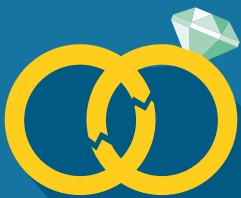
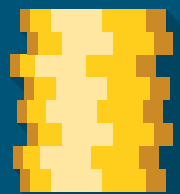


Gambling as a public health issue in Wales

Robert D. Rogers, Heather Wardle, Catherine A. Sharp, Sara Wood,
Karen Hughes, Timothy J. Davies, Simon Dymond & Mark A. Bellis



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Foreword

As Chief Medical Officer for Wales, I have been increasingly aware of the harms which can arise from gambling and I summarised my concerns in my 2017 Annual Report, *Gambling with our Health*.

This new report from Bangor University and Public Health Wales takes a broader perspective on the impact of gambling than previous traditional medical perspectives. It provides some much needed additional knowledge about the impact of gambling and the wider health, social and financial harms which can be caused by it. Too often, we consider only the impact on the individual who gambles, and forget to consider the impact an individual's gambling can have on their partner, children, friends and community.

The amount of money being spent on gambling in Wales and other parts of the UK is increasing, and I have noted a strong association with the rise in advertising that we have seen over recent years. We do need to provide better support to people for whom gambling has become a problem but it is of equal importance that we take a preventive approach to support those who could be directly and indirectly affected by gambling behaviour. This will require action from government, individuals, communities and the gambling industry. I hope that this report will convince everyone that gambling is a public health problem in Wales and that we all need to take action to tackle it.



Dr Frank Atherton

Chief Medical Officer for Wales

Gambling as a public health issue in Wales

Gambling is increasingly recognised as a public health problem. While only a minority of gamblers develop gambling problems, the financial, health and social harms associated with gambling can extend beyond the gambler to impact families, communities and wider society. Understanding the nature of gambling harms, the populations at risk and impacts of policy options can support effective practice to prevent gambling harms in Wales.



£14.4 billion was lost^a by people gambling in 2017/18 in Great Britain



The estimated cost^b to Welsh public services from problem gamblers in 2015/16 was **£40-£70 million**

More than half of adults in Wales participate in gambling

Of Welsh residents aged 16+ years^c:



spent money on gambling in the last year (40% excluding those only playing the National Lottery)



were identified as 'at-risk' gamblers



were identified as problem gamblers

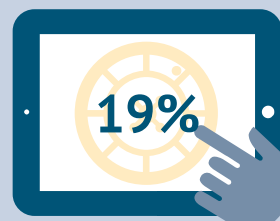
14% of 11-16 year olds in Great Britain have gambled in the past week^d

This is approximately **450,000 children**



Almost 1 in 5 adults in Great Britain gamble online^e

Laptops are the most commonly used devices for online gambling but use of mobile phones and tablets is increasing



The number of gambling adverts aired on TV in the UK has risen dramatically^f

2006	2012
152,000	1,390,000

Exposure to gambling advertisements

Adults	Children
2 per day	4 per week

^aThe difference between bets paid in and bets paid out: Gambling Commission 2018; ^bConservative estimates of costs of health, welfare, employment, housing and criminal justice services: Thorley et al, 2016; ^cData from 2016: Gambling Commission 2017; ^dData from 2018: Gambling Commission 2018; ^eData from 2017: Gambling Commission 2018; ^fData from Ofcom 2013.

Gambling harms are the adverse impacts from gambling upon the health and well-being of individuals, families, communities and society

Examples of gambling harms include...

Resources

- Debt
- Crime
- Job loss
- School drop out
- Financial insecurity
- Lost work productivity
- Increased benefit claims



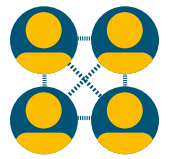
Health

- Stress
- Anxiety
- Suicide
- Depression
- Physical inactivity
- Alcohol misuse
- Substance abuse



Relationships

- Neglect
- Loss of trust
- Inequalities
- Domestic abuse
- Social isolation
- Separation and divorce
- Loss of parental support



Which groups can be more vulnerable to gambling harms⁹

Low income households	Unemployed people	Immigrants	Problem gamblers	Young people
People who have suffered ACEs ^h	Deprived communities	People in debt		Minority ethnic groups
People who are homeless	Smokers & alcohol drinkers	People with poor mental health	Students	Military veterans

What could Wales do to prevent gambling harms?

Increase **public awareness of gambling harms**, among young people and parents

Integrate gambling harms as an outcome and factor in other **public health policies**

Invest in **professional training** across multiple agencies e.g. healthcare, education

Advocate for policy change at UK-level **restricting advertising and marketing**

Improve services for those affected by gambling harms, including support for families

Develop the **evidence base** of what works to reduce gambling harms in different settings

Other **evidence-based interventions** which may be useful:



Restrict access to funds while gambling



Set limits on the time and money spent on gambling



Assist at-risk gamblers to **self-exclude** from gambling venues and services.



Action should be both **universal** and **targeted**, offering greatest support to those most in need



Consensus needs to be found among policy makers and the public on the **appropriate level of restrictions on gambling**

⁹To find out which areas across Wales have high numbers of people at risk of gambling harms, visit www.bangor.ac.uk/gambling-and-health-in-wales ^hAdverse Childhood Experiences

The information in this infographic is taken from the report:

Gambling as a public health issue in Wales.

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1. Introduction

Gambling is increasingly being recognised as a public health priority. Recent years have seen a rapid growth in the availability and advertising of gambling, driven by factors including relaxed gambling regulations (see Box 1) and technological development.^{1,2} More than half of adults in Wales participate in some form of gambling. Whilst many suffer only affordable losses, for some, gambling can lead to significant financial, health and social harms.

Gambling problems have traditionally been viewed from a medical perspective that identifies the symptoms and problematic behaviours of individual gamblers. This approach focuses on only a small proportion of people who gamble and/or experience problems from gambling, but misses the wider harms that can be imposed on families, communities and wider society. It has been estimated that a typical problem gambler affects around six other people, including family members, friends and colleagues.³ Consequently, the harms from gambling can result in broad and often unacknowledged health and social costs.⁴

Further, people's decisions on whether to gamble and in what ways and in which circumstances, are conditioned by their social and cultural contexts. The risks of people developing gambling problems are not equal across the population. Certain groups are more vulnerable to experiencing harm than others, both through their own and others' gambling. The experience of gambling harms will reflect a complex interplay of individual characteristics, familial and socio-economic resources, and broader cultural factors.^{5,6}

“Gambling has the potential to cause harm, to both individuals and to wider society, and it is an issue that cannot be tackled by interventions solely aimed at individuals.”

Dr Frank Atherton,
Chief Medical Officer for Wales

Defining gambling harms

Taking a broader perspective on the social and health impacts of gambling requires an approach that considers both the gambler and the environment around the gambler. Consequently, a new definition for gambling harms has recently been developed.^{7,8} This definition has been used throughout this report:

Gambling harms are *the adverse impacts from gambling on the health and well-being of individuals, families, communities and society.*

A public health approach to gambling harms

In line with calls from the Chief Medical Officer for Wales⁹, this report applies a public health approach to gambling. It is aimed at those working in public health, those working in practice related to the protection of vulnerable groups and those working in the development of policy directly or indirectly relating to gambling and the range of harms it can cause. It presents an initial examination of gambling as a public health issue in Wales and draws on a larger piece of work conducted by a team led from Bangor University.⁷ This examines the likely nature of gambling harms in Wales, their determinants and policy options to address them.

To view the detailed report, visit:
www.bangor.ac.uk/gambling-and-health-in-wales

The public health approach considers health problems as they affect the population as a whole. It uses data to understand the problem and identify the populations at most risk, then examines evidence of what works to prevent the problem through effective measures in practice and policy. Thus, this report outlines the extent and nature of gambling in Wales (section 2),

summarises the harms associated with gambling (section 3) and identifies the population groups that are likely to be vulnerable to gambling harms (section 4). It then provides an overview of current evidence on the effectiveness of interventions to prevent gambling harms (section 5) and concludes with policy options to support effective action in Wales (section 6).

Box 1: Regulation of gambling

The regulation of gambling in Great Britain has relaxed significantly over the last couple of decades.¹⁰ The Gambling Act 2005¹¹ heralded a comparatively liberalised gambling market and gambling has now become a salient feature of British culture and its economy. Commercial gambling is regulated by the Gambling Commission, with all gambling operators required to hold a licence specifying certain conditions and codes of practice. The Gambling Commission have three main objectives:

1. Preventing gambling from being a source of crime or disorder, being associated with crime or disorder or being used to support crime;
2. Ensuring that gambling is conducted in a fair and open way; and
3. Protecting children and other vulnerable persons from being harmed or exploited by gambling.

The Responsible Gambling Strategy Board (RGSB) advises the Gambling Commission on harm-minimisation. The Gambling Act 2005¹¹ made it a requirement for the gambling industry to put consumer protection measures in place. In 2014, the Act was updated to amend licensing arrangements for online operators and restrict advertising to holders of Gambling Commission licenses. Since April 2018, under the Wales Act 2017¹², the Welsh Government have additional powers to set limits on the number of gambling machines in new gambling premises. Overall ministerial responsibility for gambling is held by the Department of Digital, Culture, Media & Sport.

The National Responsible Gambling Strategy states that gambling harms should be seen as a public health challenge, requiring the co-ordinated efforts of governments, regulators, operators, public health bodies (including Public Health Wales) and treatment providers to formulate an integrated strategy that encompasses products, environments, and marketing as well as the wider context in which gambling occurs.¹³ To date, resultant policies have been limited to essentially local initiatives; specifically, the requirement that, under the Gambling Commission's Licensing Conditions and Codes of Practice, operators identify local risks of gambling harms and demonstrate how these risks can be mitigated. In addition, local authorities have also been encouraged to create local area risk profiles¹⁴ (see section 4 for an overview of an instrument to assist this in Wales), and now have powers to influence decisions about opening new licensed bookmaker offices (LBOs) in their areas.

For further information on the regulation of gambling see Rogers et al, 2019.⁷

2. The extent and nature of gambling

Over half of adults in Wales participate in some form of gambling. The advertising and accessibility of gambling activities have increased in recent years, with technology being a major driver of these increases. Young people are now exposed to high levels of gambling advertising on television, social media and other platforms. Public perceptions of gambling are becoming more negative.

2.1 How many adults in Wales gamble?

In 2016, 55% of Welsh residents aged 16 and over reported having spent money on gambling in the past year. In 2015, the figure was 61%.¹⁵ In 2016, four in ten (40%) residents had gambled on something other than National Lottery draws in the past year (44% in 2015).¹⁵ Gambling was more common in males (58%) than females (52%) and ranged from 60% among 25-34 year olds to 44% among those aged 75 years and over. Levels of past year gambling in Wales were similar to those in England (56%) but lower than those in Scotland (66%).¹⁶ Although the legal age of gambling across the UK is generally 18 years (16 years for scratchcards and lotteries)^a, around one in eight 11-16 year olds reported having gambled in the last week (Box 2).

Surveys of gambling behaviour use tools, such as the Problem Gambling Severity Index (PGSI; see Box 3), to categorise individuals on the basis of behaviours and symptoms of problem gambling or their level of risk of problem gambling.^b In 2016, 3% of Welsh residents were categorised as being at low or moderate risk and 0.8% as problem gamblers.¹⁵ This percentage is similar to that in 2015 when 1% of Welsh residents were categorised as problem gamblers¹⁷, estimated to be equivalent to around 27,000 individuals.^c However, this figure is likely to exclude many other people who experienced harms from gambling that are not captured by the PGSI. The PGSI only asks about a narrow range of behaviours and harms (e.g. excluding relationship problems) and does not

a Some gambling products such as scratchcards/lotteries can be played at age 16, whilst coin pushers and other low stake machines in amusement arcades can be played at any age.

b The Welsh gambling survey used both the PGSI and the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria to identify problem gamblers and prevalence figures include those scored as problem gamblers by either instrument.¹⁵

c With a range of between 19,000 and 38,000 individuals. Full data for 2016 are not currently available to estimate numbers affected.

Of Welsh residents aged 16+ (2016)

- 54.7%** gambled in the last year
- 40.4%** gambled on something other than National Lottery draws
- 3.3%** were low or moderate risk gamblers*
- 0.8%** were problem gamblers*

*see box 3 for definitions

Box 2: Gambling by children

Of 11-16 year olds in Great Britain (2018)

- 14%** gambled in the last week
- 2.2%** were at-risk gamblers*
- 1.7%** were problem gamblers*

In 2018, 14% of 11-16 year olds in Great Britain reported having spent their own money on gambling in the past week; 18% of boys and 9% of girls.¹⁸ This equates to approximately 450,000 children. Overall, 1.7% were categorised as problem gamblers and a further 2.2% as 'at-risk' gamblers.

The most common forms of gambling among 11-16 year olds were National Lottery scratchcards (4%), fruit machines (3%), and private bets with friends (3%). Gambling levels in children in 2018 had increased from 2017, but were still lower than the levels reported in previous years.¹⁸

Participating in gambling at a young age is a risk factor for problem gambling in adulthood (see section 4) and children are particularly vulnerable to experiencing harms from gambling, both through their own gambling and the gambling of others (see section 3).

