Gambling Disorder – The Inadequacy of Prevalence Measures

Supplementary Note

To add to the confusion around prevalence measures, it is worth noting that since this note was written, GambleAware published a report [1] which found a population problem gambling estimate of 2.7%. This estimate is around 4 times the most recent (2016) UK estimate of population prevalence. GambleAware immediately commissioned a further study [2] to "explain" this apparently huge rise in the problem gambling. Essentially the more recent estimate was based on a panel survey rather than questions in the country health surveys.

However, rather than exploring the strengths and weaknesses of the different approaches, the purpose of the supplementary report seemed to be to justify that the new figure was an overestimate and that the 'true' population figure was "closer to the combined health survey estimate". While the report did present the valid argument that the panel survey is likely to have excluded a part of the population that might be expected to have a low 'problem gambling rate', it noted, but made no attempt to quantify, how both approaches are likely to lead to substantial underestimates.

Therefore, the paper went no further towards producing a figure that might be considered to be a true robust estimate of the level of gambling disorder in the UK. Rather it avoided any real scrutiny of what is actually happening to the levels of gambling disorder over time.

Based on the GambleAware report, this author (paper available on request) suggests that the calculated rate of 'problem gambling' has increased from 0.7% in 2016 to around 1.7% in 2019. The remainder of this paper remains valid in concluding that the actual rate is around 2-4 times higher than published estimates, giving a population problem gambling rate of 3.4% to 6.8%. This is equivalent to a problem gambling rate of 8.1% to 16.2% amongst those who gamble.

However, we do not argue that prevalence measures captured by surveys give an accurate measure of the "rate of problem gambling" or, more importantly, any useful measure of the "harms caused by gambling". Comparisons of the figures over time might give some indication of changes and trends, but their use should be restricted to just that.

[1] Dinos, S. et a. (2020). Treatment Needs and Gap Analysis in Gt Britain https://about.gambleaware.org/media/2191/treatment-needs-and-gap-analysis-in-great-britain-a-synthesis-of-findings1.pdf

[2] Sturgis, P. (2020). An assessment of the accuracy of survey estimates of the prevalence of problem gambling in the United Kingdom. https://about.gambleaware.org/media/2179/an-assessment-of-the-accuracy-of-survey-estimates-of-the-prevalence-of-problem-gambling-in-the-united-kingdom.pdf

Summary

This note challenges the use of an all-population "problem gambling" figure, typically quoted as "stable" and "under 1%", as an adequate portrayal of the prevalence of gambling addiction. It suggests that its use supports a focus on identifying and treating individuals rather than adopting a public health approach which requires a wider focus to include regulation on practices of the gambling industry and action on particular highly addictive products.

In fact the rate amongst those who gamble[1] is actually 1.7%. A better indicator, which reflects the fact that people move into and out of "problem gambling" and are harmed by gambling, shows that **at least 10% of people who gamble are likely to suffer "problem gambling" or be harmed at some time**[2].

Even this figure disguises the fact that **certain products are associated with extraordinarily high levels of addiction and harm**, and that some groups within the population, in particular children, are at greatest risk of developing gambling addiction.

Reporting gambling addiction prevalence for the whole population disguises the very high addiction rates for young people, particularly children and young men. A staggering **40% of 11-16 year olds who gamble are either addicted or at risk**. The addiction rates for young men aged 25-34 are 4 times the overall population rate.

Certain gambling products – essentially **Electronic Gaming Machines (EGMs) which underpin Fixed Odds Betting Terminals (FOBTs) and their online casino and slot equivalents – are highly addictive** but this is masked by quoting population "problem gambling" rates because of the low proportion (3-6%) who use them. These products have addiction and at risk rates over 50% and **are associated with over half of all "problem gambling" in the UK**.

Combining these findings on young men and specific products, the most conservative estimate of the addiction rate for young men playing EGMs is likely to be between a third and a half.

The note also argues that the published estimates derived from population surveys are likely to be a substantial underestimates for a variety of reasons. We suggest that the **actual rates of "problem gambling" are likely to 2 to 4 times higher than those quoted publicly**.

