengths varied from one, three or six months. During self-exclusion, the New Hampshire Lottery does not directly send any marketing materials. Upon completion of the self-exclusion term, players must manually reinstate by reactivating their account, which may feature a lower deposit limit—it was not clear if interaction with gaming staff or representative was a feature of reinstatement.

Informed decision making involved general messaging on positive play behaviours, problem gambling and some monetary limits. For example, the operator recommends one play for fun, consider a budget, never borrow money, and so on. Most advice was not paired with examples or tools (e.g., odds calculators, budget setting tools, etc.) to reinforce messaging. Messaging for problem gambling was also general, without specific details on risk signs and a requirement to visit the New Hampshire Council on Problem Gambling to learn more. The operator also detailed their maximum deposit limits per day ($500 USD), per week ($1,500), and per month ($3,000), which appeared to be one of the highest allowances across the US operators reviewed.

Accounts and payments was very similar to Pennsylvania, with a declaration of minimum age (18+) required to set up an account and the provision of player account information. On the latter RG practice, the New Hampshire lottery states repeatedly that they cannot guarantee the accuracy of information appearing on account transaction histories. It was not clear why this was the case.

Canada

Ontario

The Ontario Lottery and Gaming Corporation (OLG) offers online ticket purchases for lottery draws, sports-based parlay games, and a variety of instant win games. Based on the synthesized RG standards and the

findings of the literature review, Ontario appeared to have the most highly developed RG practices relating to online lottery. The operator had at least some level of development in all RG standard areas assessed.

Policies and strategy was a well-developed area of RG practice. Firstly, the operator describes its RG policies and strategic plan in its corporate social responsibility report and in its Responsible Gambling Code of Conduct. Senior leadership exercises accountability for RG through its Governance and Corporate Social Responsibility Committee, which develops and monitors policies and practices. The RG strategy is integrated across all activities of the organization by Executive Committee Members who approve its elements and serve to integrate its principles and objectives for organizational divisions, including lottery. In addition, the Transformation and Technology Committee provides assistance to the operator's board of directors in the review of RG strategic plans and provides guidance on implementation of information technology and major business transformation plans.

Program evaluation at OLG appeared to focus on three areas of RG practice. Firstly, the regular evaluation of training programs was reflected in annual employee surveys assessing awareness, attitudes and understanding of their roles with respect to RG. Post-training questionnaires were also utilized for evaluating program effectiveness. In addition, the operator monitors the effectiveness of lottery player RG awareness through an Annual Public Survey and various indicators to measure the effectiveness of key information resources for the general public and player population (i.e., KnowYourLimit.ca). The third element of the evaluative RG practice included utilization of BetBuddy, a system to track player risk. Internal data analytics at OLG also allows the operator to assess player risk and customize RG messages to each player. For example, medium and high risk players receive 25% and 50% more RG messages than new and low risk players.

Research and innovation appeared to be well-developed. For instance, the Corporate Research department provides internal analysis and advice to operator stakeholders and liaises with external vendors who commission research. This research department also works closely with the operator's Social Responsibility department. In addition, OLG supports the Responsible Gambling Council, a not-for-profit organization dedicated to the prevention and minimization of gambling harm, and other third party organizations to conduct research and evaluation of RG topics. Ongoing assessment of player and public recognition of OLG's "Know You Limit, Play Within It" campaign is conducted through various means including surveys, social media analysis, and helpline call data analysis.

Stakeholder engagement followed an apparent systematic approach involving a specific commitment in the operator's RG Code of Conduct to identify and foster positive relations with stakeholders. This approach was further framed by key RG objectives and formal programs and informal forums and meet groups. OLG's engagement with key stakeholder such as the Centre for Addiction and Mental Health, the Responsible Gambling Council, Gambling Research Exchange Ontario, Credit Canada Debt Solution and others provide the operator with expert input and encourage an evidence-informed approach to RG practice and business decision making. Finally, OLG's memorandum of understanding with problem gambling treatment providers across the province help to enhance player supports through collaborative approaches to self-exclusion enrollment, treatment follow-up, and reinstatement.

Employee training is framed by OLG's RG Code of Conduct, which commits the operator to RG training for all gaming staff and provides role-specific knowledge across all lines of business, including lottery. Training is organized in tiered form whereby staff who have received the broad-based RG training can

then take more role-specific training modules that focus on supporting loyalty members and players who may be in crisis. RG training is in part developed and facilitated by the Ontario Centre for Addiction and Mental Health and covers RG as well as problem gambling identification and intervention.

Assisting players primarily focused on systems to identify online players at-risk of having developed gambling problems. This function appeared to be facilitated by internal data analytics technology to assess player risk and customized and automated RG messaging, based on level of risk.

Self-exclusion was a detailed area of RG practice at OLG. Information about the program is provided on the operator website and promoted on the platform as well as through other campaign advertisements that cross lines of business (e.g., land-based gambling activities and venues). Registration can vary, but is most directly initiated online through the website. For instance, players can submit a form to exclude themselves for six months, one year, or indefinitely. Revocation of self-exclusion is available after six months and requires a written request to reinstate an account, a 30-day waiting period, and completion of a RG reinstatement tutorial developed by the province's treatment agency. As with other operators, marketing communications and materials are frozen when a player enters the self-exclusion registry. One inconsistency found included the provision of universal self-exclusion if an individual registered at a land-based site—they would be excluded from all platforms and lines of business—but if they registered online, they would only be self-excluded from the gaming website.

Informed decision making at OLG follows a systematic approach referred to as PlaySmart. The PlaySmart Gambling Education and Support Program involves education for players of all types and imparts facts, tools and advice to keep gambling safe and enjoyable. The program addresses common gambling myths and false beliefs on its own dedicated website (www.playsmart.ca) as well as information on how games work, odds and strategies, and other supports for informed gambling choices. In addition, provision of a "game planner" promotes positive gambling habits, such as limit setting. Information about gambling risks and harms are also provided alongside self-assessment tests and guidance on contacting free supports either online or through local agencies. Through the operator's gaming site, OLG also allows players to retrieve account history through account management tools. This interface also allows players to set mandatory weekly deposit limits, session time limits, and purchase limits for lottery.

Marketing communications adhere to the operator's RG Code of Conduct as well as more specific standards for lottery marketing. RG screening of advertising materials is conducted by the RG Manager for all lottery point of sale and promotional elements. As a core principle of the advertising standards, all marketing materials must promote responsible, moderate play and not over-promise the likelihood of winning. In addition, marketing materials must not be inaccurate, deceptive, or target at-risk groups such as minors through peer depictions, targeted placement or celebrity endorsements.

Product design is represented by the adoption of the GAM-GaRD tool and a self-assessment framework for employees to identify potential risks associated with new lottery games. The tool focuses on a game's tone and theme, which may run counter to RG standards and a GAM-GaRD analysis of structural and situational characteristics of a game based on a scoring matrix that expresses risk in the form of a stop-light indicator.

Accounts and payments was an area of RG practice that included the standard emphasis on age verification and restriction of play to those under the age of 18 years. In addition, OLG ensures that individuals cannot create more than one account; that their account information is accessible through the

My Account page; that no credit is extended to players and purchases cannot be made if account balances do not cover the cost; and cheque cashing is strictly prohibited.

British Columbia

The British Columbia Lottery Corporation (BCLC) offers a variety of online gambling products, such as lottery draws, instant win games, keno, and sports-based parlay games. The operator featured a similar level of RG practice development as Ontario, with at least some coverage in all standard-based areas assessed.

Policies and strategy reflecting RG practice pertained mostly to senior leadership accountability for RG and review of the operator's RG strategic plan. For instance, BCLC has instituted various governance practices to ensure that the board of directors and executive management staff have sufficient authority and accountability for social responsibility, reporting and strategic programming. The operator additionally reports on social responsibility activities on an annual basis, made available on their website.

Program evaluation was moderately developed and focused on assessing strategic performance and understanding player RG behaviours. For example, the operator has adopted the GameSense program as part of their RG practice and recently conducted an Advisor Program study to establish a baseline on Advisor performance—the study included a customer survey and a venue staff survey. In addition, the customer survey conducted also assessed patron knowledge and self-reported RG behaviours as well as interaction experiences with GameSense Advisors, who are specially trained to deliver RG and problem gambling information and player support.

Research and innovation is an important aspect of RG practice, as stated by BCLC—the aim being to create a gambling jurisdiction that promotes comprehensive, evidence-based player health programming. The operator is also in the process of sponsoring the University of the Fraser Valley to conduct a third evaluation of their voluntary self-exclusion program, which includes the provisional access to some operator-owned player data.

Stakeholder engagement at BCLC involves a systematic approach to engaging and understanding RG stakeholder needs and integrating feedback into business decisions and program development. Each year, for instance, a stakeholder mapping exercise is conducted outlining the regions and stakeholders that intersect with business operations—for online lottery this map is province-wide. Impact assessments are conducted to understand the impact of gaming operations on people and communities in British Columbia and feedback from these populations is actively sought and considered in business decision making.