*see box 3 for definitions

Box 3: Identifying at-risk and problem gambling - the Problem Gambling Severity Index**In the past 12 months how often have you....**

1. bet more than you could really afford to lose?
2. needed to gamble with larger amounts of money to get the same excitement?
3. gone back to try to win back the money you'd lost?
4. borrowed money or sold anything to get money to gamble?
5. felt you might have a problem with gambling?
6. felt that gambling has caused you any health problems, including stress and anxiety?
7. (have) people criticised your betting or told you that you have a gambling problem, whether or not you thought it is true?
8. felt your gambling has caused financial problems for you or your household?
9. felt guilty about the way you gamble or what happens when you gamble?

Response options (score):

Never	0
Sometimes	1
Most of the time	2
Almost always	3

Scores are summed and gambling risk categorised as:

Non-problem gambler	0
Low risk gambler	1-2
Moderate risk gambler	3-7
Problem gambler	8-27

account for those who suffer adverse effects due to others' gambling, such as family members (see Section 3).

Further, due to the way in which the gambling risk categories are calculated in the PGSI (Box 3), low-to-moderate risk gamblers can still experience significant gambling problems (i.e. they could "almost always" bet more than they could really afford to lose [scores 3 points] or could "sometimes" experience seven of the nine gambling problems [scores 7 points]). Consequently, just counting the number of problem gamblers in Wales will under-represent the number of people who experience gambling harms.

2.2 What do adults gamble on?

National lottery draws are the most common form of gambling among Welsh adults (41% in 2016), followed by scratchcard purchases (25%).¹⁵ However, in the youngest age group (16-24 year olds) more people purchased scratchcards (36%) than national lottery tickets (23%). Less common forms of gambling among adults include offline horse racing (8%), slot machines (5%) and offline sports events (4%).¹⁵ Certain, less popular, gambling activities are associated with greater rates of problem gambling, including spread-betting^d (37% of those who spread-bet are problem gamblers), offline dog races (24%)

^d Spread betting is a form of betting in which the bettor wins or loses money according to the margin by which the value of an outcome varies from the spread of (lower to higher) expected values quoted by (for example) a bookmaker. This form of gambling can generate volatile patterns of high-value wins and losses on the basis of sometimes unexpected outcomes.

and betting on other offline events (22%). People seeking treatment for gambling problems often report difficulties with machine gambling.¹⁹ Estimates of problem gambling also tend to be highest in those who gamble across multiple forms (e.g. seven activities or more; 20%).¹⁵

2.3 Spending on gambling is increasing

In Great Britain in 2017/18, the gambling industry's annual gross gambling yield (GGY; the difference between bets paid in and bets paid out) was £14.4 billion²⁰, an increase from £13.5 billion in 2015/16. The continuing upward trend of the GGY suggests that either more people are gambling or that those who do gamble are spending more (and losing more) money than previously. Approximately 107,940 individuals are employed in the gambling industry.²⁰

2.4 Technology is driving the accessibility of gambling products and services

In 2017, 18% of adults in Great Britain had gambled online in the previous month.²¹ Laptops were the most popular devices to access online gambling services (50% of online gamblers) but use of tablets and mobile phones is increasing, with 51% of adults who gambled online using either device (an 8% increase from the previous year). In 2017, over half of 18-24 year olds in Great Britain who gambled online used mobile phones to gamble.²¹

Most adults in Great Britain who gamble online do so at home (97%).²¹ However, there is an increasing

trend in young adults towards accessing online gambling services outside the home. In 2018, of 18-24 year olds who gambled online, around a fifth were found to gamble whilst at work, a fifth whilst commuting, and one in ten in a pub or club.²¹ These trends indicate that people have almost continuous access to gambling services across multiple settings, raising the possibility that technology acts as an 'accelerator' to increase risk of harms among vulnerable individuals.

2.5 Gambling advertising is increasing

There has been a substantial increase in gambling advertising since the enactment of the Gambling Act 2005.¹¹ Between 2006 and 2012, the number of television gambling advertisements in the UK increased from approximately 152,000 per year to 1.4 million²². In 2012, gambling accounted for over 4% of all UK television advertisements. On average, adults were exposed to around two gambling adverts per day and children to around four per week.²²

In 2018, a Gambling Commission survey reported that 66% of 11-16 year olds in Great Britain had seen gambling advertisements on TV, 59% on social media and 53% on other websites¹⁸. Seven percent of those who had seen gambling advertisements stated that this had encouraged them to either start gambling or to increase their gambling.¹⁸ Further, 12% of 11-16 year olds reported following gambling companies on social media¹⁸; of these, 34% had spent their own

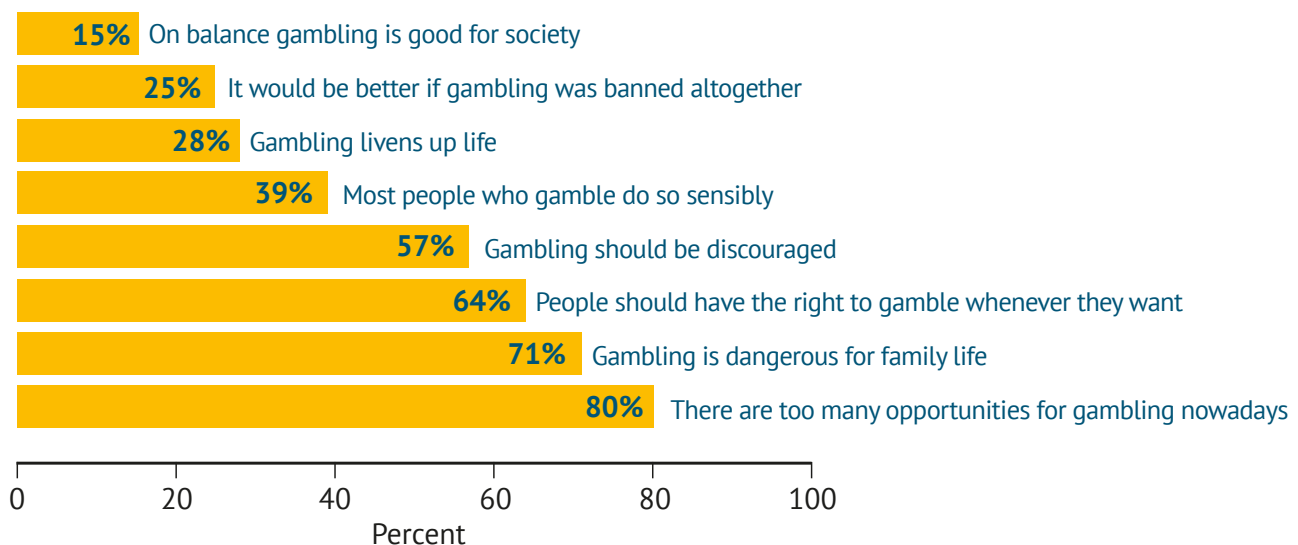
money on gambling in the last week. This meant they were more than three times as likely to have gambled with their own money in the last week as those who did not follow gambling companies on social media.¹⁸

Advertising may have a particular impact on 'at-risk' groups (see Section 4). Young people's memory for gambling advertisements is positively associated with gambling participation and vulnerability to gambling harms.^{23,24} Advertisements may also prompt individuals with current or previous gambling problems to gamble more or resume gambling.^{25,26}

2.6 Public attitudes towards gambling are becoming less favourable

The percentage of people that think *gambling is fair and can be trusted* has steadily declined over time, from 49% in 2008 to 33% in 2017.²¹ Percentages are higher among individuals who have gambled in the past year than those who have not (38% vs 27%, respectively). However, positive attitudes have been declining among both groups. Around 41% of people think that gambling is associated with criminal activity, a level that has fluctuated over time since 2008 and increased slightly since 2016.²¹ In 2017, 80% of people thought that *there are too many opportunities for gambling nowadays* (a 2% increase from 2016). Responses to different attitude statements are presented in Figure 1.

Figure 1: The percentage of British adults (16+ years) agreeing with statements about gambling in 2017



Source: adapted from the Gambling Commission 2018²¹

3. The harms associated with gambling

Gambling can be associated with a broad range of harms for those individuals who gamble, their family and friends, communities and wider society. These harms can affect health, relationships, finances and other resources. They can be short-lived or long-lasting. The extent to which gamblers and other people experience harm can vary widely. A small proportion of people may experience a large amount of harm, while many more may experience a small amount of harm.

3.1 Harms to individuals who gamble

The harms to individuals from gambling (see Box 4) include health, relationship and financial difficulties such as loss of money, debt and occasionally bankruptcy.^{5,27} Financial difficulties can lead to lowered living standards, lost opportunities and sometimes homelessness and involvement with the criminal justice system.^{5,28}

Gambling can harm mental health, causing stress, anxiety and depression, as well as being associated with hazardous alcohol and drug use.^{27,29-31} One review found that 58% of problem gamblers had a substance use disorder and 38% had a mood or anxiety disorder.³² However, problem gamblers only bear a proportion of the mental health burden of gambling; other gamblers, as well as the family and friends of gamblers, can be affected in similar ways.

Gambling can also increase risks of physical health problems. For example, gamblers are more likely to avoid exercise and have a higher body mass index than non-gamblers.^{33,34} Further, the impacts of gambling can disrupt or destroy relationships with family and friends, impair work performance

and relationships, and lead to social and emotional isolation.^{35,36}

For young people who gamble, harms can include reduced school attendance and achievement, as well as involvement in anti-social behaviour³⁷. Poor educational attainment, mental health problems and criminal justice involvement can restrict young people's life-chances and undermine their well-being in adulthood.

3.2 Harms to families and friends

Many of the harms experienced by gamblers extend to their families and friends (see Box 5).³⁸ These include relationship breakdown, stress, anxiety and financial pressures.^{36,39-44} Families can also suffer through missed shared activities, loss of trust, feelings of resentment and stigma, and in some cases financial abuse, violence and neglect. One review estimated that over a third of problem gamblers were perpetrators (36%) or victims (38%) of intimate partner violence, and that one in 10 perpetrators of intimate partner violence were problem gamblers.⁴⁵

The harms to children associated with the gambling of parents/caregivers can be particularly serious.

Box 4: Examples of gambling harms*

Resources

- Lost work productivity
- Job loss
- School drop out
- Financial insecurity
- Debt
- Crime
- Increased benefits claims

Relationships

- Loss of trust
- Loss of parental support
- Neglect
- Domestic abuse
- Separation and divorce
- Social isolation
- Inequalities

Health

- Poor diet
- Physical inactivity
- Substance abuse
- Stress
- Depression
- Anxiety
- Suicide

*Adapted from Wardle et al, 2018⁸

Box 5: Concerns of gamblers and family/friends calling GamCare

Data from GamCare’s national gambling helpline show that financial pressures, anxiety/stress and family/relationship difficulties are the most common impacts of problem gambling disclosed by both gamblers and affected others (i.e. family and friends).³⁸

Top 3 concerns of GamCare callers 2017/18 (% of callers)

Gamblers	Affected others
Financial pressure (28%)	Family/relationship (35%)
Anxiety/stress (26%)	Anxiety/stress (21%)
Family/relationship (18%)	Financial pressure (21%)

These include heightened stress, neglect, anxiety, family conflict and parental mental health problems, such as alcohol and substance misuse, that can have long-term impacts on children’s emotional and social well-being as well as their behaviour and health.^{39,40,42} Parental gambling problems are also associated with gambling problems in adolescents⁴⁶, reflecting the inter-generational transmission of attitudes and beliefs about gambling.⁴⁷

3.3 Harms to communities and society

In 2015/16, the health, welfare, housing and criminal justice costs of problem gambling to government in Wales were estimated at between **£40 and £70 million**

Gambling harms experienced by individuals and families draw upon the resources of health, social and judicial infrastructures.^{4,48,49} Calculating the costs of gambling in economic terms is difficult.^{4,48,50} The most recent conservative estimates of the health, criminal justice, housing, welfare and employment costs incurred by government through problem gamblers, fall between £40 million and £70 million for Wales,

and £260 million and £1.16 billion for Great Britain as a whole.⁴⁹ The greatest proportion of these costs are borne by health services (see Box 6). However, the estimates exclude the costs of harms experienced by other gamblers, families and wider society⁴⁰⁻⁴², and are thus likely to be significant underestimates. For example, they do not include gambling-related suicide. A growing body of research is emphasising the link between gambling and suicide.⁵¹ An English estimate suggested that suicide in individuals of working age costs around £1.67 million per life lost (estimated with 2009 prices).⁵²

Other gambling harms to society include the impacts of crime, lost workplace productivity and arguably the erosion of community cohesion, especially in disadvantaged or marginalised groups.^{4,53} Further, clustering of gambling outlets in areas of higher deprivation may increase gambling among more deprived populations, contributing to already-existing health inequalities.^{14,54-56}

Box 6: Estimated excess fiscal cost to government caused by problem gambling in Great Britain, 2015/16⁴⁹

Health	
Hospital inpatient services	£140-£610 million
Secondary mental health services	£30-£110 million
Mental health primary care	£10-£40 million
Criminal justice	
Incarcerations	£40-£190 million
Welfare and employment	
JSA* claims/lost labour tax receipts	£40-£160 million
Housing	
Statutory homelessness applications	£10-£60 million

*Jobseeker’s Allowance (JSA)

4. Vulnerability and risk of gambling harms

Certain population groups are more at risk of experiencing gambling harms than others. Levels of risk can be affected by individual factors such as young people, minority ethnicity, financial circumstances, mental health and engagement in problem behaviours, as well as community level factors such as area deprivation. This section explores what is currently known about vulnerable groups and the risks associated with gambling harms, including variations in risk that can emerge across different Welsh communities.

