



Office of Addiction Services and Supports

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The Relationship Between Gambling and Suicide

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March 10, 2022

Disclosures

No Disclosures

Overview

- ❖ Learning Objectives
- ❖ Deaths by Suicide in the United States
- ❖ Risk of Suicide among Individuals with Substance Use Disorders and Problem Gambling
- ❖ The Relationship between Problem Gambling, Suicide and:
 - ❖ Gender
 - ❖ Co-Occurring Disorders
 - ❖ Gambling Severity
 - ❖ Gambling Activity
- ❖ Screening for Problem Gambling
- ❖ Screening, Assessment, and Intervention for Suicide Risk



Learning Objectives

1. Describe the overall risk of suicidal ideation and suicide attempts among those with problem gambling.
2. Understand the relationship between problem gambling, suicide and gender, co-occurring psychiatric conditions, gambling severity and gambling activity.
3. Describe methods for screening, assessing, and intervening with individuals with problem gambling who may also be at risk for suicide.



DSM-IV Pathological Gambling vs. DSM-5 Gambling Disorder

DSM Criteria	DSM-IV	DSM-5
Increased amounts gambled for desired excitement	✓	✓
Restless/irritable when cutting back or stopping	✓	✓
Repeated, unsuccessful efforts to control or cut back	✓	✓
Preoccupied with gambling	✓	✓
Gambles to relieve dysphoric mood or escape problems	✓	✓*
"Chases" one's losses	✓	✓
Jeopardizes/loses jobs and significant relationships	✓	✓
Relies on others to provide money for financial problems	✓	✓
Committed illegal acts to finance gambling	✓	
*"Often gambles when feeling distressed"	Need 5	Need 4



The Leading Causes of Death in the US: 2015-2020

Table. Number of Deaths for Leading Causes of Death, US, 2015-2020^a

Cause of death	No. of deaths by year					
	2015	2016	2017	2018	2019	2020
Total deaths	2 712 630	2 744 248	2 813 503	2 839 205	2 854 838	3 358 814
Heart disease	633 842	635 260	647 457	655 381	659 041	690 882
Cancer	595 930	598 038	599 108	599 274	599 601	598 932
COVID-19 ^b						345 323
Unintentional injuries	146 571	161 374	169 936	167 127	173 040	192 176
Stroke	140 323	142 142	146 383	147 810	150 005	159 050
Chronic lower respiratory diseases	155 041	154 596	160 201	159 486	156 979	151 637
Alzheimer disease	110 561	116 103	121 404	122 019	121 499	133 382
Diabetes	79 535	80 058	83 564	84 946	87 647	101 106
Influenza and pneumonia	57 062	51 537	55 672	59 120	49 783	53 495
Kidney disease	49 959	50 046	50 633	51 386	51 565	52 260
Suicide	44 193	44 965	47 173	48 344	47 511	44 834