Employee training was a well-developed area of RG practice in British Columbia. Lottery retailers and online gaming staff receive responsible gambling awareness certification, training and oversight in accordance with the requirements set out by the Gaming Policy and Enforcement Branch. In addition, training is tailored by role, especially for those interacting with customers. In this case, gaming staff are required to successfully complete Appropriate Response Training that enables employees to assist players on RG and problem gambling topics. This training module also covers content for avoiding misleading information about gambling.

Assisting players appeared to be grounded by policies for assessing and intervening in situations where players may have a gambling problem. As noted in BCLC's annual social responsibility report (2018-2019),

players receive relevant and timely assistance from employees who are trained to knowledgably and sensitively engage players showing signs of a gambling problem. Details on how this is achieved, for instance through systems for staff to response to player needs and to identify players at-risk of having or developing a gambling problem while online, were not available.

Self-exclusion featured several related RG best practices, including a detailed description of the program on the GameSense website (www.gamesense.com). Promotion of the self-exclusion program was evident on both the RG website, GameSense, and the corporate site (www.bclc.com). Self-exclusion and other RG program information were not clearly promoted on the gaming site (www.PlayNow.com), with the exception of a small redirect link to the GameSense website at the bottom of the home page. However, a link to register for self-exclusion is available on the "My Account" page when a user is logged in. The program itself offers a few options for term lengths, including six months, one year, two years, and three years. Term lengths cannot be revoked, although it is possible to extend the term length. Excluded players do not receive direct marketing materials from BCLC during a period of self-exclusion, although individuals can opt-in to being contacted by a gambling support service provider free of charge.

Informed decision making was very evident on the operator's GameSense RG website and to a lesser degree on its gaming platform, PlayNow.com. Notably, information on common beliefs, including how games work targeted lottery specifically with messaging such as "Playing the lottery is easy, right? You pick your favourite numbers, then sit back and wait for the winnings to roll in. Of course, it's not that simple. Let's dive a bit deeper into how lotteries really work." The promotion of positive gambling behaviours centred on the promotion of pre-commitment advice. In addition, information was provided about problem gambling risks, including support services, through the operator's campaign promotion Know the Warning Signs, which was featured on the GameSense website. Budget tools for online play included weekly deposit limits, which were accessible through the account management page on the gaming site. Time management limit setting tools were also apparent in the "My Account" page and allowed users to set maximum limits for daily or weekly play.

Marketing communications was moderately developed, based on the information available in this review. For instance, BCLC includes a Player Health Assessment program with content guides, training manuals for staff and enhanced accountability measures for business, reflecting a policy of responsible advertising. These tools are said to help screen and evaluate products and advertising materials before they go to market and reduce potential harms (e.g., advertising targeting at-risk populations and those reinforcing cognitive distortions of gambling).

Product design was to a degree reflected in the operator's Player Health Assessment process. In addition to the review and screening of advertising and marketing materials, this process was also stated to address the undue risk and harm presented by new products.

Accounts and payments largely focused on ensuring under-aged individuals were unable to register an online account and purchase gambling products, such as lottery draws and instant win tickets. To achieve this end, the operator employs a third-party to verify and validate individuals' age and residency through a major credit bureau in Canada. Only one account is permitted per person and if an individual is self-excluded from a gambling facility in the province, they are not permitted to register an account. Players that do register and play are able to retrieve their account information by logging into their account management page on the PlayNow website.

Europe

United Kingdom

Camelot Group, who operates the national lottery in the UK, offer a variety of lottery draws and instant win games for online purchase. Overall, the operator featured RG practices in 10 out of the 11 standard-based areas assessed. *Stakeholder engagement* appeared to be the only exception. In contrast, RG practices were evident in the areas of *policies and strategy, program evaluation, research and innovation, employee training, assisting players, marketing communications, product design,* and *accounts and payments.*

Policies and strategy reflecting an overall approach to RG practice was reflected in its Corporate Responsibility Report (2017-2018) and focused on player protection, reducing excessive play (retail and online), preventing underage play, responsible game design, and research and certification, among other areas.

Program evaluation was primarily focused on the systematic tracking of player risk. Camelot utilizes behavioural analytics to identify players who are playing online games excessively and prompts the promotion of online tools to manage play.

Research and innovation was evident through the operator's funding of the Responsible Gambling Council to conduct research and development on a framework for responding to excessive play in the retail lottery and a training program for retail sales executives and managers. Camelot also partners with GamCare, the UK's national centre of information, to understand the social impact of gambling and the effectiveness of direct retailer RG interventions. Online players have also been encouraged to provide feedback on games and services as part of a pilot project investigating excessive play.

Employee training appeared to exist, but details on the program and curriculum were not readily available. Generally, Camelot has stated that all employees are trained to understand organizational commitments to player protection and to support day-to-day work relating to player support. Additional training for those in direct contact with customers and retailers has also been highlighted.

Assisting players leveraged systems to identify at-risk players and responding appropriately. For instance, over the last year, Camelot has been involved in the development of an internal behavioural analytics system, Mercury, to identify customer who may have gambling problems. Interventions for those suspected of excessive gambling include emails sent to high risk players on tempering behaviour and encouragement on the use of pre-commitment tools. Contact Centre staff have also been trained to identify signs of gambling problems and intervene as necessary.

Self-exclusion took the form of a hybrid approach, including shorter breaks and longer periods of banned play. Although many details of self-exclusion administration did not appear in this review, it was noted that players could choose to take a "short break" of one day to 90 days or "long breaks" of six months or indefinitely. Information on the promotion of the program, how to register, details of exclusion revocation or reinstatement, as well as advertising blackouts were not available at the time of review.

Informed decision making focused mainly on pre-commitment promotion and tool provision. Tools include various pre-commitment options for setting limits on games such as instant win. Session timers

and pop-up reminders have also been adopted and can be set for increments of 2 minutes, 20 minutes, 40 minutes or a default of 2 hours.

Marketing communications is subject to an RG screening process. This process follows the Advertising Standard Authority guidance on Responsibility and Problem Gambling.   Specifically, marketing communications are required to avoid any messages or depictions that give a false perception of risk or a gambler's control over the outcome of a draw. Advertising guidance also focuses on the protection of at-risk groups, especially young adult males (18-34) that appear to be at heightened risk for problematic lottery play. Screening and review also specifically addresses gambling risks posed to groups characterized by economic constraints, lower education, and mental health concerns.

Product design reflecting RG practice generally included a systematic approach to the review of games and technologies from an RG perspective. The operator notes that the aim to reduce risk of harm is in part addressed through the use of their Responsible Game Design Process, which all games are subject to. The process relies on the use of GAM-GaRD, which other operators have also adopted. Careful attention to paid to games' structural risk levels, including jackpot sizes, speed of play, and whether there are near wins.

Accounts and payments followed the traditional approach presented in most other jurisdictions reviewed. A heavy emphasis has been placed on the age verification and barring those under the legal lottery gambling age (16 years in the UK) from creating an account.

Ireland

The Irish National Lottery, operated by Premier Lotteries Ireland, has been offering online sales for instant win games and lottery draws since 2009. RG practices were evident in most of the standard-based areas with the exceptions of *program evaluation, research and innovation* and *employee training.*

Policies and strategy relating to RG was highly developed. The Irish National Lottery features a player protection policy that is certified according to the World Lottery Association Responsible Gaming Framework and the European Lotteries Responsible Gaming Standard. One element of this policy includes the establishment of a Player Protection Panel made up of senior decision makers who meet monthly to maximize player protection, minimize risk, review player behaviour, and develop strategies to minimize risk of excessive and underage play. In addition, the operator's RG policies are reviewed regularly and presented in a Responsible Play Report that focuses on social responsibility performance.

Stakeholder engagement appears to be a central component of the operator's RG policies and strategy. For instance, the Irish National Lottery states that it engages stakeholders for the purpose of guiding responsible expansion of business operations. The key stakeholders identified appear to include government departments and politicians, regulatory bodies, service providers, retailers, the media, players and the broader business community. Treatment professionals and public health agencies did not appear to be highlighted.

Assisting players was not found to be an area of extensive development. The operator did appear to feature a system for identifying at-risk players that was integrated into the National Lottery mobile phone app. The software is said to detect patterns of risky play and early signs of problem gambling. If an individual reaches a threshold of risk behaviour, players are sent a message with information on normal patterns of play and their time logged into the sessions. Website play is similarly monitored.

Self-exclusion is a key feature of the operator's RG practices. The program is promoted on the gaming website, though one needs to navigate to "useful information" and "taking a break" to learn more. The Irish National Lottery provides several term length options, including one month, six months, one year, five years, and permanent. Terms are not revocable and reinstatement can only be initiated after self-exclusion periods have elapsed and require contacting the operator directly. During self-exclusion, as is typical, players do not receive any messages or marketing communications from the operator.

