GAMBLING – SUICIDAL IDEATION, ATTEMPTS and COMPLETED SUICIDES

This summary presents robust evidence on the long established and clear relationship between gambling and suicidal ideation and behaviour.

It estimates that 4-11% of suicides in the UK are gambling related – indicating a figure of 250 to 650 completed gambling related suicides each year.

It also argues that in many cases gambling is the root cause of suicide.

1. Long established link between gambling and suicide

Academic papers have reported the link between gambling disorder and suicide from as long ago as 1935[1]. Since then numerous studies across the world have investigated the link between gambling and suicidal ideation[2-14], attempted suicides[7-23] and completed suicides[24-28].

1.1 Suicidal ideation and attempted suicides

The table below demonstrates the very high rates of suicidal thoughts and attempted suicides among problem gamblers seeking treatment.

Table 1. - Suicidal ideation rates and suicide attempts (usually gamblers seeking treatment, several countries)

	No. of studies	Min	Max	Average
Suicidal ideation rate	13	10%	81%	42%
Attempted suicide	17	4%	40%	20%

(The comparative figures in the general population show that around 16.7% of people have had suicidal thoughts and 5.6% of people have attempted suicide[29].)

Evidence that gambling is closely associated with high rates of suicidal ideation and attempts is robust and consistent across the studies, although the reported rates of suicidal behaviour may vary due to different demographic samples and measurement scales.

The most recent UK study[16] found that around 30% of gamblers entering treatment in 2015 had attempted suicide, a figure which had increased over the previous 3 years. This indicates that problem gamblers are **over 5 times more likely to attempt suicide** than other people.

Currently only around 9,000 people a year receive treatment for gambling disorder[30] in the UK, but this disguises the scale of the problem with around 340,000 people classified as "problem gamblers" and a further 1.7 million "at risk"[31]. It is estimated that for every completed suicide there are 10-25 attempts[56], so that applying the 30% attempted suicide rate to any of these figures gives a staggeringly high number of attempted suicides

1.2 Completed suicides

In most countries the underlying reason(s) why someone took their life is rarely recorded: coroners are required to record only the "when, where and how" of any suicide verdict. Coroners may refer to medical diagnoses where available but very few people are diagnosed with gambling disorder in the UK due to lack of GP training and because treatment is commissioned and provided outside the NHS. This contrasts with the common diagnosis and recording of alcohol and drugs dependencies in medical notes, which can then be referenced by coroners as factors associated with suicide.

We have identified three academic studies that have attempted to quantify the number of completed suicides linked to gambling that provide robust evidence of the scale of gambling related suicide.

1.2.1 Gambling disorder, increased mortality, suicidality and associated comorbidity: A longitudinal nationwide register study. (Sweden, 2018)

A recent study from Sweden[24] which tracked over 2000 people with a diagnosis of gambling disorder found that this group had a **suicide rate 15 times higher** than the general population. It also found that suicide was the leading cause of death for 20-74 year olds in the study, accounting for 31% of deaths.

Applying this 15 fold rate to the most recent estimate of problem gamblers (above) gives an estimated **550 suicides related to gambling each year in the UK – over 9% of all UK suicides**.

1.2.2 Suicide by children and young people. National Confidential Inquiry into Suicide and Homicide by People with Mental Illness. (UK, 2017)

This UK study[25], which examined the deaths by suicide of just over 100 young people aged 20-24 years in the UK, found that **4% of suicides were related to gambling**. The study was based on detailed examination of coroners' oral reporting and therefore will inevitably be a lowest estimate (see above).

Applying the 4% figure to the approximate 6,000 suicides each year in the UK gives a figure of **250 suicides related to gambling each year in the UK**.

1.2.3 A psychological autopsy study of pathological gamblers who died by suicide. (Hong Kong, 2010)

A study based on psychological autopsies of 150 deaths by suicide and 150 deaths by natural causes in Hong Kong[26] found that **over 11% of suicides were related to gambling**.

Applying the 11% figure to the approximate 6,000 suicides each year in the UK gives a figure of over **650 suicides related to gambling each year in the UK**.

