

**Institute of
Public Health**



The Institute of Public Health response to the All Party Group on Reducing Harm Related to Gambling - Inquiry into Regulation of Gambling in Northern Ireland.

6 November 2020

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Introduction

The Institute of Public Health

The Institute of Public Health (The Institute) welcomes the opportunity to provide evidence to the All Party Group on Reducing Harm Related to Gambling. We note recent statements made by the Minister for Communities to proceed with a Gambling Bill for Northern Ireland.

The purpose of the Institute of Public Health is to inform public policy to support healthier populations on the island of Ireland. The Institute promotes cooperation in public health between Ireland and Northern Ireland in the areas of research and information, capacity building and policy advice. Our approach is to support the Departments of Health and their agencies in both jurisdictions and maximise the benefits of all-island cooperation to achieve practical benefits for people in Ireland and Northern Ireland.

In December 2010, the Institute published a briefing paper (Developing a population approach to gambling: Health issues) to inform reviews of gambling legislation in Ireland and Northern Ireland. The paper presented key points highlighting links between gambling and health (Institute of Public Health, 2010). It made proposals for a policy approach and practice change to minimise potential public health harm from gambling.

Gambling can negatively affect mental and physical health, employment, finances and relationships with others. The Institute proposed a population-based approach to understand the prevalence of problem gambling, minimise harm including potential social costs and protect vulnerable groups. This included the use of a population-based screening tool for gambling to understand and determine the extent of gambling in society. A key consideration for government is that the health and social costs of problem gambling may well exceed government revenue gained from gambling taxes and businesses (Institute of Public Health, 2010).

Key points

- Gambling is a significant health and social issue in Northern Ireland. Rates of problem gambling are higher than the rest of the UK. Gambling in the region is under-regulated compared to UK and European norms.
- There are extensive harms for individuals, communities and significant impacts on public services including health and social care, criminal justice and social protection. Northern Ireland has higher rates of poverty and poorer mental health than both Great Britain and Ireland. This creates additional imperative for the Northern Ireland Executive to prevent and respond to gambling harms.
- A public health, population level approach is needed. This response must (a) be based on best available evidence, (b) prioritise health and the prevention of harm and (c) focus on reducing inequalities and protecting vulnerable groups including children.
- New legislation is required. At a minimum, the legislation should set a new regulatory framework and establish independent regulatory structures. The legislation could go further to mandate new responsibilities for inter-departmental cooperation, oversight, monitoring and independent research and evaluation. Voluntary codes of practice are not recommended as they have limited effectiveness.
- A Health Impact Assessment should be conducted on any new gambling legislation. The impact of any new gambling law and regulatory framework on the Section 75 groups within the Northern Ireland Act 1998 should be carefully and transparently considered. Legislators must ensure any new measures protect the rights of children and protect them from harm and exploitation.
- The provisions of the new law and regulatory framework should be aligned with the aims of '*New Decade New Approach*' to:
 - promote mental health and prevent suicide;
 - reduce inequalities and poverty;
 - protect public safety and prevent gambling-related crimes including fraud, embezzlement, theft, intimidation and violence; and
 - support the recovery of those with mental health, substance misuse and addiction issues and the rehabilitation of offenders.
- Based on evidence of harms associated with Fixed Odds Betting Terminals these should be taken off the market.
- Based on evidence of harms associated with gambling advertising exposure, this should be restricted to a far greater extent, particularly for media viewed by children.

Recommendations

Regulatory Framework

- There is an urgent need for the development of new gambling regulation.
- Robust regulation is needed to ensure the industry operates in a way that is safe and fair.
- Protection of people from harm should be a core objective of any new gambling law. Gambling is not a risk-free activity, but rather a health harming activity that can have detrimental impacts on health.
- Prevention and treatment strategies should be integral to the regulatory framework and law with a public health response to gambling firmly embedded from the outset.
- A new regulatory authority is needed. It must be sufficiently resourced and legally empowered to protect the public from gambling harms.
- The regulatory authority should be tasked with a clearly defined monitoring and evaluation function, incorporating routinely collected data to monitor progress against targets and the reduction of gambling harms.
- The regulatory framework for gambling should be funded commensurate with the requirement to monitor and respond to the actions of the transnational gambling industry and the scale of the harms associated with it.
- A new legislative framework must give due consideration to the enforcement of the law as well as wider criminal justice elements of gambling.
- Self-regulation and industry-led voluntary codes of practice should not be adopted within a new regulatory framework.
- Gambling legislation and a regulatory framework should be subject to a Health Impact Assessment, including a full impact assessment on health and social care services and the criminal justice system.
- Gambling behaviours and harms among children and adults should be monitored through routine government surveys of health, social and economic wellbeing, as well as through criminal justice data systems.
- A statutory levy should be considered proportionate to the health and societal harms resulting from gambling. The allocation of funds must be transparent and independent of any gambling industry influence.

Fixed Odd Betting Terminals

- Fixed Odd Betting Terminals (FOBTs) should be abolished in Northern Ireland.
- Any existing FOBTs should be removed.

If FOBTs are legalised, we recommend the following:

- The maximum stake size should be set as £2 or lower.
- An Equality Impact Assessment should be considered in relation to the regulation of FOBTs.
- FOBTs should be limited in Licensed Betting Offices (LBO) in areas where there are concentrated vulnerable groups to gambling harms.
- FOBTs should only be permitted within LBOs and not in establishments licensed to sell alcohol. The proximity to alcohol licensed premises and ATMs should also be considered.

- The maximum number of FOBTs within LBOs should be lowered to at least the same number per capita permitted in the UK.
- The maximum prize is set to £500 at the very most.
- Protection measures such as on-screen warnings, and limit-setting are made compulsory on all FOBTs.

Self-exclusion provisions

- National self-exclusion schemes should be specified and routinely monitored by the gambling regulator.
- Any self-exclusion scheme should require the identity of self-excluders to be shared between operators (both land-based and online).
- A consumer ombudsman should be designated to investigate complaints against any LBO that is not adhering to self-exclusion legislation.
- Resourcing should be made available for data collection, monitoring and evaluation of self-exclusion schemes.

Loot boxes and children

- Health and wellbeing surveys of children should incorporate enhanced surveillance of loot boxes and other forms of in-game transactions.
- Resourcing should be made available to conduct independent research with children and parents/caregivers on the impact of loot boxes and in-game transactions on children.

Protection measures

- There should be extensive restriction on advertising that promotes gambling goods and services on TV, radio, and online channels.
- There should be a phasing out of betting industry sponsorship for sports clubs and national governing bodies of sports with a focus on those groups providing sporting opportunities for children in Northern Ireland.
- Game and product design rules should apply and be consistent in the land-based sector and online.
- Limits should be applied to stakes, prizes and deposits of all gambling products, not just those in land-based venues.
- Legal age of sale, age verification and single sign on verification measures should be enhanced.
- Screening and affordability checks including the involvement of financial intuitions in blocking gambling transactions.
- The All Party Group on measures should carefully consider the views of the Commissioner for Children and Young People to ensure children will be protected within any regulatory framework.
- A roll-out of a test purchasing scheme should be considered.
- Indicators and action points for gambling harms should be included in existing health related policy documents at their next update i.e., the Making Life Better, Children and Young People's Strategy and Protect Life 2 strategies.
- An independent, government led strategy for preventing gambling harms should be developed.

- Mitigating gambling harms should be included as an area for engagement by the recently appointed Interim Mental Health Champion for Northern Ireland.

Online and harmful gambling

- An independent system for the development and implementation of behavioural algorithms to detect those at risk of harms is established.
- Mandatory spending limits, pending affordability checks and loss limits, are put in place for online gambling.
- A ban on the use of credit cards for online gambling.
- A national multi-operator self-exclusion scheme is established (see section on self-exclusion).
- Appropriate regulation and monitoring of online gambling communities.

Regulatory Framework

Are there aspects of gambling that should be liberalised in NI?

No, there is no aspect of gambling that should be further liberalised in Northern Ireland. The UK has a relatively liberal gambling regime by global standards, with widespread provision of highly accessible land-based and online gambling opportunities. In England, Scotland and Wales, gambling regulation is overseen by the Gambling Commission, with policy responsibility held by the Department for Digital Culture, Media and Sport.