Informed decision making for the Irish National Lottery appeared to be a strong area of RG practice. Player protection was central to a systematic approach to the support, integration and dissemination of RG information. The Responsible Play section of the operator's website features information on the odds of winning games, common gambling myths, and anonymous self-assessment quizzes to determine the risk profile of players. Featured RG tools provided by the Irish National Lottery included various pre-commitment options and YouTube tutorials on how to use them. Problem gambling resources are also promoted on the website and include information on how to identify potentially addictive behaviours and contact details for external support services. Monetary limit setting was also evident for daily, weekly and monthly spending. The ability to lower limits was also available and takes effect immediately, whereas increasing limits require a 24-hour waiting period. Maximum spending limits included €75 per day, €300 per week, and €900 per month. Time out options were also available. For instance, players have the option of taking a break from instant win games for a minimum period of two days.

Marketing communications featured extensive RG practices. The operator appeared to have a clear policy for responsible advertising and due diligence processes reflected in the Advertising Code of Practice, which are approved by the gaming regulator. The Advertising Code of Practice also sets out an RG screening process for lottery advertising. Guidelines for advertising clearly reflect the intent of not reinforcing gambling cognitive distortions and other misleading perceptions.   All marketing communications must maintain legal standing, be decent, honest and truthful; they are required to be prepared with a sense of responsibility to consumers and broader society; and marketing communication are required to adhere to the principles of fair competition. The Irish National Lottery utilizes two risk assessment tools to gauge player protection issues and ensure that advertisements and promotional materials do not target underage gamblers. The jurisdictional review also noted that preventative advertising was extended to many customer contact points on each page of the website with signposting to relevant support organizations and the message "Play Responsibly, Play for Fun."

Product design included a system to review games and technology from an RG perspective. As with other operators in this review, GAM-GaRD was a foundational component of this system and aided in the evaluation of game accessibility, jackpot size, and other dimensions of gambling risk. The system also provides some assurance that gaming products do not reinforce cognitive distortions and include design elements that promote breaks in play and avoid excessive play.

Accounts and payments featured traditional RG practices emphasizing restrictions on underage gambling (younger than 18 years). However, unlike many other operators, it did not appear that the Irish National Lottery actively verified age during account registration. Instead, it reserved the right to request proof of age and required registrants to agree to a Terms and Conditions agreement during account creation. The operator also featured an automated system to detect duplicate accounts and suspend them, preventing players from having multiple accounts. Finally, players were enabled to review their play history through

the "My Account" section of the website, while logged in. This function allowed for the review of financial data for a period of 121 days preceding.

Asia

Hong Kong

The Mark Six lottery in Hong Kong, operated by the Hong Kong Jockey Club, principally offers online purchases for lottery draws. Mark Six featured some level of RG practice development in all standard-based areas, except *program evaluation*, *marketing communication,* and *product design*.

Policies and strategy for RG practice are limited to restrictions on gambling licensing and operations that emphasize the prevention of criminal activities (e.g., fraud, underage gambling, loan-sharking, etc.).

Research and innovation was evident, but details were limited. Since the early 2000s, the Hong Kong Jockey Club has commissioned independent research to identify preventative measures addressing problem gambling. The operator has since helped fund the development of counselling and treatment since 2003.

Stakeholder engagement was a stated priority of the Mark Six lottery and the Hong Kong Jockey Club, more broadly. For instance, in support of its commitment to responsible gambling, the operator regularly engages government, police, employees and international organizations to develop knowledge that helps protect the public from excessive and illegal gambling. By contributing annual funding to the Ping Wo Fund, the operator also supports evidence-based problem gambling treatment. Long-term public education was apparent through the sponsorship of an annual Responsible Gambling Awareness Week campaign, a Family Volunteer Academy, which supports family psychology and counselling, parenting skills and financial management for an estimated 8,000 families each year. The operator also sponsors the Kowloon Women's Organization's Hong Kong Micro Movie Institute to produce a Family Cinematography Contest featuring stories of positive lifestyles and responsible gambling messages.

Employee training is described as continuous by the operator and an important feature for promoting a corporate culture of responsible gambling and adherence with its Responsible Gambling Policy. All front line staff are required to undertake training, particular on how to respond to questions about problem gambling and player support services. Training takes the form of e-learning courses.

Assisting players was most heavily emphasized as it related to the knowledge employees need to provide customers with support during interactions. In this regard, it was reiterated that all front-line staff are trained to respond to questions about problem gambling and referral services.

Self-exclusion was prominently promoted on a dedicated page of the Mark Six website. Registration did not appear to be convenient, however. Those interested in self-excluding are required to bring a copy of a registration form into an off-course betting branch—this form also includes problem gambling counselling information. Options for term lengths included two years, three years and permanent. Revocation and reinstatement is available after two years, although details of the process were not available.

Informed decision making was reflected in the provision of information on common false beliefs and gambling myths—including an online video detailing myths and corrective messaging. Positive gambling

messaging was also advertised and focused on setting and adhering to a budget, not borrowing money to gamble, balancing gambling with other leisure activities, and not chasing losses.

Accounts and payments highlighted stringent requirements for preventing underage gambling (those younger than 18 years). For instance, when creating an account, players are required to appear in person at an off-course betting branch to show proof of age and identification. Online, the operator provides access to a player's account information for the past 30 days. Further details on the types of information and metrics provided were not found.

Oceania

Australia

The Lott, owned by Tatts Group Ltd., is a lottery operating across Australia and offers online sales for various lottery draws and second chance instant win games. Overall, the Lott featured a broad spectrum of RG practice adoption in all standard-based areas, with the exceptions of *research and innovation* and *stakeholder engagement*.

Policies and strategy was reflected in the operator's RG Code of Conduct, Responsible Play Program and Corporate Responsibility Report. Tatt's RG practices are overseen by its Social Responsibility Manager who ensures that lottery operations remain socially responsible, fun and entertaining. Regular review of RG policies such as the RG Code of Conduct are also reviewed annually and updated to comply with regulatory changes and government directives.

Program evaluation was not an area that appeared extensively developed. However, the Lott did appear to feature a system for tracking player risk levels. As part of its ongoing commitment to RG, the operator monitors online players and provides support for those who may be experiencing problems—a function that players must consent to when creating an account. Details on the its behavioural tracking algorithm and follow-up procedures were not found for the review.

Employee training was presented as a requirement for all lottery retailers and their staff. Training was said to commence as soon as an employee is hired and prior to the start of work. Refresher training was also highlighted as a requirement every three years. The RG Code of Conduct did not specify if training applied across land-based and online settings, the nature of the curriculum content, or any tiered programming based on staff role.

Assisting players, like program evaluation, leveraged the operator's gambling risk monitoring system. The system was described as a means to predict risk and facilitate the provision of support for those who may be experiencing problems. No further information was provided on how. In land-based retail outlets, Gambling Contact Officers (GCO) receive reports of players who may have a gambling problem and appear positioned to intervene if necessary. Protocols appeared in place for responding to players who admit to a gambling problem and for responding to customers showing signs of a gambling problem. It was not clear if these protocols extended to the online setting.

Self-exclusion is promoted both on the Lott website and the lottery's mobile app. Individuals who wish to self-exclude are required to submit an online request form or contact a Responsible Play Liaison Officer. The program does not feature multiple exclusion term lengths. Rather, accounts are deactivated for a period of 180 days after which players can reinstate. Reinstatement requires the submission of a written

request to the Customer Support Team after the exclusion period has lapsed. In instances where an individual applies for self-exclusion three times, they are permanently banned from playing. As with all other reviewed programs, self-excluded players are taken off promotional contact lists and do not receive marketing materials. Additional gambling help resources and player support service contact information is also presented on the operator's website.

Informed decision making was an area of RG practice that focused primarily on addressing erroneous cognitions, positive gambling behaviors and tools, as well as problem gambling risks. "How to Play" brochures are available for players on the Lott website and cover information on how games work. Positive gambling tools were represented by an online gambling calculator, self-assessment quiz, and a play tracking app. On the Responsible Play Program web-page, contact information is provided for the National Gambling Helpline as well as the operator's Responsible Gambling Code of Conduct. Other support resources available online included Rules of Authorized Lotteries, odds and *how to play* information for each game, as well as a Gambling Help Online information as part of a Players 1st Program. In addition, the Lott provides options for customers to set personal weekly spend limits within their account management page. No details were available on notifications or actions triggered by reaching a limit threshold.

Marketing communications for the Lott is guided by the Responsible Advertising and Promotions Policy. Key objectives of this policy approach emphasize that advertisements do not misrepresent the probability of winning or suggest that winning will be assured by participation. Protection of at-risk groups, such as minors is also a key objective of the policy approach. Generally, the style, tone, content, medium and location of advertisements may not be designed to appeal to those under the age of 18 years. In addition, advertising standards do not allow for the targeting of vulnerable or disadvantaged populations, including those who have opted out of promotional materials and those who may not the capacity to fully understand gaming information.

