
# The Mother of all Gambling Controversies: Issues with cost-benefit analysis from Britain's Gambling Act Review

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# The cost of harmful gambling

- Estimates by Public Health England investigate seven areas of costs
- Total estimated cost of problem gambling in 2019-20 prices:
  - Central estimate: £1.27bn
  - Range: £0.8bn to £2.1bn
  - Described as “conservative” because some other cost areas are not examined.
  - Defined as costs in excess of what those expected if ’at risk’ or ‘problem’ gambling had no harmful effect.
- Excess costs calculated as:

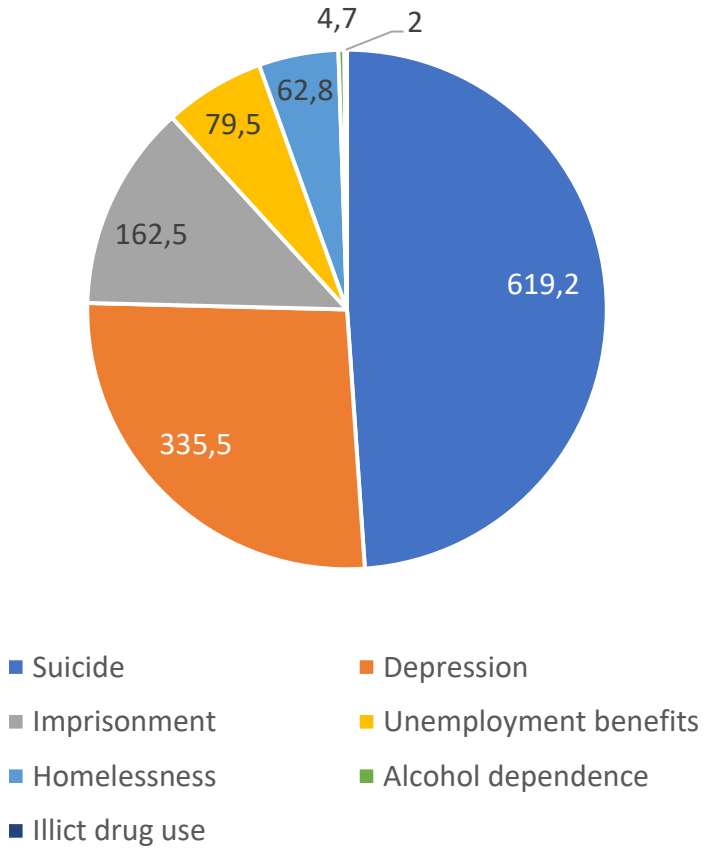
**Cost of harm = (NG - NP) x C1**

**NG – number of gamblers actually suffering e.g. depression**

**NP – number of gamblers who would suffer harm if afflicted at the same rate as the population at large**

**C1 – cost to society of 1 person suffering depression**

Exhibit 1: Public Health England cost estimates (£m)



# Some problems

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1. Estimates not based on hard data
2. Opaque calculations
3. Methodological errors
4. Disregard for comorbidities and counter-factual scenarios
5. Disregard for any benefits from gambling

# Death by suicide

**Largest cost area identified by PHE (£619.2m), representing 48% of total cost estimate**

- **Source of extrapolation:** study of suicide mortality among hospital patients in Sweden receiving treatment for 'pathological gambling' between 2006 and 2016 (Karlsson & Hakansson, 2018)
- **Calculation (descriptive):** Suicide mortality ratio from Swedish study applied to estimated number of PGSI 'problem gamblers' in England to estimate number of excess deaths *"associated with problem gambling only".*
- **Calculation (numerical):** not shown; we were unable to replicate.

**Calculation inputs**

- Estimated prevalence of PGSI 'problem gambling' in England: 168,149
- Population suicide mortality rate in England in 2019: 10.8 per 100,000
- Suicide Mortality Rate (from Karlsson & Hakansson): 15.1
- PHE claim of deaths by suicide associated with problem gambling only: 409 per annum
- Cost per death: £1.52m

**Total cost estimated: £619.2m**

# Death by suicide

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**Methodological errors**

1. ICD-10/DSM-IV 'pathological gambling' (and ICD-11/DSM-5 'gambling disorder') is **not the same** as PGSI 'problem gambling' – it describes more severe dysregulated behaviour and harms.
2. It is typically people with **moderate or severe gambling disorder** who present for treatment (APA, 2013)
3. People receiving **hospital treatment** for gambling disorder are likely to have **much more severe** problems
4. People receiving hospital treatment for gambling disorder are likely to have **more complex problems and comorbidities**.
    - 45% of the Swedish study sample ***never*** had a primary diagnosis of gambling disorder
    - 51% had depression
    - 60% had anxiety disorders
    - 41% had substance use disorders

**Research warnings ignored**

*"It is therefore likely that **results may be skewed toward a population of individuals with more severe forms of GD**. It is likely that this once again implies that this study sample might contain patients with higher mental health comorbidity, as well as individuals with more severe forms of GD, since these individuals are more likely to receive specialized psychiatric care."*
**Karlsson & Hakansson, 2018, p.1097**

*"A sole gambling disorder may be unlikely to lead to hospitalization without a comorbid psychiatric condition or a very severe complication affecting daily life."*
***Hakansson, Karlsson & Widinghoff, 2018, p.5***

*"Attempted suicides in gambling disorder, including fatal attempts, are markedly more common in individuals who are also diagnosed with alcohol and drug use disorders, also when controlling for age and gender and for psychiatric diagnostic groups."*
***Hakansson & Karlsson, 2018, p.3***

*"Without question, suicide is not caused by a single factor. Rather suicide results from a perfect storm of factors and…these factors can be biological, psychological, clinical, social or cultural, and many of them may be hidden."*
**O'Connor, 2021**

# Depression

**Second-largest cost area identified by PHE (£335.5m), representing 26.5% of total cost estimate**

- **Source of extrapolation:** longitudinal study of young adults in Manitoba between 2007 and 2011 (Afifi et al., 2016).
- **Calculation (descriptive):** adjusted odds ratios for Major Depressive Disorder from Canadian study applied to estimated number of PGSI 'low risk', 'moderate risk' and 'problem' gamblers in England in order .
- **Calculation (numerical):** not shown; unable to replicate precisely.