This imposes some regulatory restrictions on the way some forms of gambling are provided notably:

- restrictions around stakes and prizes on gambling machines of different categories;
- restrictions about the number of machines permissible in different venues;
- requirements to offer self-exclusion and responsible gambling tools and, most recently; and
- requirements to stop people using credit cards to gambling online.

Northern Ireland has few of the safeguards and restrictions offered by other jurisdictions.

What type of regulatory framework is needed to protect vulnerable groups from gambling harm?

The prevention of gambling harms to health and society should be a core focus of any regulatory framework. Robust regulation is needed to ensure the industry operates in a way that is safe and fair. Protection of health and social harms, and the protection of vulnerable communities, should be a specified goal of any new regulatory framework.

Overview of harms

Gambling harms are the adverse impacts from gambling on the health and wellbeing of individuals, families, communities and society (Wardle et al, 2019). These harms are diverse, affecting resources, relationships and health, and may reflect an interplay between individual, family and community processes. Gambling harms can include financial harms, relationship disruption, conflict or breakdown, emotional or psychological distress, decrements to health, cultural harm, reduced performance at work or study and criminal activity (Gambling Commission, 2018). The scale and nature of these harms are increasingly being recognised (Advisory Board for Safer Gambling, 2020). The harmful effects from gambling may be short-lived but can persist, having longer term and enduring consequences that can exacerbate existing inequalities. Among children, these harms potentially affect future development (Blake et al, 2019). Harms exist on a spectrum but at their most severe can include self-harm and suicide. There is strong evidence demonstrating the relationship between gambling harms and suicidality, including among young people. Wardle and McManus (2020) demonstrate a significant and substantial relationship between suicide attempts and problem gambling even after factors like poor wellbeing, substance misuse and impulsivity have been taken into account. Those with lived experience of gambling problems often report feeling suicidal as a result of problem gambling and evidence suggests that a high proportion of those seeking treatment have attempted suicide (Sharman et al, 2019).

How regulation can affect the pattern of harms

Academic literature has shown there is a relationship between how much gambling goes on in a population and how much harm is experienced (called Total Consumption Theory) (Rossow, 2018). The implications of this

relationship are that policy measures which lead to a reduction in total consumption are also more likely to lead to a reduction in harms. As highlighted above, Northern Ireland has fewer safeguards in place than most other jurisdictions and the current lack of regulation is placing the region at risk of high rates of gambling and high rates of harm. Rossow (2018) shows that the way most people gamble affects their likelihood of developing a subsequent gambling problem. Problem gambling is closely related to the time and/or amount of money spent on gambling (Mazar et al. 2020). Considering the Total Consumption Model (TCM), Rossow (2018) has concluded that strategies that effectively reduce gambling at the population level will likely also reduce excessive gambling and therefore probably reduce problem gambling and related harms.

Principles to consider in the development of a new regulatory framework

The type of regulatory framework required for gambling should be commensurate with the type of commodity and the scale of the harms associated with it. Regulatory frameworks operate on a continuum that is proportionate to the level of risk of harms associated with the product. In Northern Ireland, 2.1% of the population experience problem gambling, with a further 4.9% experiencing moderate risk gambling, meaning they are likely to be experiencing some adverse consequences from their gambling. However, around a third of people in Northern Ireland do not gamble, and many gamble only on the National Lottery, meaning that rates of problem and moderate risk gambling among those who gamble on products other than the lottery are likely to be much higher. The Northern Ireland Gambling Prevalence Survey did not look at this, but equivalent studies from England, Scotland and Wales shows that those who engage in activities like online gambling or Fixed Odd Betting Terminals have a much higher prevalence of gambling problems, with around one in five people who engage with these products experiencing moderate risk or problem gambling (Conolly et al. 2018). This level of risk requires a proportionate regulatory approach, which is more prescriptive, and rules based, outlining the actions that need to be taken to protect the vulnerable from harm.

In addition, evidence shows that whilst gambling harms can affect anyone, they are not distributed uniformly and are disproportionately evident among more socially and economically disadvantaged communities, exacerbating inequalities (Wardle, 2015). Northern Ireland is one of the more economically disadvantaged regions in the United Kingdom, with higher observed rates of gambling harms than England, Scotland and Wales (Department for Communities, 2017). In addition, Northern Ireland suffers an excess of mental ill-health and higher suicide rates than Great Britain and the Republic of Ireland (Department of Health, 2019; National Suicide Research Foundation, 2020). For these reasons, regulatory frameworks should be based on a precautionary approach based on both citizen welfare and contextual factors with the core aim of protecting people from harm.

Recommendations

Gambling has changed significantly since the Betting, Gaming, Lotteries & Amusements (NI) Order 1985. The last decade has seen a significant increase in online gambling and use of Fixed Odds Betting Terminals (FOBTs), particularly amongst treatment seeking gamblers (Sharman et al. 2019; Gambling Commission, 2020; Department for Communities, 2017). The current legislation falls far behind developments in the gambling industry and there is an urgent need for the development of new legislation to take account of the wide range of gambling options now available. Robust regulation is needed to ensure the industry operates in a way that is safe and fair.

As the gambling industry expands and additional opportunities for gambling develop, it is even more important that there is better regulatory oversight by government in the place of liberalisation of gambling in

Northern Ireland. The Institute recommends that any new gambling law or regulatory framework should be subject to a full Health Impact Assessment. This should include an assessment of the impact on public services including health and social care services and the criminal justice system.

New gambling laws are needed in Northern Ireland. The current legislation is outdated, and the industry has evolved at significant pace in the last decade. Any new law and regulatory framework should include a requirement for the establishment of a regulatory authority with a mandate to reduce harmful levels of gambling and gambling harms. The role of a regulatory authority should include a clearly defined monitoring and evaluation function, incorporating routinely collected data to monitor progress against targets and the objectives of the authority. This body should have the powers to implement and monitor adherence to the provisions within the legislation. It is important any new regulatory framework includes routine monitoring of gambling behaviour and its associated harms through a public health lens. Enhanced monitoring of gambling behaviours and harms among both children and adults through government health surveys to consider the associations with mental health and other addictions, such as alcohol and drugs, is recommended. This regulatory body should be funded commensurate with the ability to keep pace and monitor the actions of the transnational gambling industry. Penalties for breaches of the legislation should be proportionate to the profit/economic value of the gambling industry.

Any new law and regulatory framework should be aware of the wider criminal justice impact of gambling behaviours. The Department of Justice, Probation Board, Policing and Community Safety Partnerships and the Police Service of Northern Ireland should be actively engaged in the design and enforcement of legislation, particularly in the context of the interface between gambling and antisocial behaviour, fraud, debt collection, gang activity, interpersonal and domestic violence and intimidation.

The regulatory framework should address both prevention and response elements of gambling harms. There are no bespoke statutory treatment or support services for those experiencing problem gambling. The development of statutory gambling treatment and support services is a real need in Northern Ireland, given the higher prevalence of problem gambling in this jurisdiction.

Voluntary codes of practice to monitor the activity of the gambling industry are unlikely to be effective. To ensure voluntary regulation does not become the de facto position, it is critical that new legislation includes the establishment of an independent, impartial regulatory authority. Any such regulatory authority should have powers to restrict advertising and marketing of gambling products and impose punitive measures where breaches occur.

In May 2020, the Department of Health launched its Mental Health Action Plan (Department of Health, 2020) and subsequently appointed an interim Mental Health Champion. Gambling addiction is an under-recognised threat to mental health and interacts in complex ways with issues of alcohol and drug misuse, self-harm and suicide. John et al (2019) found that there are no reliable estimates of gambling-related suicide deaths at a population level in the United Kingdom and a lack of reporting and awareness in official reporting mechanisms such as inquests. A study on gambling-related suicide in Hong Kong found that, of the 150 cases considered, 11% were identified as problem gamblers (and all had unmanageable debt at time of death) (Wong, et al., 2010).

What existing barriers would prevent a new regulatory authority from working with health and social care services to address the availability and accessibility of gambling, the safety of gambling products, advertising, public health messaging and the creation of a joined-up treatment system?