4.1 Children

Children are particularly vulnerable to gambling harms, both through their own gambling and through the impacts of parental or carer gambling. Box 7 shows early life risk factors for problem gambling identified in international research.^{57,58} A British study of 11-15 year olds found problem gambling was associated with: being male, of Asian ethnicity, being a single child, being in the care of a guardian, cigarette smoking, having parents who gamble or with permissive attitudes to gambling, and having higher weekly income (e.g. pocket money).⁵⁹ It is also possible that a history of using gaming technologies⁶⁰ or free-to-play online gambling games promotes transition to commercial gambling.⁶¹⁻⁶⁵

4.2 Students

Beginning college or university involves social and economic transitions (e.g. leaving home, stress, financial responsibilities and issues)^{64,65} that can increase the risk of gambling harms. In 2017, two thirds of students at British institutions (equivalent to around 1.2 million) were estimated to have gambled in the last month, with 54% of those reporting their motivation as to make money. One in four gambled more than they could afford.⁶⁶ International students may face additional risks (see section 4.4).⁶⁷

4.3 Ethnicity

Data from the 2015 Wales Omnibus Survey show that Non-White individuals were less likely to have gambled in the past year (39%) than those who were White British (63%). However, British surveys consistently show rates of problem gambling to be higher in Non-White ethnic groups⁶⁸⁻⁷¹, with at-risk gambling higher in those from Asian/Asian

Box 7: Early life risk factors for problem gambling

Gambling availability

Starting to gamble at a young age

Impulsivity and sensation seeking

Poor academic attainment

Parental gambling

Poor family connectedness

Smoking, alcohol and drug use

Poor mental health

Peer antisocial behaviours

Life stress (adverse childhood experiences)

Low socio-economic status



British as well as Black/Black-British, backgrounds. Thus, people from minority ethnic groups (e.g. Asian/Asian British⁷²) may experience a 'harm paradox' whereby they are less likely to gamble yet more likely to experience harms. Vulnerability to gambling harms in minority ethnic groups is often attributed to cultural beliefs and practices that inhibit or facilitate gambling (e.g. cultural disapproval of gambling behaviours, or beliefs that gambling is an accepted and valued aspect of a culture).⁷³ However, they may also reflect broader socio-economic factors – such as low pay and financial difficulties, unemployment and living in areas of relative deprivation - that are linked to risk of gambling harms.^{72,74}

4.4 Immigrants

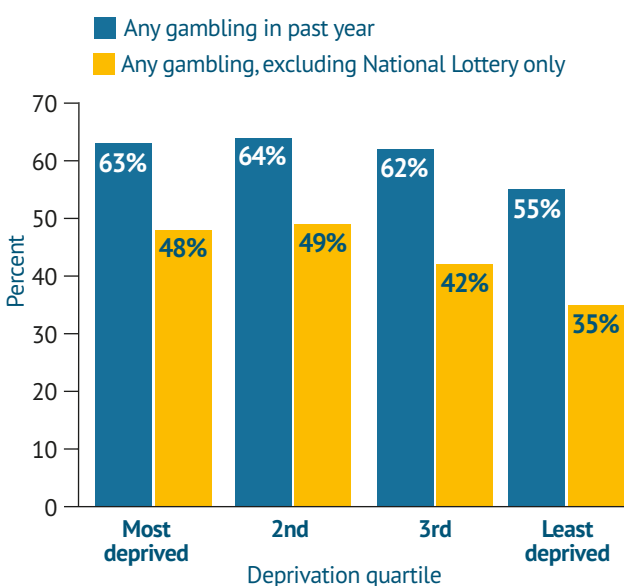
There is no epidemiological research on gambling behaviours among immigrants in Great Britain. However, European studies suggest individuals born in non-Western countries have higher rates of at-risk gambling than native populations.⁷⁵⁻⁷⁸ Immigrants may be at increased risk of gambling harms through factors including poor social networks and support, limited financial resources, the stress of adapting to a new culture and greater opportunities to gamble compared with their countries of origin.

4.5 Deprived communities

Individuals living in the most deprived areas tend to experience higher rates of problem gambling.^{69,79,80} Secondary data analysis of the 2015 Welsh Omnibus survey showed that half (48%) of adults living in the most deprived quartile had gambled on something other than the National Lottery in the past year, compared with a third (35%) of those living in the least deprived quartile (Figure 2). However, levels of problem gambling were over seven times higher in those from the most deprived areas compared with those from the least deprived areas (Figure 3).

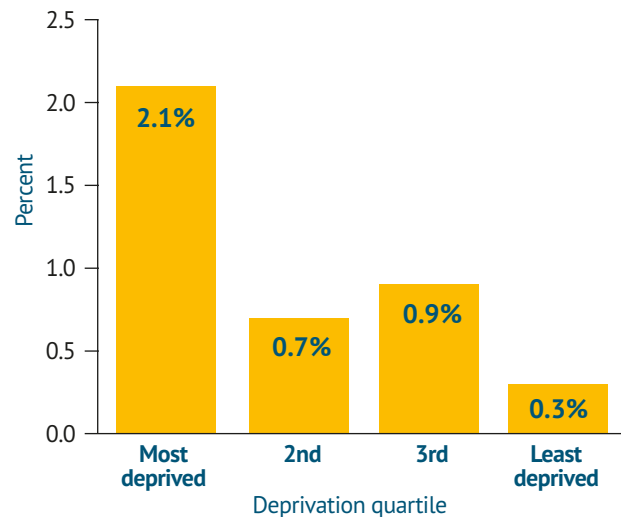
Gambling opportunities are also disproportionately located in deprived areas. For example, gambling machines tend to be clustered in areas of high socio-economic deprivation associated with elevated rates of gambling problems.^{14,81} Local bookmaker offices largely serve local markets, with the most regular consumers tending to live closer (and in more deprived neighbourhoods) than less

Figure 2: Past year gambling by Welsh Index of Multiple Deprivation quartiles



regular consumers. Bookmaker loyalty cardholders who live within 400m of a cluster of bookmakers have been found to have higher rates of problem gambling than those who lived further than 400m away.⁸¹

Figure 3: Past year rates of problem gambling, by Welsh Index of Multiple Deprivation quartiles



4.6 Economic disadvantage

Gambling harms are increased among people with constrained economic circumstances such as those with low incomes, who are unemployed or with unstable employment. This association can reflect harms that arise by spending more money on gambling than is affordable, but also broader societal and contextual factors around financial difficulties.

Income. The relationship between household income, gambling participation and gambling problems is mixed.⁷⁹ While individuals from low income households can be less likely to gamble than those from higher income households^{69,70}, households with the heaviest expenditure on gambling were distributed roughly equally across the income distribution though they were less likely to come from the lowest income households.⁸² Similarly people with low personal incomes can lose as much as people with high personal incomes.⁸³ Thus, surveys show rates of at-risk and problem gamblers tend to be highest among the lowest income households.^{69,71,84} The 2015 Welsh Omnibus Survey did not include information about household income but did collect National Social Grades categories. It found that individuals in skilled or unskilled manual occupations were more likely to gamble (64%)

and have higher rates of problem gambling (1.4%) than individuals in supervisory, managerial, administrative or professional occupations (57% and 0.6% respectively)^e.

Unemployment. Unemployed individuals tend to gamble more frequently than employed individuals, and are at heightened risk of problem gambling and participating in certain types of gambling more frequently (e.g. sports betting, slot machines).⁶⁹ The 2015 Wales Omnibus Survey^e found that while past year rates of any gambling were similar in employed and unemployed individuals, rates of gambling on something other than the National Lottery and of problem gambling were highest in those who were unemployed (52% and 2% respectively, compared with 38% and <1% among employed individuals).

Money problems and debt. Both at-risk and problem gambling rates are elevated among individuals who have money problems.⁶⁹ One survey reported a problem gambling prevalence rate of 6.1% among those who reported very severe money problems. Use of credit (e.g. pawning goods, taking a loan from a money lender) is also linked to gambling participation and problems.⁷⁹

4.7 Mental health problems

Problem gambling often occurs alongside other mental health problems.⁸⁵ Some mental health problems share common risk factors with gambling.^{27,31,79,85} Analysis of British survey data⁷⁹ found higher levels of problem gambling among individuals with anxiety and depressive disorders, obsessive compulsive disorder, phobias, panic disorder, eating disorder, psychosis, attention deficit hyperactivity disorder, post-traumatic stress disorder and substance dependency. Since gambling participation was similar among individuals with and without these psychological disorders, this suggests that people with mental illnesses who gamble are more vulnerable to experiencing harms.

4.8 Smoking and alcohol use

There are strong associations between gambling problems and both smoking and hazardous alcohol use. For example, a British survey found levels of problem gambling were higher among current smokers (1.4%) than non-smokers (0.4%)⁷⁰, and among those who drank the most alcohol

on their heaviest drinking day in the past week (3.4% for those who drank >20 units^f of alcohol compared with 0.1% for those who drank 1-4 units⁷⁰). Gamblers that were alcohol dependent were also more likely to be problem gamblers than those with no alcohol use problems.^{69,79}

4.9 Adverse childhood experiences

There is emerging evidence that adverse childhood experiences (ACEs) are associated with gambling problems in later life.⁸⁶⁻⁸⁹ ACEs include neglect, abuse, witnessing domestic violence, parental separation and caregiver mental illness or substance misuse. There is a scarcity of information on the home experiences of children of problem gamblers in Wales or Great Britain. However, a study of help-seeking gamblers with dependent children in New Zealand found that over half reported having perpetrated some form of family violence in the past 12 months, with one in five being violent towards a son or daughter. Two thirds had been a victim of family violence.⁹⁰ The Welsh ACE studies have shown that children who suffer ACEs are at increased risk of adopting health-harming behaviours and developing mental and physical illness throughout life.⁹¹⁻⁹³ Elsewhere, studies have found associations between ACEs and the development of problem gambling in adulthood.⁹⁴

4.10 Past or present gambling problems

Gambling problems can fluctuate, meaning that individuals with past or current gambling problems will remain vulnerable to further harms.⁹⁵ Resumed gambling often involves powerful urges to gamble, triggered by either internal cues (e.g. stress, depression or fluctuations in mood) or external cues (e.g. gambling adverts and promotions).⁹⁶⁻⁹⁸

4.11 Military veterans

A British study found that veterans were eight times as likely to experience problems with their gambling as non-veterans.⁹⁹ Social and financial challenges brought about by the transition to civilian life may heighten risks of gambling harms. The Royal British Legion estimates that 10% of veteran households do not have enough money or savings for daily living costs and fall into debt.¹⁰⁰ Veterans are also at increased risk of post-traumatic stress disorders and other mental health conditions. Thus, various mechanisms may contribute to increased risk of gambling harms in military veterans.^{85,101}

^e Secondary data analyses described in Rogers et al 2019.⁷

^f One unit is defined as 10 millilitres of pure alcohol.

4.12 Homeless individuals

Homeless individuals experience higher rates of problem gambling than those with settled accommodation.¹⁰²⁻¹⁰⁵ In a study in London, 12% of homeless individuals in shelters were problem gamblers; with a further 3% showing moderate risk of problem gambling.¹⁰⁴ Gambling problems can contribute to homelessness in a number of ways including strain on financial resources, relationship breakdown and mental health problems. Gambling venues may also offer homeless people temporary shelter, warmth and safety, and a place to meet and talk to other members of the community.¹⁰⁶⁻¹⁰⁸

4.13 Other vulnerable groups

There are several other groups that may be vulnerable to gambling harms but for which there is relatively limited information. These include **females, older people, prisoners and people on probation**. Social isolation may be a key mechanism that makes these groups vulnerable to gambling harms. For example, vulnerable individuals may include older people who are lonely or have experienced bereavement, and individuals on probation who may experience difficulties reintegrating into society, with gambling offering a way to connect to others. Technological development may have increased the accessibility of gambling services for women (where the Internet may be seen as a safe place to gamble)¹⁰⁹ and older people. For older people, reliance upon fixed incomes may mean less resilience to financial difficulties.¹¹⁰ Prisoners and those on probation may also be vulnerable to gambling harms because of gambling cultures that exist within prisons.¹¹¹

Identifying at-risk communities: the gambling harm index

To help identify Welsh communities at risk of gambling harms, Bangor University has developed a gambling harm risk-index⁹. It is the first national risk-index of its kind.⁷ The index shows how social, health and economic risk factors for gambling harms (see Box 8) are likely distributed across Wales; it does not show where gambling problems occur. Indices for different geographical areas (e.g. postcodes) are available to view on an interactive map at the following website:

www.bangor.ac.uk/gambling-and-health-in-wales

Box 8. The indicators of risk of gambling harms included in the risk-index:

- (i) young people;
- (ii) minority ethnic groups;
- (iii) unemployed people;
- (iv) people in poverty or with financial difficulties;
- (v) people with poor mental health;
- (vi) people seeking treatment for alcohol and substance misuse; and
- (vii) people seeking treatment for gambling problems.

More details are provided in the detailed report.⁷ The risk-index indicates where there is a greater *vulnerability* to the broad harms associated with gambling; it shows the likelihood of an area having high numbers of at-risk people. Four case studies of areas within Wales are presented in Box 9 (Maps 1-4).