Product design focused primarily on games that promote breaks in play and avoid excessive play. To this end, the operator has specifically committed to not offering games that create a continuous form of play.

Accounts and payments featured a heavy emphasis on barring underage players from creating and using online lottery accounts. During registration, players are required to confirm their identity, which is verified prior to a player's first withdrawal can be processed. Only verified customers are allowed to access and use the autoplay function for ticket purchases. In addition, RG messages are incorporated into all loyalty program (The Players Club) documentation and players have the ability to view their transaction history in the Account section of the website.

Evidence Synthesis

Research Literature Provides Breadth of Support for RG Practices

Research literature in the area of lottery provided a moderate level of support for RG standard practices. In the area of *policies and strategy*, a strong emphasis was placed on the need to protect underage youth from gambling (Felsher et al. 2004; McMullan and Miller 2009). This youth-focus was similarly emphasized in the areas of *assisting players, marketing communications, informed decision making*, and especially *accounts and payments* (Felsher et al. 2004; McMullan and Miller 2009; Ariyabuddhiphongs 2011; Barnes et al. 2011). Research evidence providing unique insight and relevance for RG best practices in the area of lottery related to erroneous beliefs that could influence excessive gambling, such as the gambler's fallacy, hot hand fallacy related to lottery outlets or products, entrapment, and more generally the belief in superstitions and the "ethos of winning" (McMullan and Miller 2009; Ding 2011; Lien and Yuan 2015). These insights provide particular value to the areas of *informed decision making* and *marketing communications* for correcting false beliefs as well as ensuring such beliefs are not promoted and reinforced in advertising practices. Indeed, the areas of *assisting players* and *informed decision making* featured some of the strongest evidence supporting RG practice. Research affirming the utility of key measures of addiction, relevant sociodemographic determinants, problematic purchasing behaviours, and psychographic indicators provided support for systems that may help identify players at-risk of developing gambling problems or experiencing harms (Felsher et al. 2004; Ye et al. 2012; Redondo 2015). In the case of *informed decision making*, which represents a foundational area of health promotion and RG, supported practices focused on messaging to address erroneous beliefs, providing information on how games work and positive play behaviours such as limit setting (Ariyabuddhiphongs and Phengphol 2008; Ding 2011; Wood and Griffiths 2014; Lien and Yuan 2015).

Research Literature Lacks Depth and Specificity for RG Practices

Despite the areas of strength evident in the lottery literature, there were several limitations relating to its depth in comparison with research in other areas of RG (e.g., online casino, sports betting, slot play, etc.). Looking at *assisting players*, lottery research has not adequately examined the knowledge gaming staff require to interact with customers who may be experiencing gambling problems or how systems designed to identify players at risk of problems can help with harm mitigation. In contrast, research on other topics such as algorithms to detect gambling-related problems using written player communications (e.g., email, online chat, text message, etc.) has gone well beyond identifying key metrics (Haefeli et al. 2015). For example, this study demonstrated a practical system for expediting the process of risk detection and response to business-to-customer interactions, supporting quality assurance and improvement of customer service interactions with staff, as well as reinforcing staff RG knowledge and practice. Turning to the example of *informed decision making,* the lottery literature did not examine the provision of personalized player feedback and transaction history, which has been a promising topic of RG research in other areas of online gambling (Auer and Griffiths 2016; Cooney et al. 2018; Jonsson et al. 2019) and already adopted by many online lottery operators highlighted in this report.

Figure 1: Support for Standards-Based RG Practices in Research Literature and Jurisdictional Reviews
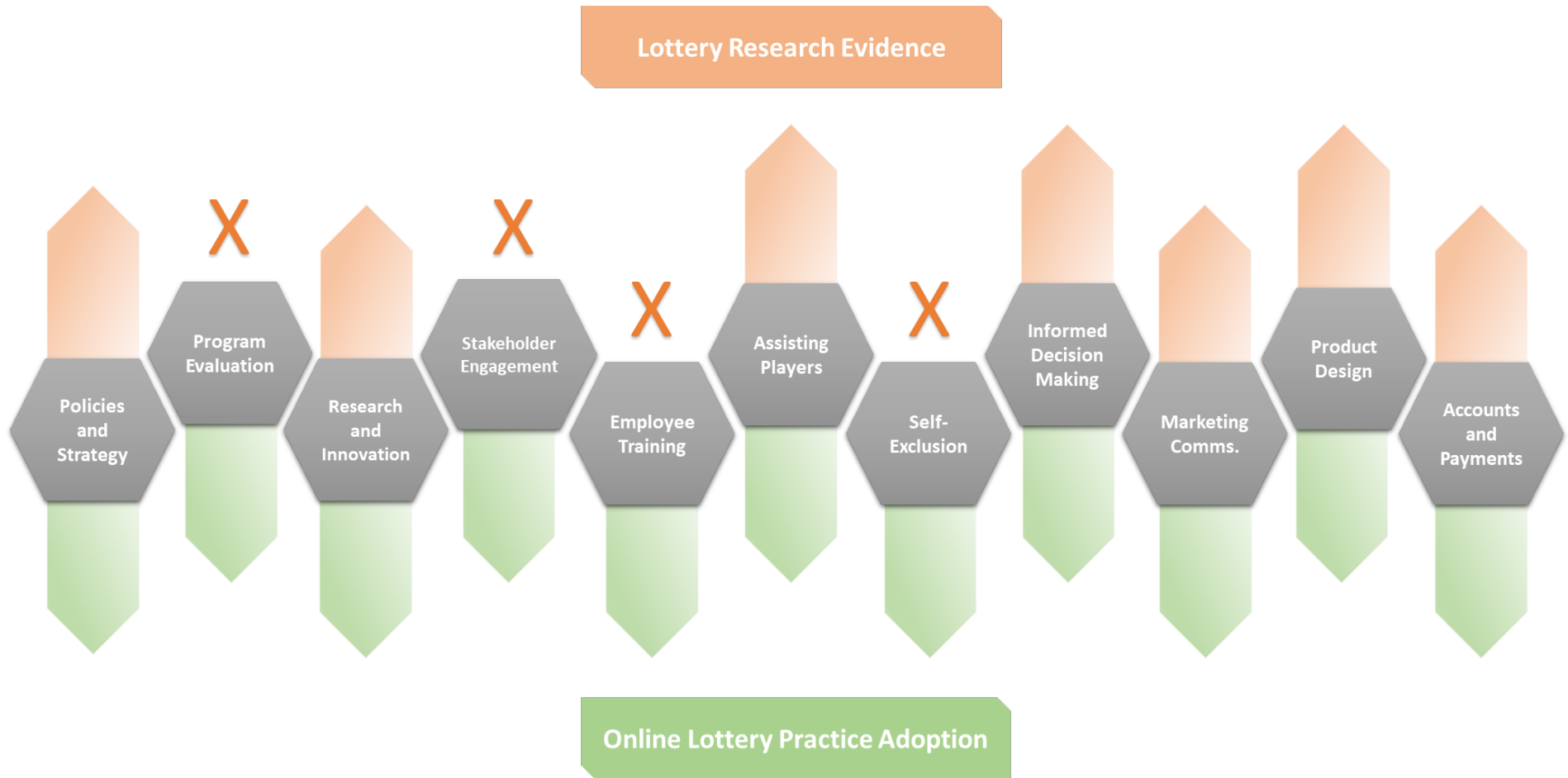
Note. Lottery research evidence is reflected by the review of 18 articles included in this report. Online lottery practice adoption is reflected in the 13 jurisdictions reviewed and limited to publicly available information. Support for standards-based RG practices depicted in this figure do not account for relative depth or quality of evidence or programming, respectively.

Research Literature Features Limited Direct Applicability for RG Practice

Another key issue with the body of literature reviewed was that the evidence presented often did not have direct and practical application for regulators and operators. As an example, McMullan and Miller (2009) strongly imply the need for senior leadership accountability pertaining to *policies and strategy* through the increased review of codes of practice to address lottery volume, frequency, and use of advertising. While this point is well-taken in light of the evidence presented on the use of advertising to promote a problematic "ethos of winning," which was deemed attractive to young people and enabling of excessive gambling behaviours, the point itself was not directly examined and the discussion did not include avenues of practical development and implementation. In contrast, RG research from other areas of gambling have provided more detailed indications for the establishment of third-party reviews of operators' codes of conduct, public reporting to ensure transparency and accountability, and even the use of tools such as the Positive Play Scale to help operators assess the efficacy of their RG strategy (Abbott 2017; Rintoul et al. 2017; Wood et al. 2017).

Research Literature Features Gaps in Key Standards–Based RG Practice

While research literature relevant to RG practices in the area of lottery—and online lottery, more specifically—featured moderate breadth in relation to the synthesized standards of practice used to frame this review, several key areas of practice did not emerge from the literature. These included *employee training, stakeholder engagement, program evaluation,* and *self-exclusion*.