Issues relating to gambling availability, accessibility of gambling, the safety of gambling products, and advertising fall outside the remit of health and social care services but would be core responsibilities for any new regulatory authority. Responsibility for public health messaging would seem to be best placed within the Public Health Agency. The creation of a joined-up treatment system would be a core responsibility of the Health and Social Care Board in partnership with the community and voluntary sector.

Potential barriers

A major barrier for a regulator in setting up effective processes to protect people from gambling harms and the creation of a joined-up treatment system is funding. To our knowledge, gambling corporations in Northern Ireland currently do not pay into any system for the prevention or treatment of gambling harms. Where there are contributions from the gambling industry, these appear to be rather minimal and indirect and not proportionate to the socioeconomic impact of gambling harms. In the context of increasing pressures on resources for health and social care, it is vital to have an independent and transparent system for funding prevention and treatment of gambling harms in Northern Ireland.

There are different ways to achieve this. In New Zealand, mandatory contributions are paid to the Ministry of Health according to a pre-agreed algorithm which considers the profitability and risk of harms for each sector. This money is then ring-fenced for prevention and treatment activities. In Great Britain, the model requires only voluntary contributions. This system has been critiqued for a) providing insufficient levels of funding and support (typically less than £10 million a year from an industry generating over £14.5 billion in Gross Gaming Yield) and b) potentially allowing corporate influence the way issues such as distribution of spend distributed, arguably undermining policy ambitions to reduce harms (Cassidy, 2014). The gambling industry itself has pledged to increase funding levels for treatment to £100 million over the next three years. However, this funding has yet to materialise (Wardle et al, 2019).

Prevention is a critical and central tenet of a public health based approach to harm reduction. Effective prevention requires independent assessment of what works and what doesn't, to make recommendations for changes to policy and practice. Trust in the outcomes of such research by the public and policy makers is essential. There have been repeated critiques of studies produced under voluntary systems of funding, undermining trust in research, outcomes and expertise (Cowlshaw and Thomas, 2018).

Should there be a statutory levy on gambling operators?

A statutory levy on gambling operators should be considered, but this should be operated in an open and transparent way. The levy should be proportionate with the profits from the industry and harms resulting from gambling.

In UK legislation, there is the provision to enact a statutory levy upon the industry to raise funds in a transparent and independent way. The British regulator, their Advisory Board, and some members of the industry are all supportive of implementing a statutory levy. A group of over 40 British researchers on gambling have supported the implementation of a levy, arguing that it provides an opportunity to 1) deliver harm reductions by ensuring a fair, independent and trusted system for developing effective prevention activities, 2) that, in turn, effective prevention delivers societal benefits through reductions in the social costs

associated with gambling harms and 3) that a levy creates an equitable system by which all members of the industry contribute to addressing the harms they generate (Wardle et al, 2020).

Fixed Odd Betting Terminals

Should Fixed Odd Betting Terminals (FOBTs) be legalised in Northern Ireland?

No, Fixed Odd Betting Terminals (FOBTs) should not be legalised in Northern Ireland and any existing FOBTs should be removed.

Current provision of FOBTs in Northern Ireland

Fixed Odd Betting Terminals (FOBTs) are currently available in bookmakers. The Northern Ireland Department for Communities estimates that there are currently 800 to 900 of these unregulated FOBTs operating in Northern Ireland and there is anecdotal evidence suggesting that these also exist outside of betting shops in takeaways, pubs and clubs (House of Commons, 2019). It is unclear exactly how many FOBTs there are in Northern Ireland, how they are distributed geographically or what revenues are generated from them. In other jurisdictions (namely Great Britain) FOBTs have come under increasing regulatory scrutiny due to the high stakes previously associated with them and the high spend by users. The profitability of these machines saw the number of Licensed Betting Offices in Great Britain increase and cluster in certain high streets (Wardle et al. 2014). In the UK, FOBTs are disproportionately available in deprived areas and research showed that those living in closer proximity to a cluster of FOBTs were more likely to be problem gamblers (Astbury and Wardle, 2016). Internationally, electronic gambling machines have consistently been associated with higher rates of problem gambling and in Britain FOBTs were identified as strongly associated with problem gambling (Woodhouse, 2019; Ronzitti et al. 2016; Sharman et al. 2019).

Prior to regulatory change in stake sizes, the highest proportion of treatment seeking individuals who contact the main gambling addiction provider (GamCare) identified machines in betting shops as their main form of gambling (Ronzitti et al. 2016; Sharman et al. 2019).

If FOBTs are legalised in Northern Ireland, what policy measures can the Executive put in place to protect individuals from FOBT-related gambling harm?

We recommend that FOBTs are not legalised in Northern Ireland. However, if the decision is made to legalise FOBTs, harm reduction measures are essential.

Operating licences

In the UK, the Gambling Act 2005 classifies FOBTs as B2 gaming machines. An operating licence (issued by the Gambling Commission) along with a betting premises licence issued by the licensing authority, allows up to four B2 machines to be sited on betting premises (Woodhouse, 2019).

Stakes

Until 1 April 2019, when the Gaming Machine (Miscellaneous Amendments and Revocation) Regulations 2018 came into force, the maximum stake on a single bet was £100. It is now £2. However, the maximum prize remains at £500. There is evidence that the £2 maximum stake has been adopted by some gambling operators in Northern Ireland, however, this is currently a voluntary action. There is good reason to suppose that the levels of problem gambling in Northern Ireland is similar, if not worse, than other parts of the UK and so at a minimum, Northern Ireland should match UK regulations (Department for Communities, 2017).

There is no formal evaluation of the impact the reduced maximum stake has had on gambling on the UK. However, it was reported in the Guardian newspaper that there has been a 38% reduction in police callouts to bookies to deal with customers becoming violent after losing money, following the enforcement of the legislation (The Guardian, 2020). There were 1,803 callouts in 2019, compared with 2,907 the previous year, even though the reduced stake rules only took effect three months into the year. The newspaper also reported that there were 23% fewer incidents requiring a police presence than in 2017 and less than half of the 4,060 reported in 2016. Revenues on FOBTs has also dropped significantly.

On screen warnings and limit setting

A report commissioned and funded by Public Health Wales on gambling harms reported that integrated secondary measures such as on-screen warnings, and limit-setting (e.g., losses) may support individuals when deciding whether to prolong or terminate their gambling sessions (Rogers et al. 2019). For example, onscreen warnings can increase the likelihood of session termination and limit-setting can sometimes moderate betting behaviour. However, only a minority of individuals engage with these measures, limiting their efficacy. This report also recommended that restricting access to further funds while gambling, including the removal of gambling on credit cards at the point of sale and the removal of ATMs as key actions in this area (Rogers et al. 2019).

Protecting vulnerable groups

The groups that are particularly vulnerable to gambling harm include young people, students, some minority groups, those living in most deprived areas, those who are homeless, ex-prisoners or individuals on probation (Rogers et al. 2019; Department for Communities, 2017). Problem gambling is associated with male gender, younger age (16-34 years), individuals who were separated, divorced or never married, unemployment, lower education and lower socioeconomic status. Licensed betting offices and FOBTs are typically concentrated in areas of high deprivation whose populations are more vulnerable to gambling-related harm. A report by the All Party Parliamentary Group in the UK expressed particular concern about the potential impact of a higher density of FOBTs in disadvantaged areas where they are already experiencing higher levels of mental ill-health and suicide, violence and money laundering activity (APPG, 2018).

Self-exclusion provisions

What self-exclusion provisions should be available to those gamblers with a gambling disorder and those at risk?

In Great Britain, self-exclusion is one of the few harm-minimisation measures mandated by the Gambling Commission as part of operator license conditions. Although self-exclusion is necessary, it is not sufficient to mitigate gambling harms or problem gambling and it places the 'burden of change' on the service user rather than the provider. Higher level system change based on government regulation is a more powerful tool than attempts to affect the behaviour of those who are already suffering from gambling harms.

National self-exclusion schemes should be implemented, monitored and evaluated in Northern Ireland. We recommend that these schemes mandate the sharing of information across all operators. A consumer ombudsman should be established, or, this role should be clearly allocated within existing roles, to investigate complaints against any LBO that is not adhering to self-exclusion legislation.