Finally, the note examines the claim that the "problem gambling" rate has been stable since the 2005 Gambling Act. We suggest that it is difficult to produce a definitive statement on the stability of "problem gambling" rates, but that it appears that the **problem gambling rate amongst those who gamble has actually steadily increased by 70% since 2007** with a levelling out only in 2016. This suggests that gambling products and practices of the industry have become more dangerous.

Overall, this means that an effective public health policy to tackle gambling addiction must include a focus on the design and availability of some products and address the marketing and promotional practices of the industry.

[1] Only 42% of people gamble, excluding people who do not gamble or gamble on the National Lottery only – see ref [3]

[2] Includes people classified as "moderate risk" or "low risk"- see ref [3].

1. The Problem – the Person or the Product

Justifying the gambling regulation status quo often takes the form of quoting a "stable" rate of "problem gamblers". Currently this is estimated at 0.7% of the whole population [1] who are portrayed as being potentially genetically different and identifiable through "patterns of play". It is argued that to disrupt the leisure gambling enjoyed by the "responsible" general population by taking wider action is to infringe liberty. Instead, this "tiny minority" can be identified by "algorithms" and directed towards restrictions or treatment interventions which will allow them to "gamble responsibly". Therefore, it is argued that there is no need to restrict the availability and accessibility of particular products or to address the marketing and upselling practices of the gambling industry.

Examination of the history of gambling in Australia shows that the growth and widespread availability of 'pokies'[3] drove the huge increase in gambling and the inevitable problem gambling in that country [2]. Therefore, an alternative view of the data is that the use of overall population figures and the conflation of gambling products mask the fact that some gambling products are highly addictive and that they are associated with over 50% of problem gambling in the UK.

The only reason that the overall population "problem gambling" rate remains low is that these products are used by only a small proportion of the population. Their increasing availability through the growth of online gambling and the development of new highly addictive products mean that unless action is taken on product design and availability, overall problem gambling rates will increase substantially.

2. Presenting "problem gambling" rates.

Table 1 highlights that using the "stable 0.7% problem gamblers" statistic disguises the underlying problems and issues which need to be identified and addressed if we are to tackle the gambling as a public health issue. Portraying the problem as applying to a small minority of people – though it should be noted that minority still comprises hundreds of thousands of people – disguises the astonishingly high addiction and at risk rates associated with some products and for some groups of people.

[3] 'Pokies' are the Australian equivalent of Fixed Odds Betting Terminals and are widely available throughout Australia.

Table 1 - Percentage of People Harmed by Gambling [3 and 4]

	"Problem Gambler" %	"At Risk" %	TOTAL %
1. All population	0.7	3.5	4.2
2. Gamblers (42% of population) (Excl. Nat. Lottery only)	1.7	8.3	10.0
3a. Children (11 – 16) • All • Children who gamble (11%)	 1.7 15.5	 2.7 24.5	 4.4 40.0
3b. Young Men (24 – 35) • All • Young men who gamble (66%)	 2.4 3.6	 10.5 15.9	 12.9 19.5
3c. Frequent gamblers • More than once a week	 4.5	 17.8	 22.3
4. Products • FOBTs • Online casino/slots/bingo	 13.7 9.2	 39.2 35.6	 52.9 44.8

Some commentary of the different rows in the table are provided below.

1. The overall population vs people who gamble (rows 1 and 2)

Presenting problem gambling prevalence for the whole population is misleading since it includes both people who never gamble and those who use only the weekly National Lottery draw, which is generally accepted as non-addictive. The proportion of the population who gamble (excluding the Lottery) is nearer to 42% [1], so that the rate of problem gambling amongst people who gamble is around 1.7%, not the widely quoted 0.7% for the whole population.

2. "Problem gamblers" vs at risk gamblers (columns 2,3 and 4)

Population surveys represent a snapshot of a moment in time and the assumption that they indicate a stable estimate of the number of people who suffer from problem gambling is misleading. It is widely recognised that the severity of gambling disorder is episodic and varies substantially over time. An individual who has experienced major gambling problems may not be classified as a problem gambler at the time of a survey but could 'relapse' the next day, week, month or year [5,6,7,8]. Some attempts to recognise this are made in population surveys by recording individuals as "moderate risk" or "low risk" gamblers.

Typically population surveys classify 5 times more individuals as at risk than addicted, so that it is arguable that a more appropriate estimate of the "problem gambling" prevalence rate is around 10% of those who gamble (6 x 1.7%).