Research pertaining to *employee training* from non-lottery areas of gaming have typically included examinations of customer interaction and the knowledge requirements of operator staff to effectively promote RG and provide support.   Specifically, broader research evidence have helped to affirm the argument that all gaming employees should receive RG training (Giroux et al. 2008); that training should be tailored by role (i.e., customer-facing, intervention responsibilities, etc.) (Abarbanel et al. 2019); regular reinforcement training should be carried out periodically (Oehler et al. 2017); training should include a broad array of RG and problem gambling content (Oehler et al. 2017); and training should be regularly evaluated for impact (Dufour et al. 2010).

Stakeholder engagement has been a more recent focus of research attention, but generally encompasses approaches to engage and collaborate with various community groups involved in RG and problem gambling prevention and treatment. Various research papers have established the importance of understanding key stakeholder needs and knowledge, such as the scientific community and integrating these perspectives into operations (Abbott 2017; Abarbanel et al. 2018).

Program evaluation was another area relevant to RG practice that was not touched upon in the lottery literature reviewed. This area relates to systems and processes to measure and assess the impact of RG policies and programs. Systems for tracking player risk have been a particularly popular topic of RG research (Auer and Griffiths 2013; Bonello and Griffiths 2017; Chagas and Gomes 2017). Other practices supported by research outside the realm of lottery have included the overall evaluation of RG strategic effectiveness, the regular evaluation of training programs, and regular assessment of player knowledge on RG topics (Dufour et al. 2010; Blaszczynski et al. 2011; Mouneyrac et al. 2017).

Self-exclusion is a well-established area of RG research that was notably absent in the lottery studies reviewed. Outside of the lottery field, reviews of the empirical literature clarify that these interventions,

giving gamblers an opportunity to voluntarily ban themselves from play, demonstrate general efficacy (Ladouceur et al. 2017). More recent studies have focused on methods of increasing appropriate uptake through RG awareness campaigns (Tong et al. 2019) and experimentation with more flexible, shorter-length self-exclusion options to reduce gambling cravings (Caillon et al. 2019).

Online Lotteries Show Broad Adoption of Standards-Based RG Practices

Relative to the research literature, the jurisdictional review revealed greater support and adoption of the synthesized standard areas of RG practice. As noted previously, each standard of RG practice was present to some degree in the jurisdictional review (see Figure 2). By far, *self-exclusion, informed decision making*, and *accounts and payments* featured the most universal adoption across the distribution of jurisdictions reviewed. In contrast, *program evaluation* and *research and innovation* stood out as the areas of standard-based RG practice with the most limited adoption. While it was not immediately clear why this pattern of adoption emerged, future studies may benefit from examining this topic and the impact of various factors. These may include regulatory requirements and compliance, conventional and popular industry RG practices, and approaches to balancing resource investment in social responsibility.

Figure 2: General Adoption of RG Standard Practices Among Reviewed Jurisdictions (n=13)
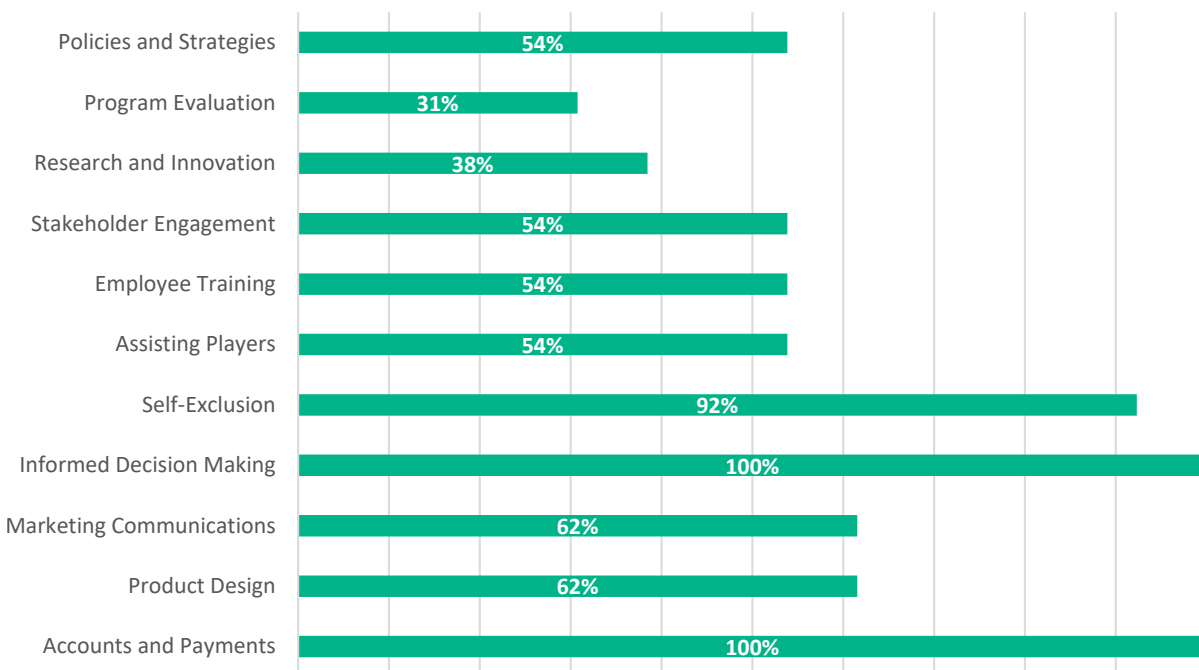
Adoption of RG Practices Vary by Region

Regional patterns of industry adoption relating to RG practices for online lottery were very apparent in some respects. The most apparent regional differences came from comparing US lottery operations with those of foreign jurisdictions. Generally, this difference was noted by more limited adoption in the US of RG practices relating to *policies and strategy, program evaluation, research and innovation, assisting players,* and *employee training*. Online operations in Canada (i.e., Ontario and British Columbia) established this global region as the leader in the adoption of standards-based RG practices, cross-cutting each area of assessment. Some specific patterns of RG practice adoption were also noted. For instance,

Illinois, Ontario, the UK and Ireland all use GAM-GaRD as a tool to help assess the risk of lottery games and ensure that they promote breaks in play and do not reinforce cognitive distortions. More generally, a major focus of all jurisdictions with respect to *accounts and payments* was on the verification of account users' age and assurance that minimum age requirements are enforceable.

Adoption of RG Practices Vary in Depth and Quality

Despite the broad adoption of some RG practices, differences between jurisdictions in depth and quality were also presented. The areas of *policies and strategy, stakeholder engagement,* and *marketing communication* featured some of the greatest qualitative variance with regard to RG practice between reviewed jurisdictions. For instance, in the area of *policies and strategy*, Australia's Tatts Group featured a well-developed RG Code of Conduct that is guided by a dedicated Social Responsibility Manager and is reviewed and updated annually. RG practices underlying this policy document are also publicly shared via a Responsible Play Program and Corporate Responsibility Report. In contrast, Hong Kong's Mark Six lottery featured RG policies and strategy that were primarily focused on regulatory compliance, such as the prevention of criminal activity (e.g., fraud, underage gambling, loan-sharking, etc.), than broader social responsibility goals and objectives.

Differences in *stakeholder engagement* between some jurisdictions also highlighted varying depths and approaches to this area of RG practice. For example, in Georgia, stakeholder engagement was reflected in the state lottery's $400,000 USD annual contribution to gambling addiction treatment initiatives and services. It was not clear if the lottery and the treatment community had an ongoing collaborative relationship or if other exchanges existed between the operator and player advocacy groups, local public health stakeholders, or other community groups. In comparison, the Ontario Gaming and Lottery Corporation (OLG) outlined a systematic approach to stakeholder engagement in their RG Code of Conduct. Some of the key stakeholder relationships maintained include the Centre for Addiction and Mental Health, the Responsible Gambling Council, Gambling Research Exchange Ontario, Credit Canada Debt Solution and local public health agencies. Input and evidence-sharing have been known to feed into the operator's practices related to self-exclusion and public education on informed decision making.

Marketing communications was another area of RG practice where distinct differences in approaches and development appeared evident. In Indiana, the Hoosier Lottery featured an array of practices and initiatives to support RG and social responsibility. These included specific guidelines for marketing and advertising, a Marketing Self-Assessment tool, a Media Channel Guideline, a Corporate Social Responsibility Style Guide, and other elements such as a Marketing Code of Conduct. The operator has stated it takes a purposeful approach to the RG screening of marketing and advertising, which align with advertising standards of the World Lottery Association and other accreditation bodies. In contrast, Pennsylvania's approach did not appear as nuanced, but did include provisions for the promotion of the Problem Gambling helpline and some responsible gambling messaging on marketing and advertising mediums.