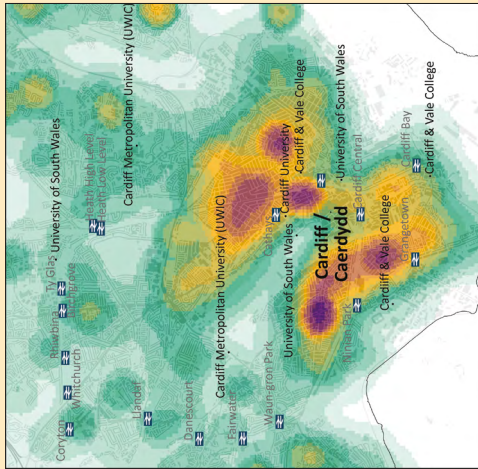
⁹ The risk index is based on empirical studies but has not been validated against prevalence surveys of localised problem gambling rates.

Box 9: A geo-spatial risk-index map of gambling harms across Wales: four case studies

Maps 1 to 4 show four different communities in Wales and are examples of how the risk for gambling harms can vary between urban, coast and rural areas.

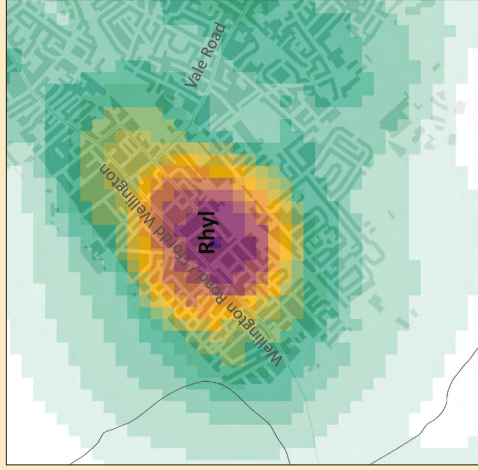
Map 1: Cardiff (urban)

Increased risk is clustered around the universities and around Canton and Cowbridge Road. These two areas show similar risks but have different resident profiles and types of local services. A youthful population is found around the universities, whilst substance misuse treatment facilities and individuals with financial difficulties are found in Canton and Cowbridge areas.



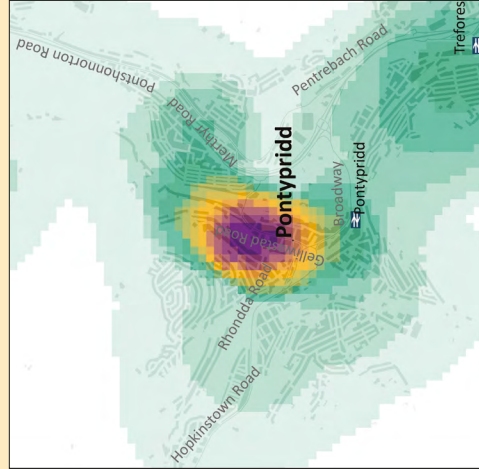
Map 3: Rhyl (coastal urban)

In Rhyl, the risk is driven by the resident population profile (high numbers of unemployed people and people with mental health problems) and services bringing people into the area (substance misuse facilities and food banks which attract people with substance use and money problems).



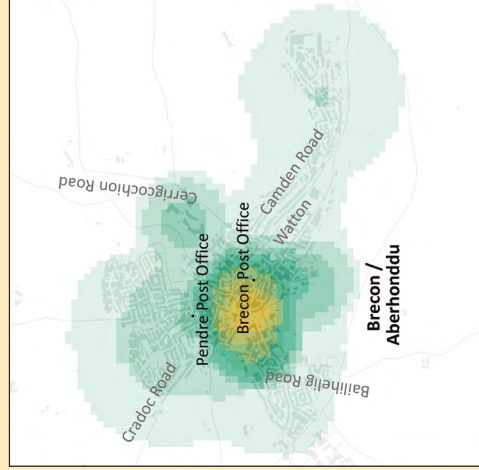
Map 2: Pontypridd (urban)

In Pontypridd, the risk of gambling harms is largely driven by services that attract potentially vulnerable people into the area. This will include individuals with mental health problems and substance misuse problems.



Map 4: Brecon (rural)

In rural locations like Brecon, increased risk largely results from the profile of the local residents, as there are fewer local services to attract people in.



Key

Composite risk-index	0 - 0.5	0.6 - 2.1	2.2 - 4.4	4.5 - 7.2	7.3 - 10.4	10.5 - 14	14.1 - 17.9	18 - 22.3	22.4 - 27.2	27.3 - 32.4	32.5 - 37.5	37.6 - 42.8	42.9 - 48.7	48.8 - 55.6	55.7 - 66
Local Authority boundaries	[Icon]														

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5. Evidence for interventions to prevent gambling harms

There are a wide range of interventions and policies implemented across the world to prevent and address harms associated with gambling. This section summarises what is known about the effectiveness of these approaches.

Globally, a range of interventions and policies have been implemented to attempt to prevent and address gambling harms. Quality research evaluating these actions is often lacking, making it difficult to assess efficacy and cost-effectiveness. Most approaches aim to minimise harms from gambling, often by encouraging 'responsible gambling' as a form of consumer protection. These approaches seek to balance the reduction of gambling harms in vulnerable individuals against the (minimal) disruption of others' gambling. Thus, they include providing accurate information about gambling products, or introducing tools that help people (particularly vulnerable people) make responsible choices and manage their gambling. However, there are a number of limitations to these harm-minimisation approaches. For instance they:

- Often only engage with individuals once they have developed problems with their gambling (rather than before);
- Require voluntary and consistent use by individuals when, in fact, their use is often sporadic, limiting their impacts on gambling behaviour;
- Are unlikely to be useful to people who are unable to use information or tools to control their behaviour;
- Are unlikely to reach family or friends harmed by an individual's gambling;
- Are unable to address broader social and economic determinants of gambling harms;
- Are likely to be less cost-effective than interventions that focus on prevention.

Other approaches aim to prevent or reduce gambling by restricting opportunities to gamble, limiting advertising of gambling products and placing restrictions on who can gamble. This section provides a brief summary of evidence for a range of interventions to prevent gambling harms.

5.1 Public education about the risks of gambling

Information campaigns provide information to the public on gambling and the risks of gambling harms. These campaigns can encourage gamblers to 'gamble responsibly', help them spot signs of problem gambling and provide information on where to seek help. They can also educate people about the mathematics of gambling and correct common misconceptions about gambling and probability. Messages are often presented on gambling products, posters in gambling venues or more broadly through radio, television, newspapers and the internet. They can be targeted at the general public or at specific groups, such as young people, where they sometimes include parental guidelines for gambling.^{112,113} In general, campaigns have not been found to substantially increase awareness of gambling harms.^{114,115} However, multi-faceted information campaigns (e.g. co-ordinated TV, radio and newspaper campaigns) can increase contacts with support groups and treatment services by individuals with gambling concerns.¹¹⁶ In addition, health campaigns may have some useful indirect effects on the public's acceptance of subsequent measures to protect health, such as changes in legislation.

School-based education programmes work with pupils and students (typically aged 10-18 years) to increase understanding about gambling and reduce misconceptions about the nature of probability and random games. However, there is little evidence that such programmes can significantly alter gambling behaviours.¹¹⁷

Introducing features to gambling machines that support responsible gambling

On-screen pop-up messages and warnings present information to gamblers at the start of or during a gambling session, for example, on the length of time or amount of money spent on a machine. Evaluations show varied findings, but there is some evidence that they can increase the likelihood of session termination and reduce the amount of money spent¹¹⁸⁻¹²¹, especially when they provide personalised feedback or prompt self-appraisal. Impacts may also be maximised when messages are positioned in the centre of the game display, or when they pause play and require active removal by players.¹²²

On-screen clocks and cash counters (e.g. showing money rather than credits) are designed to help gamblers monitor the length of their gambling sessions and/or extent of their expenditure to influence session termination. Whilst they can help gamblers to keep track of time and money spent, less is known about their impact on gambling in commercial venues or in online settings. Where this has been studied, findings suggest that these measures can influence decisions to stop playing for a minority of gamblers, but have limited effects for most people.¹²¹

Limit-setting (or pre-commitments) allows people to set limits on their expenditure (i.e. deposits, bets or losses) and time spent gambling before playing¹²³, often through a card-based system. This allows advance decisions about gambling expenditure to be made in a state of non-emotional arousal. Gambling operators in Great Britain are required to offer (voluntary) opportunities to set time and money limits on fixed odds betting terminals in licensed betting offices.¹²⁴ Limit-setting where opportunities to access other gambling services are restricted has been found to reduce bet sizes and gambling intensity.^{121,125,126} When optional, however, limit-setting tends to be used by only a minority of individuals.^{126,127} Further, breaches of limits are common, especially in problem gamblers.¹²⁸

Stake size limitations restrict the amount of money that can be spent on a single bet. In May 2018, new regulations were announced reducing the maximum stake for B2-category machines from £100 to £2.^h There has been only limited research

on the effectiveness of bet size limitations.¹²⁹ However, there is evidence that large stakes are linked to problem gambling.¹²⁹ In Australia (Victoria State), reductions in high stake betting from \$100 to \$20 produced a 15-20% reduction in expenditure, time spent, bet size, and number of visits; reductions were seen particularly in individuals already at high risk of harms.¹³⁰

Modifications to, or prohibition of, note acceptors on slot-machines and other electronic gambling machines may reduce gambling. Some studies have found modification of note acceptors (i.e. setting an upper note limit) had no influence on gambling behaviour, while others report reductions in gambling expenditure, playing time and frequency of visits to a gambling venue among a minority of customers.¹³⁰ Prohibition of note acceptors may also reduce gambling frequency and spending.¹³¹

Making environmental changes within gambling venues

Restricting access to funds for gambling can be achieved through the removal of ATMs (Automated Teller Machines) or 'cash-points' from gambling venues or removing gambling on credit at point-of-sale. While more research is needed, there is some evidence that removal of ATMs can reduce the amount of time spent at gambling venues, gambling expenditure and impulsive gambling overspend¹³², particularly in individuals with a high risk of gambling harm.

Staff training aims to increase awareness of gambling problems among employees of gambling venues, increase their ability to recognise problem gamblers, and encourage responsible gambling practices. The 2015 Association of British Bookmaker's Responsible Gambling Code stipulates that staff '*must be trained to recognise a wider range of problem gambling indicators in order to identify those customers at risk of developing a gambling problem and interact with them*' and that staff will be actively encouraged to '*walk the shop floor...to initiate customer interaction in response to specific customer behaviour*'.¹²⁴ Training has been found to increase staff knowledge of gambling problems but not necessarily to correct their own inaccurate beliefs about gambling¹³³. Further, little is known about whether an increase in staff knowledge influences customer behaviour, whilst

^h Crouch T, Hancock M. Government to cut Fixed Odds Betting Terminals maximum stake from £100 to £2. Department for Digital, Culture, Media & Sport; 2018.

Retrieved from: www.gov.uk/government/news/government-to-cut-fixedodds-betting-terminals-maximum-stake-from-100-to-2

other data suggest that venue staff can find it difficult to assess accurately which customers have gambling problems¹³⁴ and also find it challenging to approach or respond to customers with concerns about their gambling.¹³⁵

Assisting individuals who are vulnerable or experiencing gambling harms

Self-exclusion programmes allow people to ban themselves from gambling venues and/or online gambling services. This includes allowing staff to prevent access to premises, remove them from the gambling venue, and impose a penalty if they are detected.¹³⁵ Bans can run from months, to years, to lifetime commitments. In Great Britain, self-exclusion facilities are mandated by the Gambling Commission as part of operator license conditions.¹³⁶ Self-exclusion programmes can reduce gambling expenditure and urges to gamble, and improve perceived control over gambling^{137,138}, but also produce other positive benefits such as improved mood and well-being.¹³⁹ However, there are examples where changes in gambling behaviour have been modest or absent¹⁴⁰ and breaches of self-exclusion are common in the longer term (e.g. over 12 months).¹⁴¹

Player-tracking is the collection and analysis of individuals' gambling histories (e.g. amounts deposited and bet within online accounts or loyalty schemes) to identify customers at risk of gambling harms. Operators can then provide feedback about gambling behaviour^{135,142,143}, and sometimes recommendations to use responsible gambling tools or normative information about other players' behaviour. While research is limited¹³⁵, casino loyalty cardholders have been found to reduce casino visits and expenditure from behavioural feedback involving, for example, the value of previous losses.^{142,144}

Treatment options for gambling can often incorporate cognitive behavioural therapy (CBT) and sometimes brief motivational interviewing.¹⁴⁵⁻¹⁴⁷ CBT aims to help problem gamblers understand and change their thoughts, feelings and behaviours related to gambling and strengthen motivation to change. Evidence suggests it can be effective in reducing gambling behaviours (e.g. frequency and duration) in the short-term, although few studies have evaluated longer-term effects. Certain pharmacological

treatments such as opioid antagonists have shown some beneficial effects on problem gambling behaviour.¹⁴⁸ However, the longer-term efficacy or consistency of benefits are uncertain. Increasing awareness among medical professionals is also important, to enable referral and treatment as soon as possible.

Assisting families experiencing harms through a family member's gambling

Family-based interventions focus on support for families of problem gamblers. They are usually therapy-based, and focus on improving personal and family functioning¹⁴⁹, increasing coping skills¹⁵⁰, or addressing parental concerns about the impacts of gambling on children.¹⁵¹ There is some evidence that they can enhance coping skills¹⁵⁰ and reduce the negative emotional and behavioural consequences of gambling for family members.¹⁴⁹ However, more research is needed in this area.