Longitudinal studies are required to improve understanding of the development and life course of gambling disorder and enable a more thorough analysis of these numbers. However, a true assessment of the scale of gambling harms should be based on the proportion of people who as classified as "problem gamblers" or "at risk".

3. Population Subgroups (row 3)

There have been a substantial number of research projects which attempt to identify people who are more likely to develop "problem gambling". Most of these studies are based on data sets which are inadequate for identifying what are the real risk factors. Most contain only basic demographic and health information but nothing about an individual's history of engagement with gambling (eg. products used, where, when, environment, win history, etc.) or their personality, family circumstances, community relationships, life events, etc. Some studies which have included a wider range of factors have identified "cheerfulness" as a risk factor for developing "problem gambling"! [9]

Most of these quantitative studies fail to provide information on how "good" they are at identifying individuals who are most "at risk". This note is not the place to explore the intricacies of quantitative modelling analysis, but it is important to note although a factor might be identified as "statistically significant" it does not mean that it is <u>important</u> in terms of how much it explains. The few studies which do show how much is explained by the various factors identified still show that the vast majority of what appears to be linked to addiction only explains a tiny proportion. In other words the models are not very good at predicting who might be addicted – rather it could be anyone. Finally, quantitative analysis doesn't even claim to identify "causality" (as opposed to "association") or attempt to explain why a particular factor might be important.

However, there are some factors which even a basic statistical presentation show should be examined to understand the process of addiction and which also allow some targeted activities and interventions.

It is clear that young people (aged 11 to 16) and young men (aged 25-34) are both groups at high risk of developing gambling addiction.

a. For young people aged 11-16 (for whom gambling is actually illegal) the population PG rate is 1.7% [4]. Given that only 11% of young people aged 11-16 gamble, this means that a staggering 15.7% of <u>young people who gamble</u> are "problem gamblers". Given that a further 2.7% are classified as at risk, 40% of 11-16 year olds who gamble are either addicted or at risk.

b. All surveys identify that problem gambling rates are much higher in younger age groups than the overall population. The most recent estimates for Great Britain [3] show that while the overall population PG rate was 0.7%, the figure for young men aged 24-35 was 2.4% - nearly 4 times the population figure. Around two thirds of this group gamble, so that 3.6% of <u>24-35 year old men who gamble</u> are "problem gamblers". This figure increases to nearly 20% if we include the "at risk" group.

c. Frequent gamblers are at much higher risk than the general population – nearly a quarter of people who gamble more than once a week are classified as "problem

gamblers" or "at risk". So it is clear that gambling is a highly dangerous and addictive activity for the substantial number of people who do it on a regular basis.

4. Products (row 4)

People who are not involved with gambling may retain an image of it being based around people "having a flutter" on the horses or betting on who will win a football match in their local bookies, or doing the pools and of course the National Lottery. However, the past 25 years has seen the rapid development and rise of a whole range of new electronic gambling machines (EGMs), the most infamous of which are probably the Fixed Odds Betting Terminals (FOBTs). However, technological advances have also seen the arrival of instant "in play" bets meaning that a gambler can bet on virtually any aspect of any game in any country at any time: this means that a football match anywhere in the world becomes a 90 minute permanent gambling experience.

Although industry sources and developers would never use the term 'addictive', preferring words like "compelling", "engaging" or "absorbing", a number of product design elements are generally accepted to contribute to addictiveness. These include speed of play, continuity of play, stake/prize sizes, 'losses disguised as wins' and a range of physical design features. [10,11,12,13]

These features and the products involved are discussed in more depth in the Gambling with Lives companion paper *Addictive Gambling Products*. However, another consequence of quoting population "problem gambling" statistics is that it disguises the fact that gambling is not a single homogenous product and that hidden within the overall product range are some products which appear to be highly addictive. Certainly they are associated with incredibly high rates of addiction and risk.

a. FOBTs were the first gambling product that the government recognised as being too dangerous to be available on the high street in their current form. In recognition of this, in April 2019 the maximum stake was reduced from £100 to £2. This change happened only after many years of campaigning and strenuous attempts by high street bookies to hide the scale of the problem. Row 4 of the table shows the addiction and at risk rate of these products is over 50%. FOBTs have by far the highest simple "problem gambling" rate of any gambling product – more than 4 times the rate for betting on horse races.

b. However, the same products remain available online with no limit to stake sizes. The addiction and at risk rate of online casino games and slots is just under 50%.