Understanding self-exclusion

In general, people who self-exclude have experienced significant gambling harms. Review level evidence has found that between 73% and 95% of self-excluders are problem gamblers (Gainsbury, 2014). Motivations for self-exclusion include mounting financial losses, difficulties involving partner and family relationships, occupational/legal and health-related issues, wishing to take short breaks from gambling or to save money for household/family expenses (Gainsbury, 2014).

Evidence of effectiveness and health outcomes

A systematic review of land-based self-exclusion programs reported on the results of 19 studies. It found that self-excluders were usually male and in their 40s (Kotter et al. 2019). Changes after exclusion revealed wide ranges in the rates of abstinence (13–81%), rates of gambling reduction (29–92%), and rates of exclusion breaches (8–59%). However, consistent significant changes in pathological gambling from before exclusion (61–95%) to after exclusion (13–26%) were found. At enrolment, many self-excluders had symptoms of anxiety (44–69%), depression (45–73%), tobacco (ab)use (36–45%), alcohol (ab)use (0–39%), and substance use disorders (0–29%). Several aspects of mental health improved after exclusion including general health, emotional health, quality of life, and daily activities. This and other reviews have concluded that current shortcomings of self-exclusion schemes could be minimized using improved access controls, identity checks and the extension of exclusion to other gambling segments and operators as up to 75% gambled outside their excluded venue (Blaszczynski et al. 2014; Kotter et al. 2019).

Other research has also reported both temporary and long-term benefits from the use of these schemes, including improved perceived control of gambling, reductions in gambling expenditure, diminished urges to gamble (Tremblay et al. 2008; Hing et al. 2015), and improvements in mood, psychological wellbeing and overall functioning (Gainsbury, 2014; Kotter et al. 2019).

Operation of self-exclusion schemes in Great Britain

In Great Britain, there is a multi-operator self-exclusion scheme (MOSES) over licensed betting offices (LBOs), a Self-Enrolment National Self-Exclusion (SENSE) for all land-based casinos and the Remote Gambling Association now offers GamStop, a developing facility that covers UK gambling websites. There are currently no systematic assessments of the performance of these schemes in terms of helping individuals to reduce their gambling. An early evaluation of the MOSES processes found that 83% of 196 customer respondents reported that the scheme had helped them to reduce their gambling and that 71% had not attempted to gamble in their nominated LBOs since registration (Chrysallis Research, 2017). However, the report highlighted that procedures could be improved through high quality staff training, by helping staff to explain the scheme to LBO customers, by increasing staff members' awareness of their responsibilities under the scheme, and by speeding up registration.

Loot boxes and children

What are the effects of in-game spending, such as loot boxes, particularly on children, and what measures are needed to address it?

Many types of loot boxes exist, with some appearing more harmful than others. Data are needed on the prevalence and impact of loot boxes, and other in game transactions, on children in Northern Ireland.

In-game spending and loot boxes

Loot boxes are one example of many gambling-like transactions that are increasingly present within digital games. They have become the focal point for exploring the convergence of gambling and gaming, largely because their practices look and feel very similar to gambling. Some researchers have described them as being psychologically akin to gambling (Drummond & Sauer, 2018). Others have reported that loot boxes may now be children's first encounter with a gambling type mechanism and that pathways to problem gambling typically begin with early access to some form of gambling (Blaszczynski & Nower, 2002).

However, loot boxes are not the only form of in-game transaction about which concerns should be raised. Skin betting, social casino products and esports betting (and sponsorship) along with other betting mechanics which exist within some digital games (like Defense of the Ancients 2, which has been described as having gambling threaded through its DNA) raise broader questions about the convergence of games and gambling (Zanescu et al. 2020). A recent European Commission report into loot boxes noted this complexity and argued that "*Framing the debate around loot boxes, away from gambling and towards consumer protection, would provide the EU with an array of tools to address problematic practices and minimise potential harm, especially for minors*" (APPG, 2019). The landscape is complex, incorporating two different industries with different levels of regulatory risk.

The Young People and Gambling Survey 2019 found that approximately one in 10 (11%) of 11-16 year olds had spent their own money on gambling in the past seven days, with boys being twice as likely gamble as girls (Young People and Gambling Survey 2019). Furthermore, 1.7% of the 11-16 year olds were already classified as 'problem gamblers', an increase from 0.9% in 2017.

Relationship with gambling harms

A recent review of types of loot boxes and their links to problem gambling concluded that regardless of the presence or absence of specific features of loot boxes, if they are being sold to players for real-world money, then their purchase is linked to problem gambling (Zendle et al. 2020).

Concerns about loot boxes centre on two aspects, a) that they are a harmful form of activity and b) that they normalise gambling-like practices among young people. There is increasing academic literature which demonstrates a link between the purchase of loot boxes and the experience of problem gambling (Zendle et al. 2020). Recent evidence among young people in Britain aged 16-24 shows that this association persists even when broader gambling engagement and impulsivity is taken into account (Wardle and Zendle, 2020). In this study, the strength of the association between loot boxes and problem gambling was of similar magnitude to gambling online on casino games or slots. The study concluded that young adults purchasing loot boxes within video games should be considered a high-risk group for the experience of gambling problems.

The concern about normalisation is well-founded but less easy to evidence. Loot boxes are ubiquitous in video games. The global loot box market is estimated to be worth £20 billion, with the UK market alone valued at £700 million (Wright, 2018). A report by Parent Zone found 91% of young people reported that there were loot boxes available in the games they play and 40% had paid to open one (Parent Zone, 2019). Recent UK data also reported that 79% of young people ages 11–24 thought that both loot boxes and skins betting were a highly addictive form of gambling and that they are more likely to gamble at times of low emotional wellbeing, when they are feeling bored, aimless or lonely (Royal Society for Public Health, 2019).

Research from two small Canadian studies reported that 68-86% of participants agreed that loot boxes were a form of gambling and that 75-79% of participants agreed that opening a loot box felt like making a bet (Brooks and Clarke, 2019). Over 8 in 10 young people said that gambling harms increase the risk of a peer experiencing depression and nearly three quarters said that they increase the risk of a peer experiencing anxiety (Royal Society for Public Health, 2019). Northern Ireland's Youth Wellbeing Prevalence Survey 2020 reported that rates of anxiety and depression are around 25% higher in the child and youth population in comparison to other UK nations, reflecting a similar trend in the adult population.

Regulatory responses

There have been varied international responses to loot boxes. In June 2019, the Gambling Commission reaffirmed its position that loot boxes should not be considered as gambling under the Gambling Act 2005. Belgium has banned the use of loot boxes within some video games stating they are a violation of gambling legislation, gambling authorities in the Netherlands have ruled that some loot boxes constitute unlicensed games of chance, Japan and China has required that the odds of winning be displayed to consumers whilst the United States have not regulated loot boxes (Drummond et al. 2019; Wardle and Zendle, 2020).

Protection measures

What measures to protect the vulnerable, including children, from gambling harm work well in other jurisdictions and what could prevent these from working in NI?

Should public health approaches to gambling harm prevention and reduction, encompassing a range of population-based approaches, be supported by new legislation and funding?

Should there be changes to the current restrictions on gambling advertising in NI?

Yes, there is evidence that advertising and marketing influences the gambling behaviour of children and young people. In a complex, integrated digital environment it is almost possible to prevent children from being exposed to advertising and thus we recommend the precautionary principle be applied and advertising and marketing be heavily restricted.

Evidence base

Reducing gambling harms is more than simply encouraging individuals to gamble responsibly (Gambling Commission, 2020b). A public health approach to reducing gambling should encompass implementing policies and legislation that benefit both the individual and the population to prevent gambling harms from occurring. It means recognising that a broad range of measures must usually be taken by different people and organisations to address what can often be a complex mix of harmful consequences.

Effective policy to reduce gambling harms needs to adopt a broad focus, with strategic action planned and delivered to deal with the multifactorial determinants of health. This is well recognised for obesity, smoking, and alcohol consumption, yet such approaches are only just beginning to be recognised for gambling and Northern Ireland has no government-owned strategy for preventing harm from gambling (Wardle et al. 2019).