Restricting availability of gambling

Restricting the availability of gambling machines can include reducing the hours that gambling venues can operate, turning off electronic gaming machines for a specified time period¹²¹, or removing machines altogether. In general, measures that restrict when gambling machines can be played only have small effects on gambling and these depend on the time of day that venues are closed.¹⁵²

There is limited research on machine bans. In Norway, all slot machines were removed in 2007 and replaced by terminals with responsible gambling measures that included low maximum stake and prize values.¹⁵³ Some studies showed mixed effects on gambling frequency and expenditure following the removal of machines.^{153,154} There were also some reports that the numbers of individuals seeking treatment for gambling problems fell.¹⁵⁴ Changes in problem gambling are harder to assess.¹⁵⁵ Taken in the round, the removal of slot-machines in Norway seems to have produced limited changes in gambling participation (and switches to other gambling forms) but somewhat lower rates of problem gambling, especially among youths.¹⁵³

Restricting gambling to dedicated gambling venues limits the availability of gambling, particularly 'convenience gambling'.¹⁵⁶ In Great Britain, as well as dedicated venues such as betting shops or casinos, certain gaming machines can be found in other settings (e.g. pubs), increasing gambling opportunities. However, little is known about whether restricting gambling outlets to dedicated gambling venues is likely to significantly reduce gambling harms or problem gambling.¹⁵⁶

Restricting advertising of gambling

Advertising of gambling products may contribute to problem gambling by: encouraging people to begin or increase gambling behaviours¹⁵⁷; stimulating urges to gamble in vulnerable individuals^{158,159}; and, possibly, helping shape permissive social attitudes to gambling.⁵³ Unlike other harmful behaviours such as smoking, there is no mandatory health warning requirement on gambling advertisements in Wales or the UK.

Restricting advertising may be a useful aid in reducing problem gambling, yet little is known about the effectiveness of this approach.¹⁵⁶ Assessing relationships between advertising and its effects on gambling problems is difficult.¹⁵⁷ In other countries such as Australia and Italy, there are more extensive restrictions on gambling advertising including a ban on advertisements during live sports.¹⁶⁰

Increasing the legal age of gambling may delay young people's access to gambling. Whilst research on the effectiveness of this approach is lacking and the data uncertain¹⁶¹, there is some evidence from Norway showing that raising the legal age of gambling from 16 to 18 years occurred alongside a decrease in the use of slot machines.¹⁶²

Summary

Most approaches to address gambling harms take a harm-minimisation approach, often in terms of responsible gambling and consumer protection. Among these approaches, universal public information and awareness campaigns are likely to have behavioural impacts only among individuals who already have concerns about their gambling, although there may be useful indirect effects on the public's acceptance of subsequent interventions (e.g. changes in legislation). Education programmes, especially in young people, may improve knowledge about gambling risks but not necessarily change their gambling behaviour. Among targeted programmes for people at risk, self-exclusion, as well as money and time limit setting, hold the most promise. The benefits of money and time limit-setting is likely to depend upon regulatory changes to produce enforceable pre-commitments (i.e. mandatory limit setting on expenditure). Two noticeable gaps in our understanding what works to prevent and address gambling harms are interventions within online settings (see Box 10) and interventions to support family members affected by an individual's gambling.

Box 10: Addressing online gambling

With online gambling a growing market, there is an increasing need to implement effective strategies that address and prevent gambling harms within this setting. Approaches such as self-exclusion and player-tracking with behavioural feedback (see section 5) have shown some success in changing gambling behaviours within online, as well as land-based, settings. However, in general, there is a lack of information about what works in online settings and a need for rigorous evaluation. Access to online gambling services by children is a particular concern. Although in Great Britain, gambling websites are legally required to have age verification systems in place, around 3% of 11-15 year olds report spending their own money on online gambling¹⁸, suggesting that these are not always effective. Current British requirements state that gambling websites have 72 hours to verify a customer's age, offering a small window of opportunity for children to access sites, register and gamble before accounts are closed.¹⁶³ Evaluations of whether some types of verification systems are more effective than others are needed.

Some internet providers include restrictions on website access as a default, but this often does not include access to gambling sites. Parental control over access to gambling websites can be achieved through adding gambling-specific blocking software to computers, tablets and mobile phones. Parental controls are also available via broadband providers that can block websites offering online gambling services. However, little is known about the effectiveness of these measures. Making parents aware of how they can find and use such services may be a helpful strategy in restricting children's access to online gambling. Additional action to prevent underage online gambling could be taken around advertising. Although some social media websites restrict adverts that promote gambling to those aged 18 or over, around 60% of 11-15 year olds report having seen gambling adverts on social media¹⁸, reflecting a need for greater and more consistent action. Further, around one in ten 11-15 year olds follow gambling companies via social media.¹⁸ Currently, age-verification on social media works through self-report, meaning it is easy to circumvent these restrictions. Options include arrangements by which 'in-app' marketing (and free-to-play games) are accessible only once full third party, age-verification processes have been completed. However, the data analytical systems that distribute gambling promotions across social media pose significant - perhaps, insuperable - obstacles to implementing such measures effectively. Thus, developing effective policy may involve the consideration of universal (and mandated) restrictions to the distribution of gambling advertisements and promotions online across social media that are very likely accessed by children.

6. Framing the policy space and options for Wales

This section discusses the policy implications of unequal distribution of harms across communities in Wales and highlights synergies with relevant legislation. Making recommendations for investment or policy change is beyond the remit of this report. However, in tackling a growing challenge to public health from gambling, there are a number of areas that deserve consideration.

The extent of gambling participation and unequal distribution of gambling harms highlights the need for a public health approach to gambling.^{13, 164-168} In Great Britain, three inter-related obstacles are thought to have hindered the development of this approach⁷:

- A conception of gambling harms that over-emphasises an individual (and addictive) psychopathology;
- A disproportionate focus on harm-minimisation for (vulnerable) individuals and a failure to adequately address the social and cultural processes that mediate the experience of gambling harms in individuals and social groups; and
- A lack of consensus amongst policymakers and the public on the balance to be struck between individuals' freedom to gamble and the need to reduce levels of gambling harms.

Currently, gambling regulation remains a reserved power to Westminster, limiting the policy options open to the Welsh Government.

Gambling harms require different public health responses in different places

Certain population groups are more likely than others to experience gambling harms (see section 3). Rates of problem gambling are higher in some communities because of their particular demographic and socio-economic profiles.^{7,68-70,79} Further, there is evidence of a harm paradox, whereby some individuals (such as those from minority ethnic groups) are less likely to gamble but more likely to experience harms when they do so. Individuals and communities at increased risk of gambling harms would benefit from specific, targeted interventions.

Effective interventions will involve both universal and targeted action

Experience from other public health areas suggests that universal responses (offered to whole populations) can have an impact in changing behaviour. For example, the introduction of smoke-free legislation in 2007 changed smoking behaviours, reduced exposure to second-hand smoke, and decreased hospital admissions for myocardial infarction in England.¹⁶⁹ Similarly, a 10% increase in the minimum price of alcohol in Canada achieved a 9% decrease in acute alcohol-attributable hospital admissions and a 9% drop in chronic alcohol-attributable admissions two years later.¹⁷⁰

Examples of universal policies for gambling include restricting gambling advertising and marketing; restricting access to funds or credit while gambling (see Box 11); and; in line with other addictive products such as tobacco, considering the mandatory inclusion of health warnings on gambling advertisements. Here, content, size and placement would need to be dictated by independent public health professionals to maximise their impact. While all necessary powers are not available in Wales to implement these universal policies, there is a strong case for advocating for such changes at a UK level.

Ideally, gambling interventions should be applied in a way that combines universal and targeted action, offering the greatest support to those communities and individuals most in need (proportionate universalism). This could be for instance delivering larger campaigns or more intense services in poorer, more vulnerable, communities (see Section 4). This type of approach offers the best potential for reducing the inequalities in gambling harms evident between population groups in an environment where public health funding is limited.

Box 11: Examples of universal policies for gambling*Restricting advertising and marketing*

The Gambling Act 2005¹¹ states that children and young people ‘*should be protected from being harmed or exploited by gambling*’. Although ‘exploitation’ is not defined, it can be inferred to mean protecting children from situations where industry could use children and young people to gain business advantage. There has been insufficient discussion of what this means in practical terms; for example, to what extent do we limit the advertising of gambling services in order to protect children? The absence of a concise answer to this question impedes effective policy. Current codes of practice on gambling advertisements¹⁷¹⁻¹⁷³ may place too much emphasis on the communicative intent of operators in their advertising and promotional material, rather than the impacts of both quantity of advertising and its content on vulnerable groups such as children, especially in the lightly-regulated online space.¹⁷⁴ Protecting children requires a child health-centred set of restrictions around gambling advertising and marketing that demonstrably limits the exposure and impacts of gambling promotions by restricting access (e.g. time of day, age, number of advertisements, programmes with appeal to children), and content.

Restricting access to funds

Restricting access to funds while gambling is a key harm-minimisation intervention that includes removal of gambling on credit cards at the point of sale and the removal of ATMs (see Section 4).^{132,175,176} Under proposals being considered by the Department for Digital, Culture, Media & Sport, operators may be asked to implement, at the point of registration for any online gambling account, credit-history checks to provide an early indication (at the point of sign-up) of the potential risk posed to particular consumers. However, spending limits pending affordability checks are only temporary restrictions on expenditure and do not necessarily address the broader challenge of harms accrued as individuals continue to gamble against established lines of credit. Addressing such harms requires a review of the broader role of credit in online gambling.

Developing a meaningful public health framework for gambling

The range of action that can be taken to address gambling harms across Great Britain, not just in Wales, is constrained by the Gambling Act 2005.¹¹ The Act aims to permit gambling, subject to largely unspecified protection of children and vulnerable people. This involves a notion of balance that trades protection for vulnerable groups against peoples’ freedom to gamble. However, the issue of proportionality has not been addressed properly by policymakers, regulators or the public; that is, there has been no resolution of the following questions:

- To what extent should policy makers and regulators limit opportunities to gamble in order to protect children, young people and vulnerable individuals from harm?
- What level of gambling harms are the public, communities and policymakers prepared to tolerate in order to allow individuals’ to gamble?

With this debate unresolved, the policy options offered by the Gambling Act 2005¹¹ remain underspecified. For example, the Act specifies

that children should be protected from harm but it does not say that children should not gamble. There is a need for a broader debate about the role of gambling in our lives, and a resolution of appropriate risks that are measured against what we know about gambling behaviour and the way technology is developing. A proportionate regulatory approach could then be developed. The Faculty for Public Health have produced a policy statement on gambling.ⁱ

Taking things forward in Wales

A public health perspective on gambling harms is possible in Wales and can be articulated within and around existing legislation and public health frameworks, including mental health and substance use (see Box 12).

Aligning policy objectives with the Well-being of Future Generations (Wales) Act 2015

In line with Welsh Government frameworks for mental health and substance use^{177,178}, a life-course perspective is required that reflects how individuals who gamble can drift towards

ⁱ Faculty of Public Health: www.fph.org.uk/media/1810/fph-gambling-position-statement-june-2018.pdf

and away from harms. A set of public health interventions to address gambling harms in Wales would be consistent with the Well-being of Future Generations (Wales) Act 2015¹⁷⁹ by: facilitating population-level policies (to promote a healthier Wales); addressing (as far as possible) the social and economic patterning of gambling harms (to promote a more equal Wales); promoting evidence-based interventions for affected individuals and to support their children and families (to build a prosperous Wales); and, addressing gambling harms with community-level interventions (to promote a Wales of cohesive communities). Gambling could be considered as a factor in the delivery of Well-being of Future Generations health and well-being objectives. Assessing whether the determinants and impacts of gambling are being suitably considered and addressed across Wales could be considered within the governance processes of the Act where appropriate.

Integrating gambling interventions with other Welsh Government Public Health policies

Mental health problems and gambling frequently co-occur and are usually associated with poorer clinical outcomes.^{27,32,85} This makes addressing gambling harms an important element in the next iteration of the Welsh Government's Together for Mental Health strategy.¹⁷⁸ Policies to mitigate these harms align with building resilience in affected individuals (Priority 1 of the Together for Mental Health Delivery Plan¹⁸⁰). Similarly, gambling harms can involve intense social isolation, low levels of well-being, alcohol and drug misuse, inequalities and debt (see Section 2). Therefore, appropriate policies to tackle these harms align with improving the quality of life of individuals with mental health problems (Priority 2). Thus, policies and practice to tackle mental health, drugs and alcohol could usefully reflect their relationships with gambling.

To the extent that public health policies can tackle the social patterning of gambling harms, they will contribute to meeting the needs of the diverse population in Wales (Priority 3 of the Together for Mental Health Delivery Plan¹⁸⁰) and help to sustain reductions in stigma and discrimination.¹⁷⁸ Finally, policies to tackle gambling harms in children and adults would address another of the framework's objectives: ensuring that all children have the best possible start to life by giving parents/caregivers the support they need (Priority 5) and ensuring

that all children and young people are resilient and better able to tackle poor mental health when it occurs (Priority 6), allowing children and young people experiencing mental health problems to get better sooner (Priority 7).

It may be useful to incorporate gambling harms into frameworks for adverse childhood experiences (ACEs) and assess these harms in ACE population surveys.^{91-93,181} Finally, under Prosperity for All: the national strategy^{182,183}, it may be helpful to consider gambling harms as an outcome under the Healthy and Active aim, related to those of alcohol and smoking. Broader policies (e.g. A Healthier Wales¹⁸⁴) may consider gambling as a driver of health inequalities and one that appears to be escalating.