**Calculation inputs**

- Estimated prevalence of PGSI 'at risk' and 'problem' gamblers in England (2018): 1,759,221
- Population prevalence of depression in England: 11.6%
- Adjusted odds ratio for PGSI 'at risk' and 'problem' gambling: 1.98
- PHE claim of cases of depression "associated with gambling only"
- Cost of treatment (implied): £1,579 per person

- **Total cost estimated: £335.5m**

# Depression

**Methodological errors**

1. It is questionable whether a study of young adults in Canada that over-indexed for 'problem' and 'at risk' gamblers provides a robust basis for extrapolation for an estimate of all adults in England.
2. Prevalence of depression is not a good guide to treatment-seeking. Adult Psychiatric Morbidity Survey 2007 showed that PGSI 'at risk' gamblers less likely to receive treatment for psychological problems than both non-gamblers and non-problem gamblers.
3. In associating 100% of excess costs to gambling PHE ignores research findings that depression often precedes gambling disorder and problem gambling (and that these are typically comorbid with other disorders).
4. PHE ignores the finding from Health Surveys that non-problem gamblers (i.e. 90% of gambling consumers) are less likely to suffer depression than non-gamblers. In order to divine a cost associated with gambling (as PHE claims) it is necessary to consider the risk of depression among all gamblers. ***If PHE had done so, their calculations would have shown a £247.4m net benefit associated with gambling.***

**Research warnings ignored**

*"Although the study sample was similar to sociodemographic characteristics of Manitobans aged 18 to 20 years, it was not a representative sample and these findings* ***may not be generalizable*** *to older adults or to adolescents."*
**Afifi et al., 2016, p.109**

# Benefits?

Why were no benefits from gambling studied as part of PHE's analysis?

- *"Benefits are well promoted and you do not need to include this in the analysis as not relevant to research question."*
  **Public Health England Experts Reference Group, October 2019**
- *"We did not really consider that there were any consumer benefits."*
  **Public Health England webinar, November 2021**
- *"A full economic evaluation of the gambling industry could be slightly awkward politically as it would fund work to identify the benefits of gambling but – to me – feels like the most balanced approach. It's likely that we would be critical of any industry-funded effort to estimate the benefits of the gambling industry."*
  **Gambling Commission, December 2021 (obtained under the Freedom of Information Act)**

# What came next

In August 2022, the *Lancet Public Health* published a Delphi Study undertaken by the same PHE research team. The purpose of the study was to identify government interventions that might be used to address the costs identified.

Its 81 recommendations included the following:

- Ban on in-play betting
- Ban on spread betting (sports)
- Ban on all advertising and marketing for gambling
- Plain packaging for gambling *("standardised design and packaging for gambling products so that no brands; colours; imagery; corporate logos and trademarks are displayed")*
- Ban on the sale of alcohol in premises licensed for gambling
- Annual gambling tax increases above the rate of inflation

# Where we are and what we know now

**Where we are now**

**August 2022** – In response to FOIA requests, the Department of Health and Social Care admitted a *"mistake"* – Karlsson & Hakansson's study of suicide mortality was not based on PGSI classifications.

**August 2022** – In response to parliamentary questions, the Department of Health and Social Care committed to a review of the PHE cost estimates and the publication of the missing calculations.

**Autumn 2022** – DHSC review to be published.

**Autumn 2022** – Government 'White Paper' on legislative reform to be published

**What we know now**

Disclosures made under the Freedom of Information Act indicate the following:

- Public Health England had adopted an approach to gambling *"similar to how we tackle tobacco consumption".*
- The Gambling Commission – and its Advisory Board for Safer Gambling - knew that the PHE cost estimates were flawed – but continued to endorse them and to cite them as the basis for regulatory action.
- The Gambling Commission considers that the *"greatest burden of harm*" is to found among non-problem gamblers (PGSI=0).

# Discussion

- In the absence of reliable data, we should resist the temptation to manufacture.
- For legislative reviews to be properly evidence-based, systems need to be put in place to check the veracity of research presented as evidence.
- State agencies submitting evidence to legislative reviews should permit scrutiny, including the opportunity for critical review.
- Where research is commissioned in order to support advocacy, this should be disclosed clearly and prominently.
- An exclusive focus on costs provides a poor guide for policy
- State agencies should not engage in activity to cover-up their own mistakes or the mistakes of other state agencies.

*"In areas where research is still quite primitive, perhaps no data would be better than flawed data."*
**Walker, 2012**

*"We must stop assuming that government funding, eo ipso, is responsible for untainted findings."*
**Collins, Shaffer, Ladouceur, Blaszczynski & Fong, 2018**

*"A clear conflict of interest would exist and it would make sense to examine whether the research showed elements of bias (e.g., in what questions were asked and how the results were presented and framed). However, in the same way, if research findings are presented by people who clearly present themselves as advocates for significant gambling reform and who also believe that gambling is inherently bad, would not the same concerns arise?* ***Could such an advocate still be trusted to undertake unbiased and objective scientific research?"***
**Delfabbro & King, 2020**