1.2.4 Other international studies (Canada, 2005 and Australia, 2013)

Some provinces in Canada require that coroners comment whether gambling is present when considering suicide cases. In 2005, the Canada Safety Council[27] estimated that around 200 suicides each year are related to gambling, equivalent to over 5% of all suicides. An Australian report[28] in 2013 based on coroners' records identified around 2% of suicides related to gambling, though the study acknowledged the weaknesses of using these records (see above) meaning that again this must be a lowest estimate.

Clearly there are issues about extending the results of the studies noted above to try to estimate the number of gambling related suicides in the UK figure each year, but applying them directly gives an estimated 250 to 650 gambling related suicides each year in the UK.

A common pushback on estimating population figures from these studies is that they relate to people diagnosed with gambling disorder and maybe receiving treatment. The implication is that these are a “more severe” group. Gambling with Lives is not aware of any evidence to support this assumption. In the UK only 2% of “problem gamblers” receive treatment each year: we know virtually nothing about the other 98%. Only a few of the young men lost by Gambling with Lives families received any treatment; none had a diagnosis of gambling disorder; all took their own lives. This experience suggests that the treatment population is not “the tip of the iceberg” but just “the bit of the elephant that we can currently see”.

Some further brief notes about using these studies are appended and a fuller justification for using them can be found on the Gambling with Lives website www.gamblingwithlives.org.

In conclusion, we estimate that 4-11% of suicides in the UK are related to gambling. This compares to an estimated 8-17% of suicides where a diagnosis of “alcohol dependence” was recorded and 3-9% for “drug dependence”[32].

2. Gambling as the prime cause of suicide

It is widely acknowledged that the causes of any individual suicide can be complex, both in terms of the long-term history of the individual and any specific events which might trigger their death. However, there is a substantial research base which indicates that gambling itself can be a prime cause of suicidal behaviour. In particular several studies identify the level of gambling severity as being highly associated with suicidal behaviour[11,12,21,35,36,41], as is the early onset of gambling disorder[42-45]. Some studies even identify particular forms of gambling such as games of pure chance and gambling on electronic gambling machines as being more dangerous in terms of suicidal behaviour[46-48].

Clearly non-gambling issues may also trigger susceptibility to the development of gambling disorder and suicidal behaviour and there is a reasonable research base exploring co-morbidity across a range of psychological factors[11,17,33-36], other substance-related problems[37-39], and demographic factors[12,35]. However, in none of these studies do the other co-morbid factors and demographics ‘explain’ all of the likelihood of gambling disorder or suicidal behaviour. Rather they are themselves contributory factors. Several studies[49-52] explicitly identify gambling as a factor associated with suicidal behaviour even after all other factors have been taken into account.

Furthermore, some studies indicate that gambling disorder actually precedes, and therefore possibly causes, the onset of psychological, economic or social problems[39-40]. Indeed it would be very surprising if a long term gambling disorder did not have a wide range of other impacts on an individual’s well-being.

Further important evidence that gambling can be both the root and trigger for suicidal behaviours is the lived experience of the Gambling with Lives families. Without exception the young men lost by the families were normal, bright, happy and popular with great futures ahead of them. Their one problem in life was their addiction to gambling. All had started gambling when they were underage, some as young as age 12. While some did die with substantial debts, this was certainly not the case for all.

They seemed to share a set of common characteristics. They were all big cheerful characters; people who would ‘light up a room’; they were outgoing; they tended to be people who you could ‘tell your troubles to’. They shared a set of characteristics which would be seen as positive and advantageous in many walks of life – great indicators of success. This chimes with one academic study which found “cheerfulness” as a factor associated with gambling disorder[52] – no doubt a proxy for many other positive characteristics not regularly captured in data sets. It seems that the very characteristics which made them successful in the rest of their lives were also the factors that contributed most to their susceptibility to gambling addiction and suicide.

Friends and families of these young men attribute the entirety of their deaths to gambling. All were happy and untroubled until gambling entered their lives. It gradually destroyed their self-esteem and undermined their belief in themselves, a position confirmed by research[38,39,53]. They all seemed to acknowledge their addiction and felt that they would never be able to be free to lead a normal life. Many of them died after many months of being free of gambling and not betting, only to relapse – maybe targeted by an offer of a “free bet”. Their relapses were catastrophic for them, not necessarily financially but mentally and emotionally. Gambling took their lives from them from an early age and then ended their lives tragically early.

