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IDENTIFICATION OF GAMBLING AS A PRECIPITATING FACTOR IN DEATHS BY SUICIDE

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GAMBLING AND DEATH BY SUICIDE

- Recent meta-analysis (Armoon *et al.* 2023) on suicidal behaviors and thoughts among those with Gambling Disorder
 - Suicidal ideation: 31%
 - Attempted suicide: 16%
 - Population rates are 4.3% and 0.6% respectively (Ivey-Stephenson *et al.* 2022)
- Review of qualitative data (Marionneau & Nikkinen, 2022) found two dominant themes
 - Indebtedness
 - Shame
- Death by suicide has a strong methods for estimating public health burden
- Estimated 49,449 deaths in 2022: Estimated cost: \$502.7 billion USD (Rockett *et al.* 2023)



NATIONAL VIOLENT DEATH REPORTING SYSTEM

- Record of all officially recorded violent deaths
 - Data on victims, perpetrators, and context
 - Started in 2003 with 6 states (MA MD NJ OR SC VI)
 - Currently 50 States, DC and PR
- Information drawn from death certificates, law enforcement reports, medical examiner/coroner reports
 - Abstracted into 100+ variables
 - Narrative summaries of medical examiner/coroner reports and law enforcement reports



RESEARCH QUESTIONS

- What is the current value of the NVDRS for gambling research?
- Can it be used for population estimates?
- Can it be used for comparisons across jurisdictions or over time?
- How can the data fit existing conceptual frameworks of gambling-related harm?



STUDY DATA AND ANALYSIS

- Restricted Access Datafile granted by CDC
- All records from Jan 1, 2003 to Dec 31, 2020
 - 296317 records total: some cases involve multiple deaths
- Study involved a key term search and review of all cases
 - 39 search terms included (appendix slide)
 - 1925 possible cases identified
 - 1306 categorized as gambling-related.
- Three coders reviewing cases for 5 criteria
- Post-hoc intercoder agreement of 96.15%
- Bivariate analysis: Chi-square and Wilcoxon ranked sums
 - Demographics and taxonomy of harm from Langham *et al.* (2016)



CRITERIA

1. Decedent was identified as having a gambling problem or Gambling Disorder, either by diagnosis or informally.
2. Decedent was identified as having substantial debt related to their gambling or the gambling of someone close to them.
3. Decedent was found on the premises of a gambling venue or observed on such premises shortly before the event.
4. Gambling was mentioned in the summary of a suicide note, or gambling was communicated as a motivating factor for suicide to someone else.
5. Artifacts of gambling were found on the person of the decedent (e.g., lottery ticket, casino player card).



GAMBLING-RELATED SUICIDE VIGNETTE

- Gambling was mentioned in the summary of a suicide note, or gambling was communicated as a motivating factor for suicide to someone else.

V is a 48 yr. old Hispanic male found hanging in his bedroom by his wife. V's wife reported that she last saw the V alive when she left for work at 07:00. V's wife reported that V had been depressed lately, but had been seeing a therapist and had started taking antidepressant medication a few months ago. Suicide note was found on the nightstand. Note stated that V had lost a large amount of money gambling and had been trying to win it back, but had ended up losing all of the family's money. V also wrote that he was sorry and that the family would be better off without him.



RESULTS: DEMOGRAPHICS AND GR SUICIDE

- Difference across age: Underrepresentation in 18-30 and >71, overrepresentation in 41-50 and 51-60
- Significant but small underrepresentation among females (21.7% vs 18.1% GR)
- Overrepresentation among Asian/Pacific Islander (2.2% vs 7.0%GR)
- Overrepresentation among Divorced AND Civil Union/Domestic Partnerships
- Nevada showed 4.0%GR. Overall average 0.44%GR
- Relative stability in overall rate across time



RESULTS: GAMBLING RELATED HARM

- Based on Langham et al's taxonomy of gambling harm
 - Alcohol use suspected: 21.2% vs 28%GR
 - Mental Health Diagnosis: 38.8% vs 35.1%GR
 - Intimate partner problems: 25.6% vs 31.5%GR
 - Family relationship problems: 6.4% vs 9.6%GR
 - Financial Problems: 8.6% vs 50.3%GR
 - Job Problems: 9.8% vs 17.6%GR
 - Precipitated by another crime: 2.5% vs 3.8%GR



LIMITATIONS

- Multiple points for potential bias
 - Method still relies on disclosure of gambling issues which are easily hidden and highly stigmatized
 - Potential for bias in coding strategy/coders
 - Law enforcement agents or medical examiners may not be interested/aware of possible relevance of gambling to death by suicide
- Comparisons of rates over time need to consider when states started participation



DISCUSSION

- Content analysis was able to identify gambling-related cases
- Financial issues seem to be most salient in GR deaths by suicide
 - Contrast with negative relationship with previous mental health diagnosis
- Low rates are likely an underestimation of cases
 - Rintoul et al. 2023 estimated 4.2%GR Victorian Suicide Register
 - That data has explicit instructions for abstractors regarding the inclusion of gambling-related cases
- Wealth of data in understanding case characteristics of gambling-related deaths by suicide
 - Actual deaths are distinct from ideation or attempts
- Application of conceptual framework of harm was useful, but constrained by variables included in the NVDRS
- Conclusion: Until there is intentional inclusion of gambling relevant data in the NVDRS and its information sources, its value to estimating public burden will be limited.



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SEARCH STRING	Total	KEPT
Total	1925	1306
GAMBL	982	960
casino	489	387
bookie	9	9
poker	72	31
wager	1	0
bingo	16	0
roulet	278	4
blackjack	3	1
black jack	13	2
sports b	23	4
sport b	40	0
betting	14	11
bet on	0	0
bets on	0	0
horse track	2	0
horse rac	7	4
racetrack	9	3
race track	12	1
lotter	79	49
craps	14	0
scratch off	5	4

SEARCH STRING	Total	KEPT
scratch ti	5	4
scratcher	16	0
craps	14	0
dice	66	3
money on	304	20
on football	2	0
on basketball	1	1
on nfl	0	0
on nba	0	0
on mlb	0	0
on baseball	0	0
on nhl	0	0
on hockey	1	0
on soccer	0	0
playoff	0	0
play off	0	0
superbowl	3	0
super bowl	12	0
vegas	59	9
reno	4	2
atlantic city	3	1