In Britain, the first progress report on the *National Strategy to Reduce Gambling Harm* highlighted a lack of action on prevention as a key weakness and argued that progress would be limited if greater funding through a statutory levy was not secured (Gambling Commission, 2020b). The Northern Ireland Assembly has a significant opportunity to learn from these experiences and demonstrate commitment to implementing effective prevention by creating a well-funded system aimed at delivering this (Advisory Board Safer Gambling, 2020).

Vulnerabilities related to alcohol and gambling

A review by Alcohol Concern (now Alcohol Change UK) (Bohane et al 2015) examined the evidence on gambling and alcohol behaviours in the UK and internationally. The review found that participation in gambling is higher amongst more frequent drinkers and those who engage in multiple forms of gambling are more likely to consume more units of alcohol on their heaviest drinking day. In land-based gambling venues, operators are required by the regulators to prevent customers who are drunk from gambling. However, there is little research looking at gambling and drinking behaviour in these venues. The report highlights concern about drinking which takes place outside of betting shops and drinking at home in the case of online gambling, with some studies suggested that the latter are commonly combined. The report by Bohane et al (2015) found international evidence that alcohol use contributed significantly to impaired control of gambling, and there is a relationship between gambling and binge drinking. Research has also shown that the extensive use of alcohol and drugs is a significant factor and risk predictor linked to problematic gambling.

Under current alcohol licensing law in Northern Ireland, Sunday is not included in the permitted hours for racetracks. At the time liquor licensing legislation was enacted, betting at racetracks was not permitted on Sundays. The Betting and Gaming (NI) Order 2004 then permitted on-course betting. The new proposals for alcohol licensing in Northern Ireland now include provision for Sunday to be included in the permitted hours for licensed racetracks (Department for Communities, 2020). It will be important to consider the impact of extended alcohol licensing hours on gambling within racetrack settings. Monitoring systems could usefully include data collection on both alcohol sales and gambling within these settings.

Gender is a further significant factor when discussing gambling and drinking with higher prevalence levels amongst young males. However, research has shown an increase in female participation, particularly online and where there are instant wins (Bohane et al 2015).

Advertising and sponsorship

A great deal of attention has been focused on the relationship between gambling and football, a sport that 44.7% of all 11-15 year olds play at least once a month (Royal Society for Public Health, 2019). In the current 2019/20 season, half of Premier League clubs have gambling operators as shirt sponsors, generating nearly £70 million in revenue for those clubs (Royal Society for Public Health, 2019). In the second tier of English football, the Sky Bet Championship, 17 of the 24 teams have gambling operators as shirt sponsors. In November 2019, the APPG on Gambling Related Harm's interim report criticised the popular football video game series FIFA, for showing teams and players wearing kits showing gambling sponsors, despite the majority of FIFA players being young people and gambling adverts not being permitted in games or websites that are popular with children.

There is evidence to suggest that the relationship between gambling and sports is growing. In 2019, Major League Soccer, the top division of football in the USA, changed their regulations to allow commercial sponsorship by gambling operators (Royal Society for Public Health, 2019). Also, in 2019, the Professional Golf Association Tour relaxed their regulations to allow gambling companies to be considered as 'Official Marketing Partners' for professional tournaments and players (Royal Society for Public Health, 2019). These actions have increased the visibility of gambling and some academics have argued that this has "normalised" gambling among young people.

The Gambling Commission's Youth Gambling Study has repeatedly demonstrated a relationship between exposure to gambling advertising and intentions to gamble (Gambling Commission, 2019). In 2018, 7% of children aged 11 to 16 who had seen gambling advertisements or sponsorship said that it prompted them to gamble when they would not have done so otherwise. This represents about 5% of children aged 11-16 overall. This means that approximately 200,000 children aged 11-16 gambled because of advertising, marketing or sponsorship exposure.

Some governments have taken action. In 2018, the Italian Government announced a ban on all gambling adverts, which included any sponsorship deals held by sports clubs with gambling operators (Royal Society for Public Health, 2019). This meant that any organisation with an existing sponsorship arrangement with a gambling operator had to terminate their relationship by August 2019.

The Netherlands and Switzerland have prohibited the advertising of all online games, whilst Iceland has prohibited the advertising of poker and tables games. Spain's Minister for Consumer Affairs, Alberto Garzón, reported that he would push for his proposed near-total ban to be enforced by October on gambling advertising. Under the proposed amendments to the gambling advertising laws in Spain, commercials promoting gambling goods and services on TV, radio, and online channels will be limited to a four-hour period

between 1 am and 5 am daily. A study that assessed national gambling policies and disordered gambling prevalence rates within Europe found that the more restrictive the advertising policy for online games, the lower the rates were of at-risk gambling (Planzar et al. 2014).

Lastly, esports need to be taken into account within new legislation. The esports betting market remains predominantly unregulated, although regulated sites have begun offering options to wager on these types of events (Gainsbury et al. 2017). Esports revenue is increasingly being driven by advertising and sponsorships, estimated as approximately 58.7% of the total 2019 esports global revenue. The growing esports market has attracted major betting operator and alcohol industry sponsors investing in tournaments, professional teams, and athletes (Fitch, 2018). Many esports athletes and viewers are children and young people, with 17% aged 13-17 years old (Chambers et al. 2020).

The Institute is concerned about the wellbeing of children and young people and believes that all necessary measures should be taken to protect them from the harms associated with gambling. The Institute would urge the All Party Group to consider the UN Convention of the Rights of the Child (UNICEF) in the context of preventing children from engaging in gambling activity and protecting them from the harmful effects of parental gambling.

The Institute would encourage the All Party Group to consider the roll-out of a test purchasing scheme, as part of any new regulatory framework. The UK Gambling Commission has developed a 'Test purchasing and age verification toolkit' for use in England and Wales. Test purchasing allows the Gambling Commission and local authorities to measure the compliance by gambling operators as well enabling operators to demonstrate the effectiveness of their policies and procedures (Gambling Commission, 2015). Identification of underage gambling is one aspect of test purchasing where children and young people can be protected. Where breaches of the law are identified, proportionate punitive measures should be imposed to underline the severity of exposing and permitting children to engage in gambling.

Online and harmful gambling

What are the potential links between online gambling and harmful gambling?

There is consistent evidence that people who play online slot or casino style games are more likely to experience problem gambling. Evidence from the Gambling Commission's youth survey shows that children aged 11-16 who gamble online (either with or without parents' permission) are more likely experience problem gambling.

If online gambling is legalised in Northern Ireland, what policy measures can the Executive put in place to protect individuals from gambling harm online?

An independent and transparent system needs to be established so that trusted algorithms which use the wealth and power of industry data to detect those at risk of experiencing harm can be developed, implemented and tested. This will enable better and more effective customer interactions to be developed, which could include behavioural feedback. A range of other measures should be implemented, including mandatory loss limits, banning the use of credit cards, and could include pop-up messaging.

Extent of online gambling

Online gambling is fastest growing gambling sector in Great Britain, generating over £5.5 billion a year in Gross Gaming Yield, with £3.9 billion being generated from casino/slot style games. English and Scottish health survey data indicate that those who gamble on online slots, casino or bingo games consistently have higher rates of problem gamblers among their player base than most other activities. Survey data from a broadly UK-based sample show that individuals who play online slots and casino games (as well as betting on sports online) reported elevated rates of depressive symptoms, anxiety, alcohol and substance misuse and past year use of major illicit and psychotropic drugs, as well as self-harm as a result of their gambling (Lloyd et al. 2010). These same individuals were more likely to have sought help for addiction and report higher rates of mood-disturbance including sleeplessness (an obvious risk factor for hazardous online gambling) than other types of online gambler (Lloyd et al. 2010).

Relationship between online gambling and harms

The levels of moderate risk and problem gambling among online slot/casino/bingo players seen in the routine health surveys are like those who played Fixed-Odd Betting Terminals (see Table 1). This is of concern as online gambling is the largest growth sector for the industry in terms of Gross Gambling Yield (Gambling Commission, 2019b). Rates of moderate risk and problem gambling among those who bet on sports tend to be lower than those who gambling online on slot/casino and bingo games and are like those who gamble on fruit/slot machines.