Analysis presented in the *Addictive Gambling Products* paper shows that FOBTs are associated with over half of all problem gambling in Great Britain. Fortunately only 3% of people actually used FOBTs, otherwise we could be looking at substantially higher population addiction figures. But it is clear that FOBTs and their online equivalents must be the subject of detailed investigation. Meanwhile, we should take a precautionary approach and introduce further restrictions on their format and availability.

At present, published statistics do not show figures for addiction rates for people who use in game betting products, but there are indications that these are likely to be even higher than either land based or online EGMs. [14]

3. Rates are probably much higher than official published estimate.

There are other considerable methodological issues in estimating the rate of gambling disorder across a population, which inevitably lead to any figures being underestimates. [2]. In particular:

- gambling addiction is recognised as the "hidden addiction" where addicts hide their disorder from family, friends and themselves, so that the accuracy of tick box self definition is highly questionable
- clinical addiction severity tools requiring a detailed discourse between treatment specialist and patient are not suitable for self-completion or use by a medically unqualified researcher and will underestimate "problem gambling" [15]
- certain key populations with known high problem gambling rates (e.g. prisoners, armed forces, homeless, students) are generally excluded or under-represented

It is also instructive to learn from estimates which have been made in other fields of health and social research. Population estimates of other "hidden" or "socially unacceptable" conditions such as smoking, drugs and eating disorders indicate that actual addiction rates may be 2-4 times higher than population surveys suggest [2,16,17,18].

This 'multiplier' rate is useful when considering any of the figures presented in this note.

4. Are "problem gambling" really stable?

Supporters of the status quo on gambling regulation are always keen to say that, despite the "liberalisation" of gambling in the 2005 Gambling Act and the increase in the amount and types of gambling that followed, the rate of "problem gambling" has remained stable.

In fact it is difficult to assess the truth of this situation – partly because of changes in the approaches used to assess "problem gambling" rates and partly because of the sample sizes involved do not allow statistically significant changes to be confirmed. However, the increasing dangers associated with gambling have also been disguised by the use of the "all population" figures, rather than the rate amongst people who gamble.

Table 2 – Problem Gambling Rate for All Population and for Those who Gamble

Survey and Year	Pop. PG Rate %	Proportion Gambling %	Gamblers PG Rate %
BGPS			
• 1997	0.6	46	1.30
• 2007	0.5	48	1.04
• 2010	0.7	56	1.25
Country Health Surveys			
• 2012	0.6	43	1.39
• 2015	0.8	45	1.78
• 2016	0.7	42	1.67

Estimates of “problem gambling” rates for 1997, 2007 and 2010 were derived from the British Gambling Prevalence Survey (BGPS) [19]. This was a custom designed survey which provided data on participation in all forms of gambling in Great Britain, the prevalence of problem gambling and attitudes to gambling. The survey was abandoned after 2010 and estimates of gambling behaviour have been derived from a more limited set of questions in the annual country health surveys conducted in England, Scotland and Wales.

It is widely accepted that substantial changes to data gathering and survey methodology inevitably have consequences on comparability of results over time. Therefore, we have to accept that there is a “data discontinuity” between 2010 and 2012 and that in fact we have two very short time series of comparable data. These both show increases in “problem gambling” rates. Very few of the changes were statistically significant – though it needs to be recognised that testing significance of ‘rare events’ using relatively small samples is tricky methodologically.

However, it is also instructive to look at the “problem gambling” rate amongst people who gamble (other than those who gamble on just the National Lottery). It is arguable that this figure gives the clearest indication of how dangerous and addictive gambling products are becoming. The fourth column in table 2 shows that this has increased steadily from 1.04% in 2010 to 1.78% in 2015 - this is an increase of over 70% in an 8 year period. The table shows a drop to 1.67% in 2016, but this still represents an increase of 60% over a 9 year period.

Despite the changes in survey methodology, likely problems in accuracy of any estimates (explored in section 3) and issues of statistical significance this simple analysis certainly poses a very substantial question mark over whether “problem gambling” has remained stable since the 2005 Gambling Act.

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