Research Significance and Areas of Potential Future Development

It is difficult to provide a fulsome and valid assessment of evidence-informed RG practice in the area of online lottery due to limitations in this area of research. Operationally, it may be that certain practices adopted by lotteries, such as self-exclusion, are influenced by standard practices in other areas of gaming. Because such practices have demonstrated their efficacy in other gaming contexts, determining their full

credibility in the realm of lottery requires further study. For these reasons, the reviews presented in this report can be viewed as a general guide for directing future applied research in areas of RG practice for lottery.

More specifically, future research development in the area of lottery, be it online or otherwise, should focus on *replicating* and strengthening existing evidence supporting best practices; *validating* evidence-informed best practices from other areas of gaming for lottery operations; and *exploring* relevant developments in online lottery that have yet to be examined (see Table 4).

Table 4: Types and Areas of Potential Research Relating to RG Practice

Future Research Development	Description	Topics
Replicate or expand lottery evidence	Areas of RG practice for lottery that have a formative level of evidence support, but require further validation.	• Internal accountability measures for RG • Systems to identify at-risk lottery players • Cognitive distortions associated with lottery marketing and advertising • RG messaging targeting specific risk groups • Systems of age verification and underage gambling prevention
Validate evidence-informed practice	Some RG practices that have a basis of evidence in other areas of gaming, but require validation in the lottery context.	• Employee training • Stakeholder engagement • Program evaluation • Self-exclusion
Explore and generate hypotheses	Some phenomena specific to lottery gaming have not yet been investigated. Such areas require exploratory study and the generation of testable hypotheses to build positions for developing and testing RG practices.	• Second-chance lottery games • Online instant win games • Online raffle draws for live events

Note. The list of topics for future research relating to lottery RG practice are not exhaustive and are primarily intent to provide some considerations for research development.

Finally, it should be noted that despite the gaps in research and evidence-informed practice relating to online lottery, there is a distinct opportunity present for operators and researchers. Put simply, operators have generally been proactive in adopting many RG practices reflecting evidence from other areas of gaming, but may not be able to definitively account for their value in the realm of online lottery. On the other hand, RG research in the area of online lottery is not very active relative to other areas of gaming. Given these positions, there is an opportunity for operators and researchers to collaborate on applied research that can reaffirm evidence-informed practice, be it from lottery or other areas of gambling adopted into the former, or explore the impact of changes in the industry on RG and gambling risk and harm. This proposition reflects the standard of *research and innovation* that was minimally presented in the lottery literature and more extensively in broader RG research. Fostering the accelerated development of RG research for online lottery and evidence-informed best practice would require mechanisms for collaboration, research funding, access to online lottery data, and knowledge translation. This project is a product of the first two of these elements and hopefully encourages further research and knowledge development in the area of online lottery.

References

Abarbanel B, Cain L, Philander KS (2018) The relation between responsible gambling program perceptions and customer satisfaction with a gambling firm. Econ Bus Lett 7:144–155. https://doi.org/10.17811/ebl.7.4.2018.144-155

Abarbanel B, Gray HM, LaPlante DA, Bernhard BJ (2019) Association between employee department and responsible gambling program perceptions. Int Gambl Stud 19:471–488. https://doi.org/10.1080/14459795.2019.1615528

Abbott MW (2017) Beyond Reno: a Critical Commentary on Hancock and Smith. Int J Ment Health Addict 15:1177–1186. https://doi.org/10.1007/s11469-017-9794-3

American Gaming Association (2020) Responsible Gambling Effectiveness Principles. In: Responsible Gambl. Collab. https://static1.squarespace.com/static/5df99221ed04ca6a47a28e48/t/5e1763b5aabb901b187008b3/1578591160710/RGC+RG+Principles.pdf. Accessed 6 Oct 2020

Apouey B, Clark AE (2015) Winning big but feeling no better? The effect of lottery prizes on physical and mental health. Health Econ 24:516–538. https://doi.org/10.1002/hec.3035.WINNING

Ariyabuddhiphongs V (2011) Lottery Gambling: A Review. J Gambl Stud 27:15–33. https://doi.org/10.1007/s10899-010-9194-0

Ariyabuddhiphongs V, Chanchalermporn N (2007) A test of social cognitive theory reciprocal and sequential effects: Hope, superstitious belief and environmental factors among lottery gamblers in Thailand. J Gambl Stud 23:201–214. https://doi.org/10.1007/s10899-006-9035-3

Ariyabuddhiphongs V, Phengphol V (2008) Near miss, gambler's fallacy and entrapment: Their influence on lottery gamblers in Thailand. J Gambl Stud 24:295–305. https://doi.org/10.1007/s10899-008-9098-4

Associated Press (2019) Hoosier Lottery to study the effectiveness of online games. In: AP News. https://apnews.com/8653da0807604c17816be3eb2b4934f9. Accessed 15 Nov 2019

Auer MM, Griffiths MD (2016) Personalized behavioral feedback for online gamblers: A real world empirical study. Front Psychol 7:1–13. https://doi.org/10.3389/fpsyg.2016.01875

Auer MM, Griffiths MD (2013) Behavioral tracking tools, regulation and corporate social responsibility in online gambling. Gaming Law Rev Econ 17:579–583

Barnes GM, Welte JW, Tidwell MCO, Hoffman JH (2011) Gambling on the Lottery: Sociodemographic Correlates Across the Lifespan. J Gambl Stud 27:575–586. https://doi.org/10.1007/s10899-010-9228-7

Blaszczynski A, Collins P, Fong D, et al (2011) Responsible Gambling: General Principles and Minimal Requirements. J Gambl Stud 27:565–573. https://doi.org/10.1007/s10899-010-9214-0

Blaszczynski A, Ladouceur R, Shaffer HJ (2004) A science-based framework for responsible gambling: The Reno model. J Gambl Stud 20:301–317. https://doi.org/10.1023/B:JOGS.0000040281.49444.e2

Bonello M, Griffiths MD (2017) Analysing Consumer Protection for Gamblers Across Different Online Gambling Operators: A Descriptive Study. Gaming Law Rev Econ 21:278–297

Caillon J, Grall-Bronnec M, Perrot B, et al (2019) Effectiveness of At-Risk Gamblers' Temporary Self-Exclusion from Internet Gambling Sites. J Gambl Stud 35:601–615. https://doi.org/10.1007/s10899-018-9782-y

Cesarini D, Lindqvist E, Ostling R, Wallace B (2016) Wealth, Health, and Child Development: Evidence from Administrative Data on Swedish Lottery Players. Q J Econ 687–738. https://doi.org/10.1093/qje/qjw001.Advance

Chagas BT, Gomes JFS (2017) Internet Gambling: A Critical Review of Behavioural Tracking Research. J Gambl Issues 1–27. https://doi.org/10.4309/jgi.v0i36.3987

Cooney C, Columb D, Costa J, et al (2018) An Analysis of Consumer Protection for Gamblers Across Different Online Gambling Operators in Ireland: A Descriptive Study. Int J Ment Health Addict. https://doi.org/10.1007/s11469-018-9968-7

Ding J (2011) What numbers to choose for my lottery ticket? Behavior anomalies in the Chinese online lottery market. Bonn, Germany

Dufour J, Ladouceur R, Giroux I (2010) Training Program on Responsible Gambling Among Video Lottery Employees. Int Gambl Stud 10:61–79. https://doi.org/10.1080/14459791003743037

Felsher J, Derevensky J, Gupta R (2004) Lottery participation by youth with gambling problems: are lottery tickets a gateway to other gambling venues? Int Gambl Stud 4:109–125. https://doi.org/10.1080/14459790412331296956

Gainsbury SM, Delfabbro P, King DL, Hing N (2016) An Exploratory Study of Gambling Operators' Use of Social Media and the Latent Messages Conveyed. J Gambl Stud 32:125–141. https://doi.org/10.1007/s10899-015-9525-2

Garrett TA, Coughlin CC (2008) Inter-temporal differences in the income elasticity of demand for lottery tickets. St. Louis, Missourri

Ghent LS, Grant AP (2010) The demand for lottery products and their distributional consequences. Natl Tax J 63:253–268. https://doi.org/10.17310/ntj.2010.2.04

Giroux I, Boutin C, Ladouceur R, et al (2008) Awareness training program on responsible gambling for casino employees. Int J Ment Health Addict 6:594–601. https://doi.org/10.1007/s11469-008-9165-1

Haefeli J, Lischer S, Haeusler J (2015) Communications-based early detection of gambling-related problems in online gambling. Int Gambl Stud 15:23–38. https://doi.org/10.1080/14459795.2014.980297

Haisley E, Mostafa R, Loewenstein G (2008) Myopic risk-seeking: The impact of narrow decision bracketing on lottery play. J Risk Uncertain 37:57–75. https://doi.org/10.1007/s11166-008-9041-1

He C, Klein TJ (2018) Advertising as a Reminder: Evidence from the Dutch State Lottery. SSRN Electron J. https://doi.org/10.2139/ssrn.3184756

Jonsson J, Hodgins DC, Munck I, Carlbring P (2019) Reaching out to big losers: A randomized controlled trial of brief motivational contact providing gambling expenditure feedback. Psychol. Addict. Behav. 33:179–189