The health surveys do not ask about how people place their sports bets and so there is limited evidence about the relationship between in-play sports betting and problem gambling. However, the health surveys do show that people who gamble more frequently are more likely to be problem gamblers, with problem gambling prevalence rising to 5% among those who gamble at least twice a week from around 1% for those who gamble less often than this (Conolly et al. 2018). As in-play betting encourages fast-pace, repeated betting this may be likely to be associated with more problematic play (Russell et al. 2019).

Table 1: Problem gambling and moderate risk gambling rates among people who took part in different types of activities.

	Health Surveys 2016		Health Surveys 2015		Health Surveys 2012	
	Moderate risk gambling	Problem gambling	Moderate risk gambling	Problem gambling	Moderate risk gambling	Problem gambling
Online gambling casino, slots or bingo	13.7%	9.2%	13.4%	10.4%	11.2%	6.3%
Fixed Odd Betting Terminals	13.5%	13.7%	8.2%	11.5%	14.7%	7.2%
Online betting on sports etc.	8.4%	2.5%	6.5%	5.4%	6.3%	3.8%
Slot machines	7.2%	6.4%	6.2%	5.7%	6.5%	2.6%

Similarly, a survey of online gamblers showed that 6% were problem gamblers and a further 23% were experiencing moderate harms (Pricewaterhouse Coopers, 2017). This study also showed that problem gamblers were more likely to use their mobile phones as their main device to gamble online than non-problem gamblers and spent more time per week gambling than non-problem gamblers (Pricewaterhouse Coopers, 2017). This is notable as ease of access and availability of gambling products have been key concerns with online gambling.

The odds of being an at-risk or problem gambler among children aged 11-16 were 8.4 times higher among those who had gambled online on a monthly basis than those who had not (Wardle, 2019).

In short, there is good evidence from Great Britain, that those who play online casino style games or online slots are more likely to experience problem gambling.

Results from the UK Gambling Commission's Annual Report showed that in 2019, 21% gambled online, up from 18% the previous year. Since 2018, there has been an increase in the proportion of individuals betting on sports online (81%; a 9 percentage point increase from 2018), and a decrease in in-person participation (27%; a 13 percentage point decrease from 2018). As of 2019, mobile phones are the most popular method of accessing online gambling, with 50% of all online gamblers doing so (increase of 6 percentage points from the 44% recorded in 2018) and represents a continuation of a trend of increasing mobile use for gambling in recent years. Younger age groups (76% of 18-24 year olds, and 72% of 25-34 year olds) and males were the most likely to gamble online. Gambling in the home has remained the most popular location for online gambling (95%) followed by in work (15%), whilst commuting (12%) in a pub or club (7%) and finally at a sports venue (4%) (Gambling Commission, 2020).

These trends indicate easy and continuous access to gambling services across multiple settings raising the possibility that technology may act as an 'accelerator' to increase risk of harms among vulnerable individuals. Increased internet coverage and an explosion of new gambling sites have increased availability and increased accessibility of gambling can be considered an important factor in the development and maintenance of gambling problems (Gainsbury, 2015). General population and treatment seeker data are reflective of Gambling Commission figures that show the remote gambling sector is the largest and fastest growing sector industry wide (Sharman et al. 2019).

A review of internet gambling found that the use of the internet for gambling is more common among highly involved gamblers, and for some internet gamblers, it appears to significantly contribute to gambling problems (Gainsbury, 2015). As internet gambling continues to evolve and participation increases, particularly among young people who are highly familiar with internet technology and online commerce, it is likely that related problems will emerge.

A Finnish study of 3,555 individuals found that a higher number of gambling harms were associated with online gambling (Castren et al. 2018). Chasing losses was the most typical harm among online poker players. Furthermore, a study that used data from the prevalence study of gambling users in Spain, showed that online gambling had a significant impact on the odds of experiencing a gambling disorder, which worsened as online gambling participation increased (Diaz and Perez, 2020).

A Finnish study of 1,200 15–25-year-old internet users highlighted the need to monitor online gambling communities that are used to share gambling tips and experiences (Sirola et al. 2018). It found that over half (54.33%) of respondents who had visited gambling-related online communities were either at-risk gamblers or probable pathological gamblers. In three different regression models, visiting gambling-related online communities was a significant predictor for excessive gambling even after adjusting confounding factors.

During COVID-19, there appeared to be an overall decrease in gambling activity, most likely due to reduced numbers of sporting events taking place and the closures of land-based betting offices in line with government imposed public health and social measures (Lindner et al. 2020; Hakansson, 2020). A Canadian study reported that moderate risk and problem gamblers and those with moderately severe and severe depression were the most likely to continue gambling online during the period of emergency measures (Price et al. 2020). Furthermore, those who reported losing their employment or having work hours reduced had greater odds of high-risk gambling status than other respondents whose employment was not as affected.

A Swedish study concluded that online gamblers who maintain or initiate gambling types theoretically reduced by the crisis may represent a group at particular risk (Hakansson, 2020). Finally, an Australian Government Statistical Bulletin reported that while fewer individuals reported gambling online in April 2020 compared with March when restrictions were first enforced, the proportion of online gamblers who had increased their spending grew from 20% to 33% (Brown and Hickman, 2020).

Regulatory measures to protect online players from harm

Online gambling operators hold a wealth of information about people who use their products. In Great Britain, the regulator has repeatedly stated that this is a key reason they have not implemented any restrictions on online gambling products. The belief is that gambling operators should be able to use this insight to identify those who may be at risk of developing gambling problems and to intervene with them. This ambition is underpinned by a regulatory requirement for operators to interact with customers in a way which minimises the risk of customers experiencing harms associated with gambling (Gambling Commission, 2019c). Much effort and attention has been given by individual operators to develop predictive algorithms for harm. However, to date, there is very little transparency over what operators are doing and no independent oversight or evaluation of their actions. Because of a lack of funding, the regulator must rely on individual operators to develop and test their own systems and to rely on them to put the reduction of gambling harms before other, potentially competing, corporate demands. The efficacy of such a system has been repeatedly called into the question by the Responsible Gambling Strategy Board and trust undermined by some corporations reporting intervening with far fewer individuals than one would reasonably expect.

There is certainly value in these approaches. However, the way they have been implemented has undermined trust in the system and in results. There is a significant opportunity for the government of Northern Ireland to learn and improve upon these approaches. For example, it could become a legislative requirement that online operators provide a commonly agreed set of anonymised data to an independent repository. This data could then be used by independent computer scientists to develop and crucially test algorithms for the detection of harms. Operators could be required to implement these and support their evaluation. As with previous responses, this requires funding to support, but offers an excellent opportunity to maximise the insight that operators hold on individuals for the public good in an independent and transparent way.

Behavioural feedback over the longer-term may also be helpful in some circumstances, such as in online contexts or with loyalty schemes where player-tracking allows the collection and analysis of individuals' gambling histories (Rogers et al. 2019). Player-tracked betting patterns can be used to provide personalised feedback about gambling behaviour, and sometimes, a recommendation to engage responsible gambling tools (Rogers et al. 2019).

Pre-commitment limit-setting involves users specifying (voluntarily or compulsorily), before engaging in gambling, the maximum they would like to spend. Once reached, this limit triggers a reminder message and a cooling-off period in which the player is unable to gamble further. Limit-setting is broadly effective at reducing over-expenditure and generally viewed positively by gamblers (Drummond et al. 2019). In October 2016,

Norway introduced mandatory individual (monthly) loss limits of 20,000K (approximately £1600). Spain also implemented mandatory loss limits on online gambling as part of its 2011 Gambling Act.

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Acknowledgements

We wish to acknowledge the support of Dr Heather Wardle for providing external advisory support on this response.