Appendix – Using the studies to give an estimate of the number of gambling-related suicides in the UK

There are always issues about applying the results of any research study to derive an estimate of the number of gambling-related suicides each year in the UK. This is particularly the case when using international studies because of definitional, methodological and cultural differences between different countries. Ideally, the studies we have identified should be subject to expert epidemiological analysis to derive a robust estimate range.

In the absence of that we have proposed a simple and transparent approach while acknowledging some of the main issues below for each of the 3 main studies.

Swedish Study[24]

Criticism: The study is based on a population of people who have been diagnosed with gambling disorder and have received some treatment, so that they are "more severe" than the wider population with undiagnosed gambling problems.

Answer: The study refers to people with a diagnosis of gambling disorder, however, it is not clear whether they have received or are receiving significant treatment. The study indicates a total of just over 6,000 hospital admissions or outpatient appointments across the 2,000 individuals. It also notes that for inpatients, only 29% had received a main diagnosis of gambling disorder "at some point" and for outpatients the figures was 66%. Therefore, it is not clear that this is a severe treatment group.

Furthermore, there is the implication that a treatment group are more "at risk" of suicide that the wider population defined as suffering from "problem gambling". Gambling with Lives is not aware of any evidence to support this assumption. In the UK only 2% of gamblers receive treatment each year: we know virtually nothing about the other 98%. Only a few of the young men lost by Gambling with Lives families received any treatment; none had a diagnosis of gambling disorder; all took their own lives. This experience suggests that the treatment population is not necessarily "the tip of the iceberg" but just "the bit of the elephant that we can currently see".

Therefore, we have proxied the relevant population for the UK as the estimated number of problem gamblers identified in surveys. It could be argued that "gambling disorder" is a higher diagnostic threshold than "problem gambler". The British Gambling Prevalence Survey[55] (2010) found that around two thirds of people scoring as "problem gambler" would have fitted the classification of "gambling disorder/pathological gambler".

Criticism: The study reflects the situation in Sweden

Answer: It seems that Sweden is more advanced than the UK in recognising and diagnosing gambling disorder. For example, the UK does not have a nationwide register of individuals with a diagnosis of gambling disorder. Sweden also appears to be ahead of the UK in its approach to gambling research: it has had 3 longitudinal studies dating back to 1997/98 whereas the UK has not yet even started a first study. However, the study recognises that only a small proportion of people diagnosed with gambling disorder actually receive treatment, similar to the UK.

The state has a much greater role in the delivery of gambling, through the state owned *Svenska Spel*, but the levels and profile of gambling appears to be similar. Problem gambling rates appear to be slightly higher in Sweden than the UK. However, we do not identify major

differences between gambling in the two countries that indicate that the Swedish study should not be used to provide an estimate for the UK.

UK Study[25]

Criticism: The UK study is only of 20-24 year olds, so cannot reflect the whole population.

Answer: An Australian study[56] found that the mean age of problem gamblers who have taken their lives is around 40, so that the 20-24 year olds figure may be an underestimate.

Criticism: It is a small sample size – 100 suicides

Answer: True and on its own the result could be treated with some caution. However, the result is in line with UK studies on suicidal ideation and attempts and gives an estimate at the lower end of the range that they would suggest.

NOTE: The study is **likely to be an underestimate** because:

- It is based on coronial evidence which we know has inadequate recording of causes of suicide, in particular gambling
- The study records gambling as a subset of financial issues. The GwL experience shows that deaths by suicide are not necessarily linked to financial problems.
- The team were not looking for 'gambling' as an issue connected with the suicides so, similar to coroners themselves, may have missed signs of gambling.

Hong Kong Study[26]

There is a powerful internal consistency in the study which indicates that pathological gamblers in HK have a suicide rate 17 times that of the general population. This is similar to the 15 times higher rate found in the Swedish study.

Criticism: Hong Kong is too different to the UK to be able to use the results.

Answer: What are the most important ways that HK and the UK are different that would affect gambling suicide estimates?