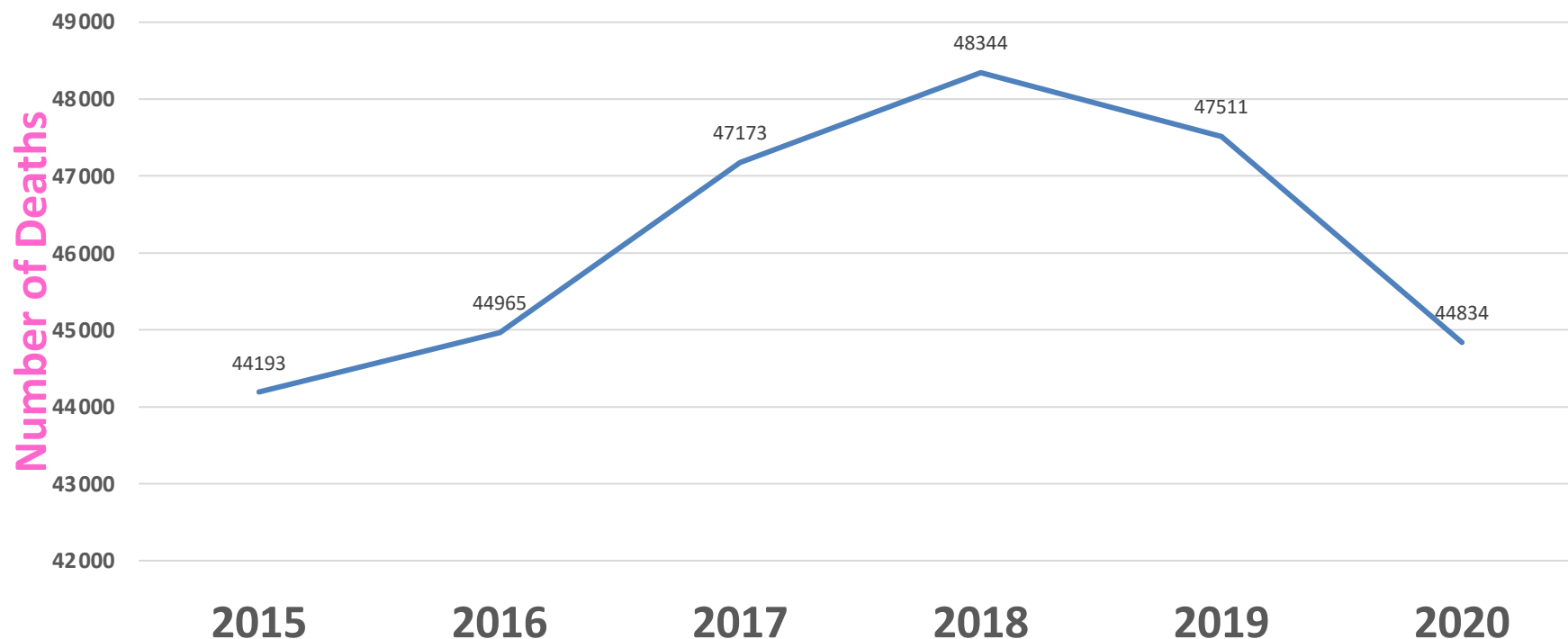
^a Leading causes are classified according to underlying cause and presented according to the number of deaths among US residents. For more information, see the article by Heron.⁴ Source: National Center for Health Statistics. National Vital Statistics System: mortality statistics (<http://www.cdc.gov/nchs/deaths.htm>). Data for 2015-2019 are final; data for 2020 are provisional.

^b Deaths with confirmed or presumed COVID-19, coded to *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision* code U07.1 as the underlying cause of death.



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Deaths by Suicide in the United States: 2015-2020



Substance Use Disorders and Suicide

- Study of 2674 individuals who died by suicide in the US between 2000 and 2013 found that substance use disorders were associated with an increased risk of death by suicide

Substance Use Disorder	Odds Ratio (OR)
Tobacco	2.0
Drug	5.3
Alcohol	5.8
Drug + Tobacco	5.0
Alcohol + Tobacco	6.1
Alcohol + Drug	8.1
Alcohol + Drug + Tobacco	11.2



Problem Gambling and Suicide

- ***Karlsson and Häkansson (2018)***
 - Data from the Swedish National Patient Register (NPR) and Cause of Death Register (CDR) between 2015 and 2016
 - All-cause mortality among those diagnosed with gambling disorder
 - 2099 individuals with gambling disorder:
 - 67 (3%) individuals with gambling disorder died
 - The leading cause of death among the 67 individuals was suicide
 - 21 (31%) individuals died by suicide
 - **More than 15-times more likely to die by suicide than any other cause of death**



An Early Study of Problem Gambling and Suicide

- ***Moran (1969)***
 - No detailed study of the association before 1969
 - Survey of 75 Gamblers Anonymous members in the United Kingdom
 - 72 men and 3 women completed a questionnaire
 - 15 had attempted suicide
 - Mostly horse or dog race betting and gaming (e.g., roulette)
 - 2 of the 3 women had attempted suicide
 - “It appears the obvious link is depression.”
 - Depression is “a reaction to large financial losses after a bout of heavy gambling.”
 - “Occasionally the depression may be primary, and the gambling is then used to relieve the symptoms of tension.”