References

Advisory Board for Safer Gambling (ABSG) (2020) Progress Report on the National Strategy to Reduce Gambling Harms. Available at: <http://www.rgsb.org.uk/PDF/Progress-Report-on-the-National-Strategy-to-Reduce-Gambling-Harms.pdf>

All Party Parliamentary Group (APPG) (2018) Report from the Fixed Odds Betting Terminals All Party Parliamentary Group Inquiry into the Implementation of the £2 Stake Reduction. Available at: <http://www.grh-appg.com/wp-content/uploads/2018/11/This-inquiry-has-now-concluded.-Click-here-to-download-a-copy-of-the-APPG%E2%80%99s-findings..pdf>

All Party Parliamentary Group (APPG) (2019) Report from the Gambling Related Harm All Party Parliamentary Group Online Gambling Harm Inquiry. Interim Report. Available at: <http://www.grh-appg.com/wp-content/uploads/2019/11/Interim-APPG-Report-November-final-1.pdf>

Astbury G, Wardle H. Examining the effect of proximity and concentration of B2 machines to gambling play. London: The Responsible Gambling Trust. 2016.

Blake M, Pye J, Mollitor J, Morris L, Wardles H, Reith G (2019) Measuring gambling-related harms among children and young people: a framework for action. Advisory Board for Safer Gambling; Gambling Commission; GambleAware. Available at: <https://www.gamblingcommission.gov.uk/PDF/Measuring-GRH-in-CYP-A-framework-for-action.pdf>

Blaszczynski A, Nower L. A pathways model of problem and pathological gambling. *Addiction*. 2002 May;97(5):487-99.

Blaszczynski A, Parke A, Parke J, Rigbye J (2014) Operator-based approaches to harm minimisation in gambling: summary, review and future directions. London: The Responsible Gambling Trust. Available at: <http://eprints.lincoln.ac.uk/id/eprint/16411/1/obhm%20report%20final%20version.pdf>

Bohane G, Guerrier—Consultant Y, Sakhuja R, Vamvakari T (2015) The Relationship Between Alcohol and Gambling Behaviours. Wales: Alcohol Concern. Available at: <https://alcoholchange.org.uk/cymraeg/publication/the-relationship-between-alcohol-and-gambling-behaviours>

Brooks GA, Clark L. Associations between loot box use, problematic gaming and gambling, and gambling-related cognitions. *Addictive behaviors*. 2019 Sep 1;96:26-34.

Brown R, Hickman A (2020) Changes in online gambling during the COVID-19 pandemic. *Statistical Bulletin* no. 25. Canberra: Australian Institute of Criminology. Available at: <https://www.aic.gov.au/publications/sb/sb25>

Bunting L, McCartan C, Davidson G, Grant A, McBride O, Mulholland C, Murphy J, Schubotz D, Cameron J, Shevlin M (2020) The Mental Health of Children and Parents in Northern Ireland. Belfast: Health & Social Care Board. Available at: <https://pure.qub.ac.uk/en/publications/the-mental-health-of-children-and-parents-in-northern-ireland-res>

Cassidy R. Fair game? Producing and publishing gambling research. *International Gambling Studies*. 2014 Sep 2;14(3):345-53.

Castrén S, Perhoniemi R, Kontto J, Alho H, Salonen AH. Association between gambling harms and game types: Finnish population study. *International Gambling Studies*. 2018 Jan 2;18(1):124-42.

Chambers T. Alcohol sponsorship and esports: reinforcing the need for legislative restrictions on alcohol sponsorship. *Alcohol and alcoholism*. 2020 Mar 19;55(2):144-6.

Chrysallis Research. Evaluation of the multi-operator self-exclusion scheme (MOSES) (2017) East Essex: Chrysallis Research. Available at: <https://www.gamblingcommission.gov.uk/for-gambling-businesses/Compliance/General-compliance/Social-responsibility/Self-exclusion/Multi-operator-self-exclusion-schemes-MOSES-evaluation-and-impact-assessment-principles.aspx>

Conolly A, Davies B, Fuller E, Heinze N, Wardel H (2018) Gambling behaviour in Great Britain in 2016. Evidence from England, Scotland and Wales. London: NatCen Social Research. Available at: <https://www.gamblingcommission.gov.uk/PDF/survey-data/Gambling-behaviour-in-Great-Britain-2016.pdf>

Cowlshaw S, Thomas SL. Industry interests in gambling research: Lessons learned from other forms of hazardous consumption. *Addictive behaviors*. 2018 Mar 1;78:101-6.

Department for Communities (2017) 2016 Northern Ireland Gambling Prevalence Survey. Available at: <https://www.communities-ni.gov.uk/sites/default/files/publications/communities/2016-ni-gambling-prevalence-survey-main-report.pdf>

Department for Communities (2020) Consultation on regulation of gambling in Northern Ireland Consultation survey report. Available at: <https://www.communities-ni.gov.uk/sites/default/files/consultations/communities/dfc-consultation-regulation-gambling-survey-report.pdf>

Department of Health (2019) Protect Life 2 A Strategy for Preventing Suicide and Self Harm in Northern Ireland 2019-2024. Available at: <https://www.health-ni.gov.uk/sites/default/files/publications/health/pl-strategy.PDF>

Department of Health (2020) Mental Health Action Plan. Available at: <https://www.health-ni.gov.uk/sites/default/files/publications/health/mh-action-plan-plus-covid-response-plan.pdf>

Díaz A, Pérez L. Online Gambling-Related Harm: Findings from the Study on the Prevalence, Behavior and Characteristics of Gamblers in Spain. *Journal of Gambling Studies*. 2020 Jul 19:1-9.

Drummond A, Sauer JD. Video game loot boxes are psychologically akin to gambling. *Nature Human Behaviour*. 2018 Aug;2(8):530-2.

Drummond A, Sauer JD, Hall LC. Loot box limit-setting: a potential policy to protect video game users with gambling problems?. *Addiction*. 2019 May;114(5):935-6.

Fitch, A. (2018). This year in esports: Investments, sponsorships and deals in 2018. Available from: <https://esportsinsider.com/2018/12/this-year-in-esports-2018-roundup/>

Gainsbury SM. Review of self-exclusion from gambling venues as an intervention for problem gambling. *Journal of Gambling Studies*. 2014 Jun 1;30(2):229-51.

Gainsbury SM. Online gambling addiction: the relationship between internet gambling and disordered gambling. *Current Addiction Reports*. 2015 Jun 1;2(2):185-93.

Gainsbury SM, Abarbanel B, Blaszczynski A. Game on: Comparison of demographic profiles, consumption behaviors, and gambling site selection criteria of esports and sports bettors. *Gaming Law Review*. 2017 Oct 1;21(8):575-87.

Gambling Commission (2015) Test purchasing and age verification toolkit. Available at: <https://www.gamblingcommission.gov.uk/for-licensing-authorities/Licensing-authority-toolkit/Test-purchasing-and-age-verification-toolkit.aspx>

Gambling Commission (2018) Gambling-related harm as a public health issue Briefing paper for Local Authorities and local Public Health providers. Available at: <https://www.gamblingcommission.gov.uk/PDF/Gambling-related-harm-as-a-public-health-issue.pdf>

Gambling Commission (2019) Young People and Gambling Survey 2019. A research study among 11-16 year olds in Great Britain. Available at: <https://www.gamblingcommission.gov.uk/PDF/Young-People-Gambling-Report-2019.pdf>

Gambling Commission (2019b) Industry Statistics. April 2016 – September 2018. Gambling Commission: Birmingham. Available at: <https://www.gamblingcommission.gov.uk/PDF/survey-data/Gambling-industry-statistics.pdf>

Gambling Commission (2019c) Customer interaction – formal guidance for premises based operators. Available at: <https://www.gamblingcommission.gov.uk/PDF/Customer-Interaction-Formal-Guidance-Non-Remote-July-2019.pdf>

Gambling Commission (2020) Gambling participation in 2019: behaviour, awareness and attitudes - Annual report. Available at: <https://www.gamblingcommission.gov.uk/PDF/survey-data/Gambling-participation-in-2019-behaviour-awareness-and-attitudes.pdf>

Gambling Commission (2020b) National Strategy to Reduce Gambling Harms. Available at: <https://www.reducinggamblingharms.org/>

Håkansson A. Changes in Gambling Behavior during the COVID-19 Pandemic—A Web Survey Study in Sweden. *International Journal of Environmental Research and Public Health*. 2020 Jan;17(11):4013.

Hing N, Russell AM, Gainsbury SM, Blaszczynski A. Characteristics and help-seeking behaviors of internet gamblers based on most problematic mode of gambling. *Journal of Medical Internet Research* 2015; 17(1).