Consideration could be given in Wales to a number of potential actions:

Adopting a broader definition of gambling harms

This report has used a recently developed definition of gambling harms: 'the adverse impacts from gambling on the health and well-being of individuals, families, communities and societies'.⁷ Adopting this definition within Wales would be consistent with the priorities of A Healthier Wales¹⁸⁴ and would complement and promote other public health objectives around well-being and health.

Expanding data collection methods

Recently, data have been collected in Wales on the number and types of people that gamble.^{15,17} However, this alone does not provide an accurate understanding of the level of harms imposed by gambling, which will also include harms to families, communities and societies more broadly. In line with adopting a broader definition of gambling harms (see Section 3), consideration should also be given to widening the scope of surveys and other data collection methods to explore wider gambling harms.⁸ This may include for instance, loss of employment, experience of debt, loss of housing, gambling-related crime, relationship problems, health-related problems and suicide/suicidality.⁸

Increasing knowledge of online gambling

Access to and use of online gambling is increasing in Great Britain, but our understanding of what works to reduce gambling harms in these settings remains limited. There is an urgent need for evidence on effective interventions to reduce

gambling harms in online settings. However, policy options include work to tighten restrictions around advertising for online gambling, particularly to restrict exposure among children. Social media exposure is a particular challenge and consideration could be given specifically to how children can be better protected from this form of advertising.

Increasing public awareness and education

There are a number of options to address gambling harms based on improving awareness. Education campaigns could be targeted at students early in the academic term (when they are likely to have most money) through collaborating with universities, further education colleges and the National Union of Students (e.g. through the Healthy and Sustainable Colleges and Universities Framework).¹⁸⁵ Working with schools and the education sector, awareness materials on gambling harms (including those to families, community and society) could also be provided for pupils and their parents, complementing the inclusion of content on gambling harms, resilience and well-being in the All Wales Schools Liaison Core Programme.¹⁸⁶

Increasing professional awareness and training

Individuals experiencing gambling harms can present in healthcare settings with sometimes complex physical and psychological difficulties and broader challenges that include financial, family and welfare problems.²⁷ Work should be considered with the Royal College of General Practitioners (RCGP) and the Deanery to upskill primary care workers (including GPs) in the identification of individuals vulnerable to gambling harms and use of appropriate referral pathways to support services.

The wide-ranging nature of gambling harms means multiple agencies see those suffering from the negative impacts of gambling and can play a part in their prevention and management. Consequently, dealing effectively with gambling harms requires coordinated multi-agency approaches underpinned by broad understanding of gambling and the sources of risk. In criminal justice, Police and Crime Commissioners may review material on gambling harms offered by police services, the National Offender Management Service and the Youth Justice Board.

Appropriate knowledge of links between gambling addiction and homelessness should be available to individuals (including those in the third sector) who support individuals who find themselves homeless or who have experienced domestic abuse. Armed Forces and veteran charities are an additional critical sector to ensure support to ex-service men and women vulnerable to harms. In all of these cases, there should be a clear focus upon the impact of gambling harms upon, not just the individual, but the wider families with consideration of interventions (e.g. brief interventions) and family-based interventions, where appropriate.^{151,187}

Treatment and other services for gambling problems

A further consideration in addressing gambling harms is through improving services available across Wales for those affected by gambling harms. Echoing the Chief Medical Officer's recent call⁹, there is a need for an evidence-based guide to treatment for people experiencing gambling harms. The Chief Medical Officer examined a range of areas where meaningful progress could be made including: reducing stigma, referral for treatment, specialist services and help for families.

Summary

Gambling needs to be recognised as an emerging public health issue and a broader definition of gambling harms is now available to capture the wide range of impacts on individuals, family, friends, communities and societies at large. An inter-locking set of appropriate actions need to be taken to prevent gambling harms. Addressing gambling harms effectively will help to meet other related social challenges related to issues including vulnerability and mental health. Failure to address gambling harms may jeopardise the success of other initiatives, as an unintended consequence. More broadly, the rapidly developing technological base, fluid marketing and the ubiquitous provision of gambling products requires a more informed debate about the existing and emerging roles of gambling in our lives. Fundamentally, this should address what represents necessary population restrictions on gambling and its promotion in order to protect young, deprived and other vulnerable sectors of society and guide the range of actions required to reverse escalating trends in gambling harms.

Box 12: Options for Policy Change

Policy options that could be considered to address gambling harms across Wales include:

- Adopting a broader definition of gambling harms as ‘adverse impacts upon the health and well-being of individuals, families, communities and societies’.

- Incorporating gambling harms into the next iterations of the Working Together to Reduce Harms, Together for Mental Health strategy, Prosperity for All: National strategy and A Healthier Wales.

- In line with definition changes, broadening the scope of surveys and other data collection methods to explore levels of gambling harms across Welsh communities more accurately.

- Developing the evidence base on what works to reduce gambling harms in online settings.

- Utilising the Healthy and Sustainable Colleges and Universities Framework to provide calibrated messages to increase awareness of gambling harm to young people and strengthen links with further education colleges, the Welsh universities and National Union of Students for awareness campaigns targeted at students.

- Developing awareness materials on gambling harms for parents and pupils, alongside inclusion of content on gambling harms, resilience and well-being in the All Wales Schools Liaison Core Programme.

- Providing training for primary care workers in the identification of gambling harms and pathways for referral.

- Increasing awareness of gambling harms among other professional groups such as police services, the National Offender Management Service and the Youth Justice Board, and public and third sector bodies working with vulnerable groups.

- Improving support and treatment services available across Wales for those affected by gambling harms through for example considering the development of a specialised national service for gambling problems; implementing care pathways for the treatment of, and support for, individuals and families experiencing gambling harms; and increasing support to third sector organisations for the provision of psychological therapies (for example Cognitive Behavioural Therapy), debt counselling and family therapies and support.

- Advocate at a UK level for effective policy measures which currently cannot be implemented through devolved powers (for example, restricting funds and marketing and restricting access to credit and funds).

References

- (1) Gainsbury SM, Russell A, Hing N, et al. How the internet is changing gambling: Findings from an Australian prevalence survey. *Journal of Gambling Studies* 2013; 31(1): 1-15.
- (2) Orford J. *An unsafe bet? The dangerous rise of gambling and the debate we should be having*. John Wiley & Sons; 2010.
- (3) Goodwin BC, Browne M, Rockloff M, et al. A typical problem gambler affects six others. *International Gambling Studies* 2017; 17(2): 276-289.
- (4) Productivity Commission. *Australia's Gambling Industries Report No. 10*. Canberra: Productivity Commissions; 1999.
- (5) Reith G, Dobbie F. Gambling careers: A longitudinal, qualitative study of gambling behaviour. *Addiction, Research and Theory* 2013; 21(5): 376-390.
- (6) Reith G, Dobbie F. Beginning gambling: The role of social networks and environment. *Addiction Research and Theory* 2011; 19(6): 483-493.
- (7) Rogers R, Wardle H, Sharp CA, et al. *Framing a public health approach to gambling harms in Wales: Challenges and opportunities*. Bangor: Bangor University; 2019.
- (8) Wardle H, Reith G, Best D, et al. *Measuring gambling-related harms: a framework for action*. Birmingham: Responsible Gambling Strategy Board; 2018.
- (9) Chief Medical Officer for Wales. *Gambling with our health. Annual report 2016/17* Cardiff: Welsh Government; 2018.
- (10) House of Commons. Culture, Media and Sport Committee. *The Gambling Act 2005: A bet worth taking? First report of session 2012-13. Volume 1*. London: The Stationery Office Limited; 2012. Retrieved from: <https://publications.parliament.uk/pa/cm201213/cmselect/cmcumeds/421/421.pdf>.
- (11) *Gambling Act 2005: United Kingdom*. Retrieved from: <https://www.legislation.gov.uk/ukpga/2005/19/contents>.
- (12) *Wales Act 2017: United Kingdom*. Retrieved from: <http://www.legislation.gov.uk/ukpga/2017/4/contents/enacted>.
- (13) Responsible Gambling Strategy Board. *The National Responsible Gambling Strategy 2016-17 to 2018-19*. Birmingham: Responsible Gambling Strategy Board; 2016.
- (14) Wardle H, Keily R, Astbury G, et al. 'Risky places?': Mapping gambling machine density and socio-economic deprivation. *Journal of Gambling Studies* 2014; 30(1): 201-212.
- (15) Gambling Commission. *Participation in gambling and rates of problem gambling – Wales 2016*. Birmingham: Gambling Commission; 2017.
- (16) Conolly A, Davies B, Fuller E, et al. *Gambling behaviour in Great Britain in 2016. Evidence from England, Scotland and Wales*. London: National Centre for Social Research; 2018.
- (17) Gambling Commission. *Participation in gambling and rates of problem gambling – Wales 2015*. Birmingham: Gambling Commission; 2016.
- (18) Gambling Commission. *Young people and gambling 2018*. Birmingham: Gambling Commission; 2018.
- (19) Urbanoski KA, Rush BR. Characteristics of people seeking treatment for problem gambling in Ontario: Trends from 1998 to 2002. *Journal of Gambling Issues*; 2006; 16.
- (20) Gambling Commission. *Industry statistics. April 2015 to March 2018*. Birmingham: Gambling Commission; 2018.
- (21) Gambling Commission. *Gambling participation in 2017: Behaviour, awareness and attitudes*. Birmingham: Gambling Commission; 2018.
- (22) OfCom. *Trends in Advertising Activity - Gambling; 2013*. Retrieved from: https://www.ofcom.org.uk/_data/assets/pdf_file/0026/53387/trends_in_ad_activity_gambling.pdf.
- (23) Derevensky J, Sklar A, Gupta R, et al. An empirical study examining the impact of gambling advertisements on adolescent gambling attitudes and behaviors. *International Journal of Mental Health and Addiction* 2010; 8(1): 21-34.
- (24) Carlson MJ, Moore TL. *Adolescent gambling in Oregon: a report to the Oregon gambling addiction treatment foundation*. Rutgers University; 1998.
- (25) Grant JE, Kim SW. Demographic and clinical features of 131 adult pathological gamblers. *The Journal of Clinical Psychiatry* 2001; 62(12): 957-962.
- (26) Binde P. Exploring the impact of gambling advertising: an interview study of problem gamblers. *International Journal of Mental Health and Addiction* 2009; 7(4): 541.
- (27) Cowlshaw S, Kessler D. Problem gambling in the UK: implications for health, psychosocial adjustment and health care utilization. *European Addiction Research* 2016; 22(2): 90-98.
- (28) Lind K, Kääriäinen J. Cheating and stealing to finance gambling: analysis of screening data from a problem gambling self-help program. *Journal of Gambling Issues* 2018; 39.
- (29) Leeman RF, Potenza MN. Similarities and differences between pathological gambling and substance use disorders: a focus on impulsivity and compulsivity. *Psychopharmacology* 2012; 219(2): 469-490.
- (30) Worhunsky PD, Potenza MN, Rogers RD. Alterations in functional brain networks associated with loss-chasing in gambling disorder and cocaine-use disorder. *Drug and Alcohol Dependence* 2017; 178: 363-371.
- (31) Cowlshaw S, Hakes JK, Dowling NA. Gambling problems in treatment for affective disorders: Results from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). *Journal of Affective Disorders* 2016; 202: 110-114.
- (32) Lorains FK, Cowlshaw S, Thomas SA. Prevalence of comorbid disorders in problem and pathological gambling: systematic review and meta-analysis of population surveys. *Addiction* 2011; 106(3): 490-8.
- (33) Black DW, Shaw M, McCormick B, et al. Pathological gambling: relationship to obesity, self-reported chronic medical conditions, poor lifestyle choices and impaired quality of life. *Comprehensive Psychiatry* 2013; 54(2): 97-104.