Problem Gambling, Suicide, and Gender

- ***Maccallum and Blaszczyński (2003)***
 - 85 treatment seekers for pathological gambling in Australia
 - 28 females and 57 males
 - Females:
 - 100%: slot machines as their gambling activity
 - Males:
 - 79%: slot machines
 - 12%: horses/dogs/harness racing
 - 3%: casino table games
 - 2%: keno, sports betting, Internet casino card games



Problem Gambling, Suicide, and Gender

- ***Maccallum and Blaszczyński (2003)***
 - 12 females and 19 males had current suicidal ideation
 - 7 females and 6 males had specific plans
 - Males: more likely to report hanging or other rapid means of death
 - Females: more likely to report plans to overdose
 - Ideation was gambling related:
 - Higher total gambling debt
 - More money spent weekly on gambling
 - More years of problem gambling
 - “Depressive symptomology” was highly associated but no clear connection with major depression



Problem Gambling, Suicide, and Gender

- ***Bischof et al. (2015)***
 - 442 individuals with lifetime pathological gambling in Germany
 - 71 females and 371 males
 - Association with suicidal ideation and suicide attempts
 - 133 reported having suicidal ideation during their lifetime
 - 22 females and 111 males
 - 82 reported a suicide attempt during their lifetime
 - 22 females and 60 males



Problem Gambling, Suicide, and Gender

- ***Bischof et al. (2015)***

- Relative risk (RR) of suicidal ideation was associated with:
 - Lifetime diagnosis mood disorders: RR = 5.1
 - Substance use disorders: RR = 1.7
 - Anxiety disorders: RR = 1.3
 - Gender was not associated with an increase in suicidal ideation
- Relative risk of suicide attempts was associated with:
 - Lifetime diagnosis mood disorders RR = 11.9
 - **Female gender:** RR = 3.5
 - Anxiety disorders: RR = 2.2



Problem Gambling, Suicide, and Gender

- ***Bischof et al. (2016)***
 - 442 individuals diagnosed with pathological gambling in Germany
 - 215 individuals with lifetime suicidal events
 - Suicidal events = suicidal ideation or suicide attempts
 - Influencing factors for suicidal events:
 - Lifetime diagnosis mood disorders: OR = 7.7
 - **Female gender:** OR = 2.5
 - No influence from substance use disorders, anxiety disorders was found in this study.



Problem Gambling, Suicide, and Gender

- ***Häkansson and Karlsson (2020)***
 - Data from the Swedish National Patient Register (NPR) and Cause of Death Register (CDR) between 2015 and 2016
 - 2099 individuals diagnosed with gambling disorder
 - 1625 men and 474 women
 - 407 made a suicide attempt
 - How co-occurring psychiatric and substance use disorders influence the risk of suicide attempts in gambling disorder



Problem Gambling, Suicide, and Gender

- *Häkansson and Karlsson (2020)*
 - Suicide attempts were significantly associated with:
 - Drug Use Disorder: OR = 3.6
 - Mood Disorders: OR = 2.7
 - **Female gender:** **OR = 2.1**
 - Alcohol Use Disorder: OR = 1.9
 - Anxiety Disorders: OR = 1.8



Problem Gambling and Co-Occurring Disorders

- ***Dowling et al (2015)***
 - Prevalence of any current DSM-IV Axis I disorders among treatment seeking problem gamblers
 - Meta-analysis of 36 studies
 - 75% with problem gambling had current co-occurring disorders
 - Highest rates for:
 - Mood disorders (23%)
 - Alcohol use disorders (21%)
 - Anxiety disorders (18%)
 - Other substance use disorders (7%)



Problem Gambling and Co-Occurring Disorders

- ***Dowling et al (2015)***
 - Highest rates among individual diagnoses were for:
 - Nicotine Dependence (56%)
 - Major Depressive Disorder (30%)
 - Alcohol Abuse (18%)
 - Alcohol Dependence (15%)
 - Social Phobia (15%)
 - Generalized Anxiety Disorder (14%)
 - Panic Disorder (14%)