Khangura S, Konnyu K, Cushman R, et al (2012) Evidence summaries: the evolution of a rapid review

approach. Syst Rev 1:10. https://doi.org/10.1186/2046-4053-1-10

Ladouceur R, Shaffer P, Blaszczynski A, Shaffer HJ (2017) Responsible gambling: a synthesis of the empirical evidence. Addict Res Theory 25:225–235. https://doi.org/10.1080/16066359.2016.1245294

Lien JW, Yuan J (2015) Selling to biased believers: Strategies of online lottery ticket vendors. Econ Inq 53:1506–1521. https://doi.org/10.1111/ecin.12198

McMullan JL, Miller D (2009) Wins, winning and winners: The commercial advertising of lottery gambling. J Gambl Stud 25:273–295. https://doi.org/10.1007/s10899-009-9120-5

Mouneyrac A, Le Floch V, Lemercier C, et al (2017) Promoting responsible gambling via prevention messages: insights from the evaluation of actual European messages. Int Gambl Stud 17:426–441. https://doi.org/10.1080/14459795.2017.1350198

National Council on Problem Gambling (2019) Internet Responsible Gambling Standards. http://www.ncpgambling.org/wp-content/uploads/2019/10/NCPG-IRGS-FINAL.pdf. Accessed 6 Oct 2020

Oehler S, Banzer R, Gruenerbl A, et al (2017) Principles for Developing Benchmark Criteria for Staff Training in Responsible Gambling. J Gambl Stud 33:167–186. https://doi.org/10.1007/s10899-016-9617-7

Pluye P, Gagnon MP, Griffiths F, Johnson-Lafleur J (2009) A scoring system for appraising mixed methods research, and concomitantly appraising qualitative, quantitative and mixed methods primary studies in Mixed Studies Reviews. Int J Nurs Stud 46:529–546. https://doi.org/10.1016/j.ijnurstu.2009.01.009

Redondo I (2015) Assessing the Risks Associated With Online Lottery and Casino Gambling: A Comparative Analysis of Players' Individual Characteristics and Types of Gambling. Int J Ment Health Addict 13:584–596. https://doi.org/10.1007/s11469-014-9531-0

RG Check (2014) Standards and Criteria for iGaming. In: Responsible Gambl. Counc. https://www.responsiblegambling.org/for-industry/rg-check-accreditation/igaming-standards-criteria/. Accessed 6 Oct 2020

RG Check (2011) Standards and Criteria for Gaming Venues. In: Responsible Gambl. Counc. https://www.responsiblegambling.org/for-industry/rg-check-accreditation/venue-standards-criteria/. Accessed 6 Oct 2020

Rintoul A, Deblaquiere J, Thomas A (2017) Responsible Gambling Codes of Conduct: Lack of Harm Minimisation Intervention in the Context of Venue Self-Regulation. Addict Res Theory 25:451–461. https://doi.org/10.1080/16066359.2017.1314465

Tong KK, Chen JH, Wu AMS (2019) Application of Health Belief Model to Practice of Responsible Gambling. J Gambl Stud 35:1047–1062. https://doi.org/10.1007/s10899-019-09871-y

Wood R, Griffiths MD (2014) Understanding Positive Play: An Exploration of Playing Experiences and Responsible Gambling Practices. J Gambl Stud 31:1715–1734. https://doi.org/10.1007/s10899-014-9489-7

Wood RTA, Wohl MJA, Tabri N, Philander K (2017) Measuring responsible gambling amongst players:

Development of the positive play scale. Front Psychol 8:1–12. https://doi.org/10.3389/fpsyg.2017.00227

World Lottery Association (2016) Responsible Gaming Framework. https://www.world-lotteries.org/services/responsible-gaming/framework. Accessed 6 Oct 2020

Ye Y, Gao W, Wang Y, Luo J (2012) Comparison of the addiction levels, sociodemographics and buying behaviours of three main types of lottery buyers in China. Addict Res Theory 20:

Appendix A: Article Evidence Appraisal

The following appraisal is based upon Pluye et al.'s (2009) scoring system for assessing qualitative, quantitative and mixed methods research. The system emphasizes several methodological points for considering the evidence presented in studies, but is not intended to determine the weighting of studies based on scores.

Table 5: Appraisal of Quantitative Observational Studies

Quantitative Observational Studies	Appropriate sampling and sample	Justification of measurements	Control of confounding variables
Felsher et al. 2004	Yes	Yes	Yes
Ariyabuddhiphongs and Chanchalermporn 2007	Yes	Yes	Yes
Garrett and Coughlin 2008	Yes	Yes	N/A
McMullan and Miller 2009	Yes	Yes	N/A
Ariyabuddhiphongs 2011	N/A	N/A	N/A
Barnes et al. 2011	Yes	Yes	Yes
Ye et al. 2012	Yes	Yes	N/A
Woods and Griffiths 2014	Yes	Yes	N/A
Redondo 2015	Yes	Yes	N/A
Apouey and Clark 2015	Yes	Yes	Yes
Gainsbury et al. 2016	Yes	N/A	N/A
Cesarini et al. 2016	Yes	Yes	Yes
He Klein 2018	Yes	Yes	Yes

Note. *Yes* denotes some indication of criteria was apparent in the review. *N/A* denotes not applicable, not available, or unknown.

Table 6: Appraisal of Quantitative Experimental Studies

Quantitative Experimental Studies	Appropriate sequence generation and/or randomization	Allocation concealment and/or blinding	Complete outcome data or low withdrawal
Ariyabuddhiphongs and Phengphol 2008	Yes	N/A	N/A
Haisley et al. 2008	N/A	Yes	N/A
Ghent and Grant 2010	N/A	N/A	N/A
Ding 2011	Yes	N/A	N/A
Lien Yuan 2015	N/A	N/A	Yes

Note. *Yes* denotes some indication of criteria was apparent in the review. *N/A* denotes not applicable, not available, or unknown.

Appendix B: Definitions of Synthesized Standards

RG Standard	Description
Policies and Strategy	Formal structures, plans and processes illustrating how RG is formed within the operator organization help provide a reference point for all RG initiatives and practices.
Employee Training	As an important point of contact with customers, operator staff require the knowledge and skills to understand RG, incorporate it into their work practices, and assist others who may be in need of support.
Self-Exclusion	Voluntary self-exclusion is a pillar of any RG program, enabling operators help customers stop risky and harmful play. Self-exclusion programs need to be accessible, simple to understand, enforced, and provide processes for a safe return to gambling, if customers wish.
Assisting Players	Assisting players with gambling concerns includes the ability to identify warning signs, appropriately engage customers, intervene if necessary, and leverage player data.
Informed Decision Making	Educating players about safer gambling habits, gambling myths, how games work, gambling risks and other key points all help enable more informed gambling decisions
Marketing Communications	Processes ensuring that marketing and advertising practices are responsible, do not promote false gambling expectations, do not target at-risk groups or youth, and do not conflict with RG messaging is critical.
Product Design	Reviewing gambling products from an RG perspective to ensure they do not reinforce false beliefs about gambling and promote safer play
Accounts and Payments	Ensuring point of sale systems and practices protect under-age individuals and those who have self-excluded and that methods of payment do not pose an excessive risk to players
Research and Innovation	Gambling operations devise ways of supporting the ongoing development of research evidence that benefits RG practice and improvement
Stakeholder Engagement	A systematic approach to engage and collaborate with various stakeholders involved in RG and problem gambling prevention and treatment
Program Evaluation	Systems and processes are in place to measure and assess RG policies and programs

Appendix C: Jurisdictional Review Sources

Illinois

Stakeholder Engagement, Employee Training, Informed Decision-Making, Marketing Communications, Product Design, Accounts and Payments

https://www.illinoislottery.com/about-the-games/responsible-and-safe-play/our-commitment

Self-Exclusion

https://www.illinoislottery.com/about-the-games/responsible-and-safe-play/where-to-get-help#:~:text=Exclude%20Yourself%20from%20Online%20Illinois,minimum%20period%20of%205%20years.