- Casinos are much more widely used in HK (in particular Macau) – however, UK figures don't indicate that casino gambling is more dangerous than playing EGMs in bookmakers or online; and 85% of HK gamblers report that Macau casinos have no influence on their gambling.
- Problem gambling rates are much higher in HK than UK – it is questionable just how different the rates are. The most recent PG rate in HK is 1.4% - comparable with the UK and less than the PG rate for younger age groups in the UK. We also suggest that PG rates are much higher in the UK than official figures show: gamblers spend their lives disguising and hiding their addiction, we question whether they are likely to be honest when answering questions in a survey. Further, the internal consistency of the study showing the suicide rate of pathological gamblers as 15 times that of the general population is completely independent the level of PG.
- Gambling may be seen as being culturally different in HK – but in what way is this likely to affect suicide rates – up or down?

Studies of Suicides Attempts

1. The review of 17 UK and international studies (1990 – 2019, see Table 1) which considered attempted suicides showed that an average of 20% of gamblers seeking treatment had attempted suicide … over 3 times the average of the general population.

2. The most recent UK study[16] (2018) showed that 30% of gamblers entering treatment in the UK in 2015 had attempted suicide … over 5 times the average of the general population.

   Applying this 30% to the approx. 10,000 gamblers receiving treatment and then using the estimated 10-25[57] attempts for each completed suicide => **120 to 300 gambling related suicides per year in the UK.**

   Arguably we should apply the 30% to a much higher figure of gamblers to reflect the numbers who should be receiving treatment. Gambleaware/GamCare aim to treble the number in treatment => **360 to 900 gambling related suicides per year in the UK.**

3. A Canadian study[23] (2015) reported that problem gamblers were nearly 18 times more likely to report a suicide attempt than non-problem gamblers.

References

1. Israeli, N. (1935). Outlook of a depressed patient, interested in planned gambling, before and after his attempt at suicide. *American Journal of Orthopsychiatry*, 5(1), 57.
2. Ronzitti, S., Soldini, E., Smith, N., Potenza, M. N., Clerici, M., & Bowden-Jones, H. (2017). Current suicidal ideation in treatment-seeking individuals in the United Kingdom with gambling problems. *Addictive behaviors*, 74, 33-40.
3. Lesieur, H. R., & Blume, S. B. (1990). Characteristics of pathological gamblers identified among patients on a psychiatric admissions service. *Psychiatric Services*, 41(9), 1009-1012.
4. Ladouceur, R., Dubé, D., & Bujold, A. (1994). Prevalence of pathological gambling and related problems among college students in the Quebec metropolitan area. *The Canadian Journal of Psychiatry*, 39(5), 289-293.
5. Beaudoin, C. M., & Cox, B. J. (1999). Characteristics of problem gambling in a Canadian context: A preliminary study using a DSM-IV-based questionnaire. *The Canadian Journal of Psychiatry*, 44(5), 483-487.
6. Productivity Commission (1999). Australia's gambling industries. Canberra, Australia.
7. Roberts, K. J., Smith, N., Bowden-Jones, H., & Cheeta, S. (2017). Gambling disorder and suicidality within the UK: an analysis investigating mental health and gambling severity as risk factors to suicidality. *International Gambling Studies*, 17(1), 51-64.
8. McCormick, R. A., Russo, A. M., Ramirez, L. F., & Taber, J. I. (1984). Affective disorders among pathological gamblers seeking treatment. *The American journal of psychiatry*.
9. Schwarz, J., & Lindner, A. (1992). Inpatient treatment of male pathological gamblers in Germany. *Journal of Gambling Studies*, 8(1), 93-109.
10. Horodecki, I. (1992). The treatment model of the guidance center for gamblers and their relatives in Vienna/Austria. *Journal of gambling Studies*, 8(2), 115-129.
11. Petry, N. M., & Kiluk, B. D. (2002). Suicidal ideation and suicide attempts in treatment-seeking pathological gamblers. *The Journal of nervous and mental disease*, 190(7), 462.
12. Ledgerwood, D. M., & Petry, N. M. (2004). Gambling and suicidality in treatment-seeking pathological gamblers. *The Journal of nervous and mental disease*, 192(10), 711-714.
13. Battersby, M., Tolchard, B., Scurrah, M., & Thomas, L. (2006). Suicide ideation and behaviour in people with pathological gambling attending a treatment service. *International journal of mental health and addiction*, 4(3), 233-246.
14. Wardle, H., Dymond, S., John, A., & McManus, S. (2019). Problem gambling and suicidal thoughts, suicide attempts and non-suicidal self-harm in England: evidence from the Adult Psychiatric Morbidity Survey 2007. GambleAware. https://about.gambleaware.org/media/1975/suicide-report.pdf
15. Moran, E. (1969). Taking the final risk. *Mental Health*, 28(Winter), 21.
16. Sharman, S., Murphy, R., Turner, J. J., & Roberts, A. (2019). Trends and patterns in UK treatment seeking gamblers: 2000–2015. *Addictive behaviors*, 89, 51-56.
17. Bland, R. C., Newman, S. C., Orn, H., & Stebelsky, G. (1993). Epidemiology of pathological gambling in Edmonton. *The Canadian Journal of Psychiatry*, 38(2), 108-112.
18. Sullivan, S. (1994). Why compulsive gamblers are a high suicide risk. *Community Mental Health in New Zealand*.
19. Kausch, O. (2003). Suicide attempts among veterans seeking treatment for pathological gambling. *The Journal of clinical psychiatry*.
20. Hodgins, D. C., Mansley, C., & Thygesen, K. (2006). Risk factors for suicide ideation and attempts among pathological gamblers. *The American Journal on Addictions*, 15(4), 303-310.
21. Penfold, A., Hatcher, S., Sullivan, S., & Collins, N. (2006). Gambling problems and attempted suicide. Part I. High prevalence amongst hospital admissions. *International Journal of Mental Health and Addiction*, 4(3), 265-272.
22. Thon, N. et al. (2014). Prevalence of suicide attempts in pathological gamblers in a nationwide Austrian treatment sample. *General hospital psychiatry*, 36(3), 332-336.