Problem Gambling, Suicide, and Co-Occurring Disorders

- ***Bischof A et al. (2015)***
 - Risk of suicidal ideation was associated with:
 - Lifetime diagnosis mood disorders: RR = 5.1
 - Substance use disorders: RR = 1.7
 - Risk of suicide attempts was associated with
 - Lifetime diagnosis of mood disorders RR = 11.9
 - Anxiety disorders: RR = 2.2
- ***Bischof et al. (2016)***
 - Influencing factors on suicidal events (suicidal ideation or a suicide attempt)
 - Lifetime diagnosis mood disorders: OR = 7.7
- ***Häkansson and Karlsson (2020)***
 - Suicide attempts were significantly associated with:
 - Drug Use Disorder: OR = 3.6
 - Mood Disorders: OR = 2.7
 - Alcohol Use Disorder: OR = 1.9
 - Anxiety Disorders: OR = 1.8



Problem Gambling, Suicide, and Co-Occurring Disorders

- ***Guillou-Landreat et al (2016)***
 - 194 treatment-seeking individuals with problem gambling in France
 - Factors associated with suicidal risk
 - 40% were identified as being at risk for suicide
 - 22% had made a suicide attempt
 - Co-occurring disorders significantly associated with suicide risk:
 - Major depression
 - 76% who were at risk for suicide had current or lifetime major depression
 - OR = 4.0
 - Anxiety disorders
 - 63% who were at risk for suicide had lifetime or current anxiety disorder
 - OR = 3.2
 - High rates of substance use disorders but there was no association with substance use disorders and suicide risk