- (34) Algren MH, Ekholm O, Davidsen M, et al. Health behaviour and body mass index among problem gamblers: results from a nationwide survey. *Journal of Gambling Studies* 2015; 31(2): 547-556.
- (35) Blaszczynski A, Nower L. A pathways model of problem and pathological gambling. *Addiction* 2002; 97(5): 487-499.
- (36) Holdsworth L, Nuske E, Tiyce M, et al. Impacts of gambling problems on partners: partners' interpretations. *Asian Journal of Gambling Issues and Public Health* 2013; 3(1): 11.
- (37) Shead NW, Derevensky JL, Gupta R. Risk and protective factors associated with youth problem gambling. *International Journal of Adolescent Medicine and Health* 2010; 22(1): 39-58.
- (38) GamCare. Briefing Paper - GamCare Annual Statistics 2017-18. London: GamCare; 2018. Retrieved from: https://www.gamcare.org.uk/sites/default/files/file_attach/Briefing%20Paper%20-%20GamCare%20Annual%20Statistics%202017-18.pdf.
- (39) Jacobs DF, Marston AR, Singer RD, et al. Children of problem gamblers. *Journal of Gambling Behavior* 1989; 5(4): 261-268.
- (40) Kalischuk RG, Nowatzki N, Cardwell K, et al. Problem gambling and its impact on families: a literature review. *International Gambling Studies* 2006; 6(1): 31-60.
- (41) Subramaniam M, Chong SA, Satghare P, et al. Gambling and family: a two-way relationship. *Journal of Behavioral Addictions* 2017; 6(4): 689-698.
- (42) Kourgiantakis T, Saint-Jacques MC, Tremblay J. Problem gambling and families: a systematic review. *Journal of Social Work Practice in the Addictions* 2013; 13(4): 353-372.
- (43) Darbyshire P, Oster C, Carrig H. The experience of pervasive loss: children and young people living in a family where parental gambling is a problem. *Journal of Gambling Studies* 2001; 17(1): 23-45.
- (44) Lesieur HR, Rothschild J. Children of gamblers anonymous members. *Journal of Gambling Behavior* 1989; 5(4): 269-281.
- (45) Dowling N, Suomi A, Jackson A, et al. Problem gambling and intimate partner violence: a systematic review and meta-analysis. *Trauma Violence & Abuse* 2016; 17(1): 43-61.
- (46) Vachon J, Vitaro F, Wanner B, et al. Adolescent gambling: relationships with parent gambling and parenting practices. *Psychology of Addictive Behaviors* 2004; 18(4): 398.
- (47) Oei TP, Raylu N. Familial influence on offspring gambling: a cognitive mechanism for transmission of gambling behavior in families. *Psychological Medicine* 2004; 34(7): 1279-1288.
- (48) Forrest D. An economic and social review of gambling in Great Britain. *The Journal of Gambling Business and Economics* 2013; 7(3): 1-33.
- (49) Thorley C, Stirling A, Huynh E. Cards on the table: the cost to government associated with people who are problem gamblers in Britain. Institute for Public Policy Research: London; 2016.
- (50) Walker DM. Problems in quantifying the social costs and benefits of gambling. *American Journal of Economics and Sociology* 2007; 66(3): 609-645.
- (51) Giovanni M, Fabiola S, Federica F, et al. Gambling disorder and suicide: an overview of the associated co-morbidity and clinical characteristics. *International Journal of High Risk Behaviors and Addiction* 2016; 6(3): e30827.
- (52) Knapp M, McDaid D, Parsonage M (eds). *Mental health promotion and mental illness prevention: the economic case*. London: Department of Health; 2011.
- (53) Orford J. Gambling in Britain: The application of restraint erosion theory. *Addiction* 2012; 107(12): 2082-2086.
- (54) Astbury G, Thurstain-Goodwin M. Contextualising machine gambling characteristics by location-final report: a spatial investigation of machines in bookmakers using industry data. Bath: Geofutures Ltd; 2015.
- (55) Astbury G, Wardle H. *Examining the effect of proximity and concentration of B2 machines to gambling play*. London: The Responsible Gambling Trust; 2016.
- (56) Rintoul AC, Livingstone C, Mellor AP, et al. Modelling vulnerability to gambling related harm: how disadvantage predicts gambling losses. *Addiction Research and Theory* 2013; 21(4): 329-338.
- (57) Johansson A, Grant JE, Kim SW, et al. Risk factors for problematic gambling: a critical literature review. *Journal of Gambling Studies* 2009; 25(1): 67-92.
- (58) Dowling NA, Merkouris SS, Greenwood CJ, et al. Early risk and protective factors for problem gambling: a systematic review and meta-analysis of longitudinal studies. *Clinical Psychology Review* 2017; 51: 109-124.
- (59) Forrest D, McHale IG. Gambling and problem gambling among young adolescents in Great Britain. *Journal of Gambling Studies* 2012; 28(4): 607-622.
- (60) Delfabbro P, King D, Lambos C, et al. Is video-game playing a risk factor for pathological gambling in Australian adolescents? *Journal of Gambling Studies* 2009; 25(3): 391-405.
- (61) Wohl MJ, Salmon MM, Hollingshead SJ, et al. An examination of the relationship between social casino gaming and gambling: the bad, the ugly, and the good. *Journal of Gambling Issues* 2017; 35: 1-23.
- (62) Kim HS, Wohl MJ, Salmon MM, et al. Do social casino gamers migrate to online gambling? An assessment of migration rate and potential predictors. *Journal of Gambling Studies* 2015; 31(4): 1819-1831.
- (63) Forrest CJ, King DL, Delfabbro PH. The gambling preferences and behaviors of a community sample of Australian regular video game players. *Journal of Gambling Studies* 2016; 32(2): 409-420.
- (64) Dyson R, Renk K. Freshmen adaptation to university life: depressive symptoms, stress, and coping. *Journal of Clinical Psychology* 2006; 62(10): 1231-1244.
- (65) Aresi G, Moore S, Marta E. Drinking, drug use, and related consequences among university students completing study abroad experiences: a systematic review. *Substance Use & Misuse* 2016; 51(14): 1888-1904.

- (66) Gambling Commission. Students and gambling. Retrieved from: <https://www.gamblingcommission.gov.uk/PDF/survey-data/studentsandgambling2017.pdf>.
- (67) Thomas A, Moore SM, Kale S, et al. International student gambling: The role of acculturation, gambling cognitions and social circumstances. Full technical report: a mixed-methods investigation of international student gambling. Melbourne: Gambling Research Australia, 2011.
- (68) Conolly A, Fuller E, Jones H, et al. Gambling behaviour in Great Britain in 2015. Evidence from England, Scotland and Wales. London: National Centre for Social Research; 2017.
- (69) Wardle H, Moody A, Spence S, et al. British Gambling Prevalence Survey 2010. The Gambling Commission. London: National Centre for Social Research; 2011.
- (70) Wardle H, Sproston K, Orford J, et al. British Gambling Prevalence Survey 2007. London: National Centre for Social Research; 2007.
- (71) Wardle H, Seabury C, Ahmed H, et al. Gambling behaviour in England and Scotland: findings from the Health survey for England 2012 and Scottish health survey 2012. London: National Centre for Social Research; 2014.
- (72) Forrest D, Wardle H. Gambling in Asian communities in Great Britain. *Asian Journal of Gambling Issues and Public Health* 2011; 2(1): 2-16.
- (73) Raylu N, Oei TP. Role of culture in gambling and problem gambling. *Clinical Psychology Review* 2004; 23: 1087-1114.
- (74) Volberg, RA, Abbott, MW. Gambling and problem gambling among indigenous peoples. *Substance Use & Misuse* 1997; 32(11): 1525-1538.
- (75) Lund I. Lessons from the grey area: a closer inspection of at-risk gamblers. *Journal of Gambling Studies* 2007; 23(4): 409-419.
- (76) Lyk-Jensen SV. New evidence from the grey area: Danish results for at-risk gambling. *Journal of Gambling Studies* 2010; 26(3): 455-467.
- (77) Penelo E, Granero R, Fernandez-Aranda F, et al. Comparison between immigrant and Spanish native-born pathological gambling patients. *Psychological Reports* 2012; 110(2): 555-570.
- (78) Sobrun-Maharaj A, Rossen FV, Wong AS. Negative impacts of gambling on Asian families and communities in New Zealand. *Asian Journal of Gambling Issues and Public Health* 2013; 3(1): 1-14.
- (79) Wardle H. Exploring area-based vulnerability to gambling-related harm: who is vulnerable? Findings from a quick scoping review. Bath: Gambling and Place Research Hub; 2015.
- (80) Wardle H. People who play machines in bookmakers: Secondary analysis of loyalty card survey data. London: The Responsible Gambling Trust; 2016.
- (81) Astbury G, Thurstain-Goodwin M. Contextualising machine gambling characteristics by location-final report: a spatial investigation of machines in bookmakers using industry data. Bath: Geofutures Ltd; 2015.
- (82) Reed H. Exploiting addicts: New research on the UK gambling industry. Available at: <https://www.opendemocracy.net/shinealight/howard-reed/exploiting-addicts-new-research-on-uk-gambling-industry> and <https://thefriend.org/article/the-spoils-of-addiction/>.
- (83) Wardle H. People who play machines in bookmakers: Secondary analysis of loyalty card survey data. London: The Responsible Gambling Trust; 2016.
- (84) Scottish Government. Scottish Health Survey supplementary tables 2015, 2016. 2016, National Centre for Social Research. Retrieved from: <https://www2.gov.scot/Topics/Statistics/Browse/Health/scottish-health-survey/Publications/Supplementary2015/Supplementary2016>.
- (85) Kessler RC, Hwang I, LaBrie R, et al. DSM-IV pathological gambling in the National Comorbidity Survey Replication. *Psychological Medicine* 2008; 38(9): 1351-1360.
- (86) Sharma A, Sacco P. Adverse childhood experiences and gambling: results from a national survey. *Journal of Social Work Practice in the Addictions* 2015; 15(1): 25-43.
- (87) Hodgins DC, Schopflocher DP, el-Guebaly N, et al. The association between childhood maltreatment and gambling problems in a community sample of adult men and women. *Psychology of Addictive Behaviors* 2010; 24(3): 548.
- (88) Poole JC, Kim HS, Dobson KS, et al. Adverse childhood experiences and disordered gambling: assessing the mediating role of emotion dysregulation. *Journal of Gambling Studies* 2017; 33(4): 1187-1200.
- (89) Petry NM, Steinberg KL. Childhood maltreatment in male and female treatment-seeking pathological gamblers. *Psychology of Addictive Behaviors* 2005; 19(2): 226.
- (90) Bellringer M, Pearson J, Palmer du Preez K, et al. Family violence in a sample of treatment-seeking gamblers: The effect of having dependent children. *Asian Journal of Gambling Issues and Public Health* 2017; 7(1): 8.
- (91) Bellis MA, Ashton K, Hughes K, et al. Adverse childhood experiences and their impact on health-harming behaviours in the Welsh adult population. Cardiff: Public Health Wales; 2015.
- (92) Ashton K, Bellis MA, Davies AR, et al. Adverse childhood experiences and their association with chronic disease and health service use in the Welsh adult population. Cardiff: Public Health Wales; 2016.
- (93) Ashton K, Bellis MA, Hardcastle K, et al. Adverse childhood experiences and their association with mental well-being in the Welsh adult population. Cardiff: Public Health Wales; 2016.
- (94) Lane W, Sacco P, Downton K, et al. Child maltreatment and problem gambling: a systematic review. *Child Abuse and Neglect* 2016; 58: 24-38.
- (95) Scherrer JF, Slutske WS, Xian H, et al. Factors associated with pathological gambling at 10-year follow-up in a national sample of middle-aged men. *Addiction* 2007; 102(6): 970-978.
- (96) Hodgins DC, el-Guebaly N. Retrospective and prospective reports of precipitants to relapse in pathological gambling. *Journal of Consulting Clinical Psychology* 2004; 72(1): 72.

- (97) Oei TP, Gordon LM. Psychosocial factors related to gambling abstinence and relapse in members of gamblers anonymous. *Journal of Gambling Studies* 2008; 24(1): 91-105.
- (98) Smith DP, Battersby MW, Pols RG, et al. Predictors of relapse in problem gambling: a prospective cohort study. *Journal of Gambling Studies* 2015; 31(1): 299-313.
- (99) Roberts E, Dighton G, Fossey M, et al. Gambling problems in UK Armed Forces veterans: preliminary findings. *Forces in Mind Trust*; 2017.
- (100) The Royal British Legion. A UK household survey of the ex-service community 2014. London: The Royal British Legion; 2014.
- (101) Bassett D, Buchwald D, Manson S. Posttraumatic stress disorder and symptoms among American Indians and Alaska Natives: a review of the literature. *Social Psychiatry and Psychiatric Epidemiology* 2014; 49(3): 417-433.
- (102) Heffron WA, Skipper BJ, Lambert L. Health and lifestyle issues as risk factors for homelessness. *The Journal of the American Board of Family Practice* 1997; 10(1): 6-12.
- (103) Edens EL, Rosenheck RA. Rates and correlates of pathological gambling among VA mental health service users. *Journal of Gambling Studies* 2012; 28(1): 1-11.
- (104) Sharman S, Dreyer J, Aitken M, et al. Rates of problematic gambling in a British homeless sample: a preliminary study. *Journal of Gambling Studies* 2015; 31(2): 525-532.
- (105) Nower L, Eyrich-Garg KM, Pollio DE, et al. Problem gambling and homelessness: results from an epidemiologic study. *Journal of Gambling Studies* 2015; 31(2): 533-545.
- (106) Rota-Bartelink A, Lipmann B. Causes of homelessness among older people in Melbourne, Australia. *Australian and New Zealand Journal of Public Health* 2007; 31(3): 252-258.
- (107) Holdsworth L, Tiyce M, Hing N. Exploring the relationship between problem gambling and homelessness: becoming and being homeless. *Gambling Research: Journal of the National Association for Gambling Studies (Australia)* 2012; 23(2): 39-54.
- (108) Griffiths MD. The relationship between gambling and homelessness: a commentary on Sharman et al (2014). *Journal of Gambling Studies* 2015; 31(4): 1153-1159.
- (109) Corney R, Davis J. The attractions and risks of Internet gambling for women: a qualitative study. *Journal of Gambling Issues* 2010; 24: 121-139.
- (110) Southwell J, Boreham P, Laffan W. Problem gambling and the circumstances facing older people. *Journal of Gambling Studies* 2008; 24(2): 151-174.
- (111) Williams RJ, Royston J, Hagen BF. Gambling and problem gambling within forensic populations: a review of the literature. *Criminal Justice and Behavior* 2005; 32(6): 665-689.
- (112) Byrne AM, Dickson L, Derevensky JL, et al. The application of youth substance use media campaigns to problem gambling: a critical evaluation. *Journal of Health Communication* 2005; 10(8): 681-700.
- (113) Williams RJ. Prevention of problem gambling: a school-based intervention. Alberta: Alberta Gaming Research Institute; 2002.
- (114) Najavits LM, Grymala LD, George B. Can advertising increase awareness of problem gambling? a statewide survey of impact. *Psychology of Addictive Behaviors* 2003; 17(4): 324.
- (115) Turner NE, Wiebe J, Falkowski-Ham Aet al. Public awareness of responsible gambling and gambling behaviours in Ontario. *International Gambling Studies* 2005; 5(1): 95-112.
- (116) Jackson A, Thomason NR, Thomas S. Longitudinal evaluation of the effectiveness of problem gambling counselling services, community education strategies and information products. Volume 5: Natural recovery from problem gambling. Melbourne: Department of Human Services; 2002.
- (117) Keen B, Blaszczynski A, Anjoul F. Systematic review of empirically evaluated school-based gambling education programs. *Journal of Gambling Studies*. 2017; 33(1): 301-325.
- (118) Auer M, Griffiths MD. Personalised feedback in the promotion of responsible gambling: a brief overview. *Responsible Gambling Review* 2014; 1(1): 27-36.
- (119) Auer M, Malischnig D, Griffiths M. Is "pop-up" messaging in online slot machine gambling effective as a responsible gambling strategy? *Journal of Gambling Issues* 2014; 29: 1-10.
- (120) Monaghan S, Blaszczynski A. Impact of mode of display and message content of responsible gambling signs for electronic gaming machines on regular gamblers. *Journal of Gambling Studies* 2010; 26: 67-88..
- (121) Tanner J, Dawson AS, Mushquash CJ, et al. Harm reduction in gambling: a systematic review of industry strategies. *Addiction Research & Theory* 2017; 25(6): 485-494.
- (122) Ginley MK, Whelan JP, Pfund RA, et al. Warning messages for electronic gambling machines: evidence for regulatory policies. *Addiction Research & Theory* 2017; 25(6): 495-504.
- (123) Ladouceur R, Blaszczynski A, Lalande DR. Pre-commitment in gambling: a review of the empirical evidence. *International Gambling Studies* 2012; 12(2): 215-230.
- (124) Association of British Bookmakers (ABB) Ltd. ABB Responsible Gambling Code. London: ABB; 2015.
- (125) Auer M, Griffiths MD. Voluntary limit setting and player choice in most intense online gamblers: an empirical study of gambling behaviour. *Journal of Gambling Studies* 2013; 29(4): 647-660.
- (126) Auer N, Griffiths MD. Testing normative and self-appraisal feedback in an online slot-machine pop-up in a real-world setting. *Frontiers in Psychology/Human-Media Interaction* 2015; 6:339.
- (127) Broda A, LaPlante DA, Nelson SE, et al. Virtual harm reduction efforts for Internet gambling: effects of deposit limits on actual Internet sports gambling behavior. *Harm Reduction Journal* 2008; 5(1): 27.
- (128) Hing N, Cherney L, Gainsbury SM, et al. Maintaining and losing control during Internet gambling: a qualitative study of gamblers' experiences. *New Media & Society* 2015; 17(7): 1075-1095.