23. Cook, S. et al. (2015). Problem gambling among Ontario students: Associations with substance abuse, mental health problems, suicide attempts, and delinquent behaviours. *Journal of Gambling Studies*, 31(4), 1121-1134.
24. Karlsson, A., & Hakansson, A. (2018). Gambling Disorder, increased mortality, suicidality and associated comorbidity: A longitudinal nationwide register study. *Journal of Behavioural Addiction* 7(4), 1091-1099
25. Appleby, L. et al. (2017). Suicide by children and young people. National Confidential Inquiry into Suicide and Homicide by People with Mental Illness (NCISH). Manchester: University of Manchester
26. Wong, P.W.C. et al. (2010) A psychological autopsy study of pathological gamblers who died by suicide. *Journal of Affective Disorders 120*, 213-216
27. Canada Safety Council. (2004). Canadian Roulette. www.canadasafetycouncil.org
28. Coroners Court of Victoria. (2013). Gambling-related suicides, Victoria 2000-2012. www.coronerscourt.vic.gov.au/
29. McManus. S. et al. (2009). Adult psychiatric morbidity in England, 2007. Results of a household survey. Health & Social Information Centre, *Social Care Statistics* 2009.
30. GambleAware. Annual Review 2017/18. https://about.gambleaware.org/media/1836/gamble-aware-annual-review-2017-18.pdf
31. Gambling Commission. Gambling participation in 2018, behaviour, awareness and attitudes. https://www.gamblingcommission.gov.uk/PDF/survey-data/Gambling-participation-in-2018-behaviour-awareness-and-attitudes.pdf
32. Windfuhr, K. & Kapur. N. (2011). Suicide and mental illness: a clinical review of 15 years findings from the UK National Confidential Inquiry into Suicide, *British Medical Bulletin*, 100(1), 101-121
33. Carr, M. M., Ellis, J. D., & Ledgerwood, D. M. (2018). Suicidality among gambling helpline callers: A consideration of the role of financial stress and conflict. *The American journal on addictions*, 27(6), 531-537.
34. Weinstock, J. et al. (2014). Current suicidal ideation in gamblers calling a helpline. *Addiction Research & Theory*. 22(5), 398-406
35. Stein, G. N., Pretorius, A., Stein, D. J., & Sinclair, H. (2016). The association between pathological gambling and suicidality in treatment-seeking pathological gamblers in South Africa. *Annals of clinical psychiatry: official journal of the American Academy of Clinical Psychiatrists*, 28(1), 43-50
36. Frank, M. L., Lester, D., & Wexler, A. (1991). Suicidal behaviour among members of Gamblers Anonymous. *Journal of Gambling Studies*, 7(3), 249-254.
37. Grant, J.E. et al. (2014). Suicidality in non-treatment seeking young adults with subsyndromal gambling disorder. *Psychiatric quarterly*. 85(4), 513-522
38. Kim, H.S. et al. (2016). A dangerous cocktail: Alcohol increases suicidal ideations among problem gamblers in the general population. *Addictive behaviors*. 55, 50-55
39. Winters, K. C. & Anderson, N. (2000) Gambling involvement and drug use among adolescents. *Journal of Gambling Studies* 16, 175-198.
40. Gupta, R. & Derevensky, J.L. (1998) An empirical examination of Jacobs' General Theory of Addictions: Do adolescent gamblers fit the theory? *Journal of gambling studies* 14, 17-49.
41. Feigelman, W., Gorman, B. S., & Lesieur, H. (2006). Examining the relationship between at-risk gambling and suicidality in a national representative sample of young adults. *Suicide and LifeThreatening Behavior,* 36(4), 396-408.
42. Frank, M. L., Lester, D., & Wexler, A. (1991). Suicidal behaviour among members of Gamblers Anonymous. *Journal of Gambling Studies*, 7(3), 249-254.
43. Bischof, A., Meyer, C., Bischof, G., John, U., Wurst, F. M., Thon, N., ... & Rumpf, H. J. (2015). Suicidal events among pathological gamblers: the role of comorbidity of axis I and axis II disorders. *Psychiatry research*, 225(3), 413-419.
44. Shaffer, H.J., et al. (2010). Towards a paradigm shift in Internet gambling research: From opinion and self-report to actual behaviour. *Addiction Theory & Research*. 18, 270-283