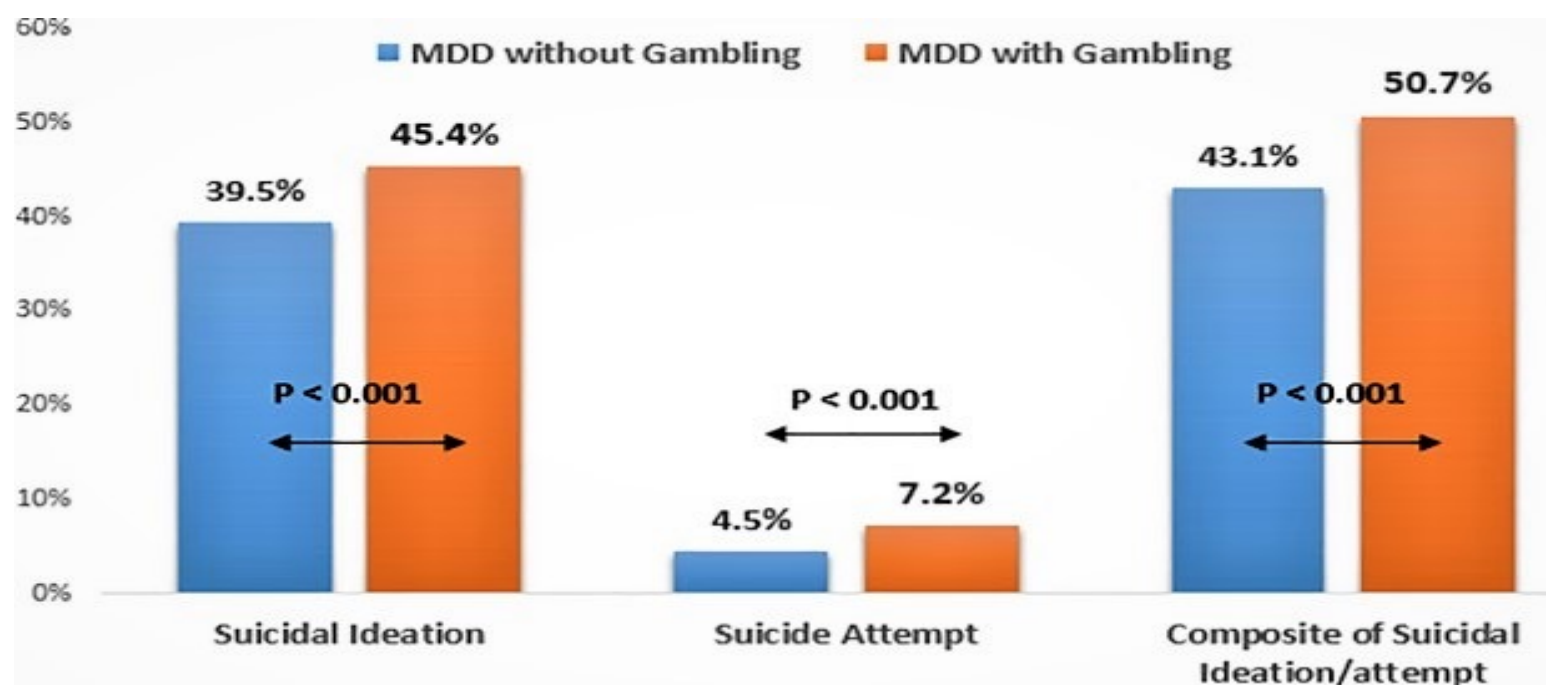


Problem Gambling, Suicide, and Major Depression

- ***Jolly et al (2021)***
 - United States Nationwide Inpatient Sample (NIS) dataset for the years 2006-2017
 - 6646 inpatients with a primary diagnosis of major depression and secondary diagnosis of gambling disorder
 - Compared to 4,000,000 inpatients with primary diagnosis of major depression without co-occurring gambling disorder
 - Examined suicidal ideation, suicide attempts, and suicidality (composite of suicidal ideation and suicide attempts)
 - Co-occurring gambling disorder was one of the strongest predictors of suicidality among those with primary major depression
 - OR = 1.4



Problem Gambling, Suicide, and Major Depression



Problem Gambling, Suicide, and Gambling Severity

- ***Moghaddam et al. (2015)***
 - National Epidemiologic Survey on Alcohol and Related Conditions (NESARC)
 - 13,578 who provided information on gambling behavior, lifetime suicidal ideation and/or attempts
 - Five groups of lifetime gambling severity:
 - Non-gambling
 - Never gambled 5 or more times in one year
 - Low risk gambling
 - 5 or more times in one year; no DSM-IV pathological gambling (PG) criteria
 - At-risk gambling
 - One or two DSM-IV PG Criteria
 - Problem Gambling
 - Three to four DSM-IV PG criteria
 - Pathological Gambling
 - Five to ten DSM-IV PG criteria



Problem Gambling, Suicide, and Gambling Severity

Odds Ratios of Lifetime Suicidal Ideation by Severity of Lifetime Gambling

<i>Five Gambling Groups</i>	<i>Number of PG criteria met</i>	<i>Odds Ratio</i>
Non-Gambling	0	1.00 (Reference)
Low-Risk Gambling	0	0.93
At-Risk Gambling	1-2	1.15
Problem Gambling	3-4	1.64
Pathological Gambling	5-10	2.86



Problem Gambling, Suicide, and Gambling Severity

Odds Ratios of Lifetime Suicide Attempts by Severity of Lifetime Gambling

<i>Five Gambling Groups</i>	<i>Number of PG criteria met</i>	<i>Odds Ratio</i>
Non-Gambling	0	1.00 (Reference)
Low-Risk Gambling	0	0.95
At-Risk Gambling	1-2	1.06
Problem Gambling	3-4	2.42
Pathological Gambling	5-10	2.77



Problem Gambling, Suicide, and Gambling Severity

- ***Wardle and McManus (2021)***
 - Data from Great Britain's Emerging Adults Gambling Survey
 - Online survey of young adults aged 16 to 24 years
 - 3549 participants:
 - 1672 men and 1922 women
 - Association between current suicidal ideation, suicide attempts, and problem gambling in the past year



Problem Gambling, Suicide, and Gambling Severity

- ***