- (129) Forrest D, McHale IG, Wardle H. Evaluating the impact of the uplift of stakes and prizes on B1 gaming machines in casinos. Retrieved from: <https://about.gambleaware.org/media/1164/evaluating-the-impact-of-the-uplift-of-stakes-and-prizes-on-b1-gaming-machines-in-casinos.pdf>.
- (130) Brodie M, Honeyfield N, Whitehead G. Change in bank note acceptors on electronic gaming machines in Queensland – outcome evaluation. Retrieved from: http://pandora.nla.gov.au/pan/51572/20050901-0000/www.responsiblegambling.qld.gov.au/knowledge/research/surveys/change_in_bank_note_acceptors_egms_in_queensland%20v1.15.pdf.
- (131) Hansern M, Rossow I. Limited cash flow on slot machine: effects of prohibition of note acceptors on adolescent gambling behaviour. *International Journal of Mental Health and Addiction* 2010; 8: 70-81.
- (132) Thomas A, Pfeifer J, Moore S, et al. Evaluation of the removal of ATMs from gaming venues in Victoria, Australia. Swinburne University of Technology; 2013.
- (133) LaPlante DA, Gray HM, LaBrie RA, et al. Gaming industry employees' responses to responsible gambling training: a public health imperative. *Journal of Gambling Studies* 2012; 28(2): 171-191.
- (134) Delfabbro P, Borgas M, King D. Venue staff knowledge of their patrons' gambling and problem gambling. *Journal of Gambling Studies* 2012; 28(2): 155-169.
- (135) Ladouceur R, Shaffer P, Blaszczynski A, et al. Responsible gambling: a synthesis of the empirical evidence. *Addiction Research & Theory* 2017; 25(3): 225-235.
- (136) Gambling Commission. Self-exclusion. N.D. Retrieved from: <https://www.gamblingcommission.gov.uk/for-the-public/Safer-gambling/Self-exclusion.aspx>.
- (137) Tremblay N, Boutin C, Ladouceur R. Improved self-exclusion program: preliminary results. *Journal of Gambling Studies* 2008; 24(4): 505-518.
- (138) Hing N, Russell AM, Gainsbury SM, et al. Characteristics and help-seeking behaviors of internet gamblers based on most problematic mode of gambling. *Journal of Medical Internet Research* 2015; 17(1): e13.
- (139) Hayer T, Meyer G. Self-exclusion as a harm minimization strategy: evidence for the casino sector from selected European countries. *Journal of Gambling Studies* 2011; 27(4): 685-700.
- (140) Dragicevic S, Percy C, Kudic A, et al. A descriptive analysis of demographic and behavioral data from internet gamblers and those who self-exclude from online gambling platforms. *Journal of Gambling Studies* 2015; 31(1): 105-132.
- (141) Nelson SE, Kleschinsky JH, LaBrie RA, et al. One decade of self exclusion: Missouri casino self-excluders four to ten years after enrollment. *Journal of Gambling Studies* 2010; 26(1): 129-144.
- (142) Wood RTA, Wohl MJA. Assessing the effectiveness of a responsible gambling behavioural feedback tool for reducing the gambling expenditure of at-risk players. *International Gambling Studies* 2015; 15(2): 1-16.
- (143) Quilty LC, Avila Murati D, Bagby RM. Identifying indicators of harmful and problem gambling in a Canadian sample through receiver operating characteristic analysis. *Psychology of Addictive Behaviors* 2014; 28(1): 229.
- (144) Wohl MJ, Davis CG, Hollingshead SJ. How much have you won or lost? Personalized behavioral feedback about gambling expenditures regulates play. *Computers in Human Behaviour* 2017; 70: 437-445.
- (145) Swan JL, Hodgins DC. Brief interventions for disordered gambling. *Canadian Journal of Addiction* 2015; 6(2): 29-36.
- (146) Yakovenko I, Quigley L, Hemmelgarn BR, et al. The efficacy of motivational interviewing for disordered gambling: systematic review and meta-analysis. *Addictive Behaviors* 2015; 43: 72-82.
- (147) Petry NM, Ginley MK, Rash CJ. A systematic review of treatments for problem gambling. *Psychology of Addictive Behaviors*. 2017; 31(8): 951.
- (148) Van den Brink W. Evidence-based pharmacological treatment of substance use disorders and pathological gambling. *Current Drug Abuse Reviews* 2012; 5(1): 3-31.
- (149) Hodgins DC, Toneatto T, Makarchuk K, et al. Minimal treatment approaches for concerned significant others of problem gamblers: a randomized controlled trial. *Journal of Gambling Studies* 2007; 23(2): 215-230.
- (150) Rychtarik RG, McGillicuddy NB. Preliminary evaluation of a coping skills training program for those with a pathological-gambling partner. *Journal of Gambling Studies* 2006; 22(2): 165-178.
- (151) von Doussa, H, Sundbery J, Cuff R, et al. 'Let's talk about children': investigating the use of a family-focused intervention in the gambling support services sector. *Australian and New Zealand Journal of Family Therapy* 2017; 38(3): 482-495.
- (152) O'Neil M, Whetton S, Dolman B, et al. Evaluation of self-exclusion programs in Victoria and Part B—Summary of self-exclusion programs in Australian States and Territories. Melbourne: Gambling Research Panel; 2003.
- (153) Rossow I, Hansen MB and Storvoll EE. Changes in youth gambling after the removal of slot machines in Norway. *Nordic Studies on Alcohol and Drugs* 2013; 30(4), 317–330.
- (154) Lund I. Gambling behaviour and the prevalence of gambling problems in adult EGM gamblers when EGMs are banned. A natural experiment. *Journal of Gambling Studies* 2009; 25(2): 215-225.
- (155) Wardle H. Learning lessons: The need for effective evaluation of regulatory change. *International Journal of Drug Policy* 2018; 53: 123-124.
- (156) Williams RJ, West BL, Simpson RI. Prevention of problem gambling: a comprehensive review of the evidence and identified best practices. Ontario Problem Gambling Research Centre and the Ontario Ministry of Health and Long Term Care; 2012.
- (157) Binde P. Gambling advertising: a critical research review. London: Responsible Gambling Trust; 2014.
- (158) Potenza MN. Non-substance addictive behaviors in the context of DSM-5. *Addictive Behaviors* 2014; 39(1): 1-2.
- (159) Hodgins DC, Stea JN, Grant JE. Gambling disorders. *The Lancet* 2011; 378: 1874-1884.

- (160) Victorian Responsible Gambling Foundation. Australian Government announces gambling advertising ban during live sport. Retrieved from: <https://responsiblegambling.vic.gov.au/about-us/news-and-media/australian-government-announces-gambling-advertising-ban-during-live-sport/>.
- (161) Nordmyr J, Österman K. Raising the legal gambling age in Finland: problem gambling prevalence rates in different age groups among past-year gamblers pre- and post-implementation. *International Gambling Studies* 2016; 16(3): 347-356.
- (162) Gotestam KG, Johansson A. Norway. In Meyer G, Hayer G, Griffiths M (eds). *Problem gambling in Europe: challenges, prevention, and interventions*. Springer, 2009: pp 209-218.
- (163) Gambling Commission. Review of online gambling. Retrieved from: <https://www.gamblingcommission.gov.uk/PDF/Online-review-March-2018.pdf>.
- (164) Gambling Commission. Strategy 2018-2021. Making gambling safer and fairer. Birmingham: Gambling Commission; 2017.
- (165) Korn DA, Shaffer HJ. Gambling and the health of the public: adopting a public health perspective. *Journal of Gambling Studies* 1999; 15(4): 289-365.
- (166) Shaffer HJ, Korn DA. Gambling and related mental disorders: a public health analysis. *Annual Review of Public Health* 2002; 23(1): 171-212.
- (167) Bowden-Jones H. Pathological gambling. *BMJ* 2017; 357: j1593.
- (168) The Lancet. Problem gambling is a public health concern. *The Lancet* 2017; 390(10098): 913.
- (169) Bauld L. The impact of smokefree legislation in England: evidence review. Bath: University of Bath; 2011.
- (170) Stockwell T, Zhao J, Martin G, et al. Minimum alcohol prices and outlet densities in British Columbia, Canada: estimated impacts on alcohol-attributable hospital admissions. *American Journal of Public Health* 2013; 103(11): 2014-2020.
- (171) Advertising Standards Authority. UK Code of Broadcast Advertising and Direct and Promotional Marketing (BCAP Code); 2016. Retrieved from: <https://www.asa.org.uk/codes-and-rulings/advertising-codes/broadcast-code.html>.
- (172) Advertising Standards Authority (ASA). UK Code of Non-broadcast Advertising and Direct and Promotional Marketing (CAP Code); 2016. Retrieved from: <https://www.asa.org.uk/codes-and-rulings/advertising-codes/non-broadcast-code.html>.
- (173) CAP and BCAP Gambling Review. An assessment of the regulatory implications of new and emerging evidence for the UK Advertising Codes. London: Committee of Advertising Practice; 2014.
- (174) Hörnle J, Carran MA. A sieve that does hold a little water – gambling advertising and protection of the vulnerable in the UK. *Legal Studies* 2018; 38(4): 529-548.
- (175) Blaszczynski A, Parke A, Parke J, et al. Operator-based approaches to harm minimisation in gambling: summary, review and future directions. London: The Responsible Gambling Trust; 2014.
- (176) White MA, Mun P, Kauffman N, et al. *Electronic gambling machines and problem gambling*. Ontario: Responsible Gambling Council; 2006.
- (177) Welsh Assembly Government. Working together to reduce harm: the substance misuse strategy for Wales 2008-2018. Welsh Assembly Government: Cardiff; 2008.
- (178) Welsh Government. Together for mental health: a strategy for mental health and well-being in Wales. Cardiff: Welsh Government; 2012.
- (179) Welsh Government. Well-being of Future Generations (Wales) Act 2015. Cardiff: Welsh Government; 2015.
- (180) Welsh Government. Together for mental health: Delivery plan for 2016-2019. Cardiff: Welsh Government; 2015.
- (181) Welsh Government (2018). A healthier Wales: our plan for health and social care. Retrieved from: <https://gov.wales/topics/health/publications/healthier-wales/?lang=en>.
- (182) Hughes K, Ford K, Davies AR, et al. Sources of resilience and their moderating relationships with harms from adverse childhood experiences. Cardiff: Public Health Wales; 2018.
- (183) Welsh Government. Taking Wales forward: 2016-2021. Cardiff: Welsh Government; 2016.
- (184) Welsh Government. Prosperity for all: the national strategy. Cardiff: Welsh Government; 2016.
- (185) Public Health Wales. Healthy and sustainable colleges and universities framework. Cardiff: Public Health Wales; 2017.
- (186) Orford J. Empowering family and friends: a new approach to the secondary prevention of addiction. *Drug and Alcohol Review* 1994; 13(4): 417-429.

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