45. Delfabbro, P., King, D. & Griffiths, M.D. (2014). From Adolescent to Adult Gambling: An Analysis of Longitudinal Gambling Patterns in South Australia. *Journal of Gambling Studies*. 30, 547-563
46. Bischof, A., Meyer, C., Bischof, G., John, U., Wurst, F. M., Thon, N., ... & Rumpf, H. J. (2016). Type of gambling as an independent risk factor for suicidal events in pathological gamblers. Psychology of Addictive Behaviors, 30(2), 263.
47. Challét-Bouju, G., Hardouin, J. B., Lagadec, M., Burlacu, S., Valleur, M., Magalon, D., ... & Vénisse, J. L. (2016). Profiles of problem and non-problem gamblers, depending on their preferred gambling activity. Addiction Research & Theory, 24(3), 209-222.
48. Schull, N. (2005). Digital gambling: The coincidence of desire and design. *The Annals of American Academy of Political and Social Science*. 597. 65-81
49. Park, S. et al. (2010). Prevalence, clinical correlations, comorbidities and suicidal tendencies in pathological Korean gamblers: results from the Korean Epidemiology Catchment Area Study. *Social psychiatry and psychiatric epidemiology*. 45(6), 621-629
50. Wang, W.Q. et al. (2012) Attempters suicide in people aged 18 and older in Xiamen City. Chinese Mental Health Journal. 26, 332-336
51. Moghaddam, J.F. et al. (2015). Suicidal ideation and suicide attempts in five groups with different severity of gambling: Findings from the National Epidemiological Survey on Alcohol and Related Conditions. The American journal on addictions. 24(4), 292-298
52. Wardle, H. et al. (2019) Problem gambling and suicidal thoughts, suicide attempts and non-suicidal self-harm in England: evidence from the Adult Psychiatric Morbidity Survey 2007, Gambling Commission
53. Gupta, R., Derevensky, J. & Ellenbogen, S. (2006). Personality characteristics and risk-taking tendencies amongst adolescent gamblers. *Canadian Journal of Behavioural Science*. 38, 201
54. Blaszczynski, A. & Nower, L. (2002). A pathways model of problem and pathological gambling. *Addiction (97)*, 487-499
55. Wardle, H. et al. (2011). British Gambling Prevalence Survey 2010. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/243515/9780108509636.pdf
56. Blascczynski, A., & Farrell, E. (1998). A case series of 44 completed gambling-related suicides. Journal of gambling studies. 14(2), 93-109.
57. Mental Health First Aid England. (2016). Adult MHFA Manual. https://mhfaengland.org/