House of Commons (2019) 30 September 2019. Volume 664. Available at: [https://hansard.parliament.uk/Commons/2019-09-30/debates/B22D690D-2EEA-4D12-A62B-5CF297757D56/NorthernIreland\(ExecutiveFormationEtc\)Act2019Section4](https://hansard.parliament.uk/Commons/2019-09-30/debates/B22D690D-2EEA-4D12-A62B-5CF297757D56/NorthernIreland(ExecutiveFormationEtc)Act2019Section4)

Institute of Public Health (2010) Developing a population approach to gambling: Health issues. Available at: <https://www.publichealth.ie/files/file/Developing%20a%20population%20approach%20to%20gambling.pdf>

John A, Wardle H, McManus S, Dymond S (2019) Report 3: Scoping Current Evidence and Evidence-Gaps in Research on Gambling-Related Suicide. London: GambleAware. Available at: <https://www.gamblingcommission.gov.uk/PDF/Report-3-Gambling-related-suicide-and-suicidal-behaviours.pdf>

Kotter R, Kräplin A, Pittig A, Bühringer G. A systematic review of land-based self-exclusion programs: demographics, Gambling Behavior, Gambling Problems, Mental Symptoms, and Mental Health. *Journal of gambling studies*. 2019 Jun 15;35(2):367-94.

Lindner P, Forsström D, Jonsson J, Berman AH, Carlbring P. Transitioning Between Online Gambling Modalities and Decrease in Total Gambling Activity, but No Indication of Increase in Problematic Online Gambling Intensity During the First Phase of the COVID-19 Outbreak in Sweden: A Time Series Forecast Study. *Frontiers in Public Health*. 2020;8.

Lloyd J, Doll H, Hawton K, Dutton WH, Geddes JR, Goodwin GM, Rogers RD. Internet gamblers: A latent class analysis of their behaviours and health experiences. *Journal of Gambling Studies*. 2010 Sep 1;26(3):387-99.

Mazar A, Zorn M, Becker N, Volberg RA. Gambling formats, involvement, and problem gambling: which types of gambling are more risky? *BMC Public Health*. 2020 Dec;20(1):1-0.

National Suicide Research Foundation (2020) Rate of suicide per 100,000 for males and females in Ireland 2014-2018. Available at: <https://www.nsrp.ie/statistics/suicide/>

Parent Zone (2019) The Rip-Off Games – How the new business model of online games exploits children. London UK: Parent Zone; 2019. Available from: <https://parentzone.org.uk/system/files/attachments/The%20Ripoff%20Games%20-%20Parent%20Zone%20report.pdf>

Planzer S, Gray HM, Shaffer HJ. Associations between national gambling policies and disordered gambling prevalence rates within Europe. *International Journal of Law and Psychiatry*. 2014 Mar 1;37(2):217-29.

Price A. Online gambling in the midst of COVID-19: a nexus of mental health concerns, substance use and financial stress. *International Journal of Mental Health and Addiction*. 2020 Jul 13:1-8.

Pricewaterhouse Coopers (2017) Remote gambling research. Interim report on phase 2. GambleAware: London. Available at: https://about.gambleaware.org/media/1549/gamble-aware_remote-gambling-research_phase-2_pwc-report_august-2017-final.pdf

Rogers RD, Wardle H, Sharp CA, Dymond S, Davies TJ, Hughes K, Astbury G (2019) Framing a public health approach to gambling harms in Wales: Challenges and opportunities. Bangor University. Available at: <https://www.bangor.ac.uk/psychology/research/gambling/docs/Public-Health-Approach-to-Gambling-in-Wales-ENG.pdf>

Ronzitti S, Soldini E, Lutri V, Smith N, Clerici M, Bowden-Jones H. Types of gambling and levels of harm: A UK study to assess severity of presentation in a treatment-seeking population. *Journal of Behavioral Addictions*. 2016 Sep;5(3):439-47.

Rossow, I (2018) The total consumption model applied to gambling: Empirical validity and implications for gambling policy. *Nordic studies on alcohol and drugs*. 36 (2) Available at: <https://journals.sagepub.com/doi/full/10.1177/1455072518794016>

Royal Society for Public Health (2019) Skins in the Game A high-stakes relationship between gambling and young people's health and wellbeing? Available at: <https://www.rsph.org.uk/static/uploaded/be3b9ba8-ea4d-403c-a1cee2ec75dcefe7.pdf>

Russell AM, Hing N, Browne M, Li E, Vitartas P. Who bets on micro events (microbets) in sports? *Journal of gambling studies*. 2019 Mar 15;35(1):205-23.

Sharman S, Murphy R, Turner JJ, Roberts A. Trends and patterns in UK treatment seeking gamblers: 2000–2015. *Addictive behaviors*. 2019 Feb 1;89:51-6.

Sirola A, Kaakinen M, Oksanen A. Excessive gambling and online gambling communities. *Journal of gambling studies*. 2018 Dec 1;34(4):1313-25.

The Guardian (2020) Curbs on FOBT stakes fuel fewer police callouts to bookmakers. <https://www.theguardian.com/uk-news/2020/jun/14/curbs-on-fobt-stakes-fuel-fewer-police-callouts-to-bookmakers>

Tremblay N, Boutin C, Ladouceur R. Improved self-exclusion program: Preliminary results. *Journal of Gambling Studies* 2008; 24(4): 505-518.

Wardle H, Keily R, Astbury G, Reith G. 'Risky places?': Mapping gambling machine density and socio-economic deprivation. *Journal of Gambling Studies*. 2014 Mar 1;30(1):201-12.

Wardle H (2015) Exploring area-based vulnerability to gambling: who is vulnerable? *Gambling and Place Research Hub, Geofutures*. Available at: http://transact.westminster.gov.uk/docstores/publications_store/licensing/final_phase1_exploring_area-based_vulnerability_and_gambling_related_harm_report_v2.pdf

Wardle H, Reith G, Langham E, Rogers RD. Gambling and public health: we need policy action to prevent harm. *BMJ*. 2019 May 8;365.

Wardle H, Banks J, Bebbington P, Blank L, Obe HB, Bramley S, Bunn C, Casey E, Cassidy R, Chamberlain SR, Close J. Open letter from UK based academic scientists to the secretaries of state for digital, culture, media and sport and for health and social care regarding the need for independent funding for the prevention and treatment of gambling harms. *BMJ*. 2020 Jul 1;370.

Wardle H, Zendle D. Loot Boxes, Gambling, and Problem Gambling Among Young People: Results from a Cross-Sectional Online Survey. *Cyberpsychology, Behavior, and Social Networking*. 2020 Oct 27.

Wardle H, John A, Dymond S, McManus S. Problem gambling and suicidality in England: secondary analysis of a representative cross-sectional survey. *Public health*. 2020 Jul 1;184:11-6.

Wardle H, McManus S (2020) Suicidality and problem gambling among emerging adults in Britain: results from a cross-sectional online survey. *Lancet Public Health*, In press. Available at:
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3578807

Wong PW, Chan WS, Conwell Y, Conner KR, Yip PS. A psychological autopsy study of pathological gamblers who died by suicide. *Journal of affective disorders*. 2010 Jan 1;120(1-3):213-6.

Woodhouse J (2019) House of Commons Library. Briefing Paper. Fixed odds betting terminals. Available at:
<https://commonslibrary.parliament.uk/research-briefings/sn06946/>

Wright M (2018) Video games will be spending \$50 billion on 'gambling like' loot box features by 2022, according to analysts. *The Telegraph* [online]. 2018 April 18. Available from:
<https://www.telegraph.co.uk/technology/2018/04/17/video-gamers-will-spending-50-billion-gambling-like-loot-box/>

Zanescu A, French M, Lajeunesse M. Betting on DOTA 2's Battle Pass: Gamblification and productivity in play. *New Media & Society*. 2020 Jul 17:1461444820941381.

Zendle D, Cairns P, Barnett H, McCall C. Paying for loot boxes is linked to problem gambling, regardless of specific features like cash-out and pay-to-win. *Computers in Human Behavior*. 2020 Jan 1;102:181-91.