Informed Decision-Making

https://www.illinoislottery.com/about-the-games/responsible-and-safe-play/myths-and-facts

https://www.illinoislottery.com/about-the-games/responsible-and-safe-play/be-smart-play-smart

Marketing Communications

https://www.illinoislottery.com/content/dam/il/pdfs/policies/Final%20LCB%20Advertising%20Policy.pdf

Accounts and Payments

https://www.illinoislottery.com/account/register

Kentucky

Assisting Players

https://www.kylottery.com/export/kylmod/galleries/documents/KYLottery_annual_report/KLC_Annual-Report_2019_Web.pdf

Self-Exclusion, Informed Decision-Making, Accounts and Payments

https://www.kylottery.com/apps/funclub/content/responsible_gaming.html

Accounts and Payments

https://www.kylottery.com/apps/funclub/terms.html

Georgia

Stakeholder Engagement

https://www.galottery.com/en-us/about-us/play-responsibly.html#tab-tips-for-playing-responsibly

Self-Exclusion

https://www.galottery.com/content/dam/portal/pdfs/about-us/Voluntary_Self-Exclusion_Program.pdf

https://www.galottery.com/en-us/about-us/play-responsibly.html#tab-voluntary-self-exclusion

Informed Decision-Making

https://www.galottery.com/en-us/about-us/play-responsibly.html#tab-understanding-problem-gambling

https://www.galottery.com/en-us/about-us/play-responsibly.html#tab-help-and-support

Informed Decision-Making, Product Design, Accounts and Payments

https://www.galottery.com/en-us/about-us/play-responsibly.html#tab-online-safeguards

Accounts and Payments

https://www.galottery.com/en-us/registration.html

Pennsylvania

Self-Exclusion

https://help.pailottery.com/hc/en-us/articles/360000503107-How-can-I-be-removed-from-the-PA-Lottery-self-exclusion-list-

Self-Exclusion, Informed Decision-Making, Accounts and Payments

https://www.pailottery.com/p/responsible-gaming-policy/

Informed Decision Making

https://www.palottery.state.pa.us/About-PA-Lottery/Please-Play-Responsibly.aspx

Marketing Communications

https://www.palottery.state.pa.us/about-pa-lottery/news-events-media/news/2017/march/pa-lottery-highlights-available-help-for-problem-g.aspx#:~:text=As%20part%20of%20its%20social,the%20nightly%20televised%20drawing%20show.

Accounts and Payments

https://www.pailottery.com/signup/

New Hampshire

Self-Exclusion

https://www.nhlottery.com/iLottery-Terms-Conditions

https://www.nhlottery.com/FAQs#How-to-Set-Self-Exclusion

Informed Decision-Making

https://www.nhlottery.com/Play-Responsibly

https://www.nhlottery.com/FAQs#How-to-Set-Deposit-Limit

Accounts and Payments

https://www.nhlottery.com/iLottery-Games

https://www.nhlottery.com/iLottery-Terms-Conditions

Indiana

Policies and Strategy, Research and Innovation, Stakeholder Engagement, Informed Decision-Making, Marketing Communications, Product Design

https://hoosierlottery.com/getmedia/95570394-5ba0-402a-b374-1e7d276b952c/CSR-Report-FY2019.pdf

Employee Training

https://hoosierlottery.com/who-we-are/Retailer-Resources/Policies

Informed Decision-Making

https://hoosierlottery.com/Positive-Play/Ways-to-Play-Positively

https://hoosierlottery.com/Positive-Play/Responsible-Gaming-Resources

Accounts and Payments

https://hoosierlottery.com/terms-and-conditions

Ontario

Policies and Strategy

https://about.olg.ca/wp-content/uploads/2019/10/OLG-Annual-Report-2018-19_EN.pdf

Policies and Strategy, Stakeholder Engagement, Informed Decision-Making, Marketing Communications

https://about.olg.ca/wp-content/uploads/2017/08/7219_Ontario_Lottery_and_Gaming_Corporation_2015_16_CSR_Report_V08_AODA.pdf

Policies and Strategy, Program Evaluation, Research and Innovation, Stakeholder Engagement, Employee Training, Self-Exclusion, Product Design, Accounts and Payments

https://about.olg.ca/wp-content/uploads/2016/07/RG_PoliciesandPrograms_PDF_EN.pdf

Program Evaluation, Assisting Patrons, Self-Exclusion, Informed Decision-Making

https://about.olg.ca/playolg-backgrounder-responsible-gambling-features-and-play-management-tools-2/

Self-Exclusion

https://about.olg.ca/responsible-gambling/self-exclusion/

https://about.olg.ca/responsible-gambling/self-exclusion/facial-recognition/

Informed Decision-Making

https://about.olg.ca/responsible-gambling/

https://www.playsmart.ca/

https://www.playsmart.ca/social-hub/my-playsmart/

Accounts and Payments

https://lottery.olg.ca/en-ca/legal#:~:text=Ontario%20Lottery%20and%20Gaming%20Corporation%20(OLG)%20products%20are%20designed%20for,years%20of%20age%20and%20over

https://www.playolg.ca/content/olg/en/compliance/terms-and-conditions.html

British Columbia

Policies and Strategy, Program Evaluation, Research and Innovation, Stakeholder Engagement, Assisting Players

https://corporate.bclc.com/content/dam/bclccorporate/reports/annual-reports/2019/2018-19-annual-service-plan-report.pdf

Employee Training

https://www.bclcretailerhub.com/policies/policies-overview.html

http://www.lotto-bclc.com/retailer-hub/training-and-certification/training-resources.html

https://corporate.bclc.com/what-we-do/lottery.html

https://corporate.bclc.com/player-health/standards-and-regulations.html#Certification

Self-Exclusion

https://www.bclc.com/

https://www.gamesense.com/support/voluntary-self-exclusion.html

Informed Decision-Making

https://www.gamesense.com/games/lottery.html

https://www.gamesense.com/play-better/manage-your-play.html

https://www.gamesense.com/support/warning-signs.html

https://www.playnow.com/gamesense/manage-your-play-online.html#how-to-set

Marketing Communications, Product Design

https://corporate.bclc.com/content/dam/bclccorporate/reports/corporate-citizenship/2019/bclc-social-responsibility-report-2018-19.pdf

Accounts and Payments

https://www.playnow.com/about-playnow/help.html

https://www.playnow.com/register/

https://www.playnow.com/about-playnow/privacy.html

United Kingdom

Policies and Strategy, Program Evaluation, Research and Innovation, Employee Training, Assisting Players, Product Design, Accounts and Payments

http://webcache.googleusercontent.com/search?q=cache:wojFBEbrbuAJ:www.camelotgroup.co.uk/assets/Uploads/2017-18-Corporate-Responsibility-Report.pdf+&cd=2&hl=en&ct=clnk&gl=ca

Marketing Communications

https://www.camelotls.com/responsible-gaming

https://www.asa.org.uk/uploads/assets/uploaded/bb5292af-96f3-4c28-94a031dbfdfde3d8.pdf

Ireland

Policies and Strategy, Stakeholder Engagement, Employee Training, Self-Exclusion, Informed Decision-Making, Marketing Communications, Product Design, Accounts and Payments

https://www.lottery.ie/content/dam/pli/docs/Responsible-Play-Report-2018-19.pdf

Assisting Patrons, Informed Decision-Making, Marketing Communications, Product Design, Accounts and Payments

https://www.lottery.ie/useful-info/play-responsibly/play-info

Hong Kong

Policies and Strategy, Research and Innovation, Employee Training, Assisting Players, Accounts and Payments

https://www.hkjc.com/responsible-gambling/en/responsible-gambling/index.aspx

Stakeholder Engagement

https://corporate.hkjc.com/corporate/common/chinese/pdf/report-2018-19/HKJC_AR19_Full.pdf

Employee Training

https://corporate.hkjc.com/corporate/common/chinese/pdf/report-2018-19/HKJC_AR19_Book_A_Employees.pdf

Self-Exclusion

https://www.hkjc.com/responsible-gambling/en/problem/exclusion.aspx

https://special.hkjc.com/infomenu/en/pdf/Self-exclusion_Application_Form_v1_Legal_clean.pdf

Informed Decision-Making

https://www.hkjc.com/responsible-gambling/en/problem/myth.aspx

https://www.hkjc.com/responsible-gambling/en/responsible-gambling/guide.aspx

https://www.hkjc.com/responsible-gambling/en/problem/index.aspx

Accounts and Payments

https://special.hkjc.com/infomenu/en/channel/ewin/other.asp#01

Australia

Policies and Strategy, Informed Decision-Making, Marketing Communications, Accounts and Payments

https://www.thelott.com/content/dam/projects/the-lott/responsibleplay/VIC_Responsible-Play-Code-of-Conduct_Dec-2016.pdf

Policies and Strategy, Employee Training, Assisting Players, Self-Exclusion, Product Design, Accounts and Payments

https://www.thelott.com/content/dam/projects/the-lott/responsibleplay/ACT_Responsible-Play-Code-of-Conduct_Jan-2018.pdf

Program Evaluation, Assisting Players, Accounts and Payments

https://www.thelott.com/about/terms-and-conditions

Self-Exclusion

https://help.thelott.com/hc/en-us/articles/115002565554-How-can-I-exclude-myself-from-playing-lotteries-online-

Informed Decision-Making

https://www.thelott.com/about/responsible-play

Appendix E: Plans and Milestones for the Future

The findings of this report will inform a future grant proposal for the 2020 Small Grant for Research on Lotteries, administered by the ICRG and due November 2, 2020.

In addition, due to COVID-19 travel restrictions and changes to in-person conference events, the travel budget ($1,985) for this project will be redirected to the development of a virtual webinar presentation for the RGC and other virtual presentation opportunities for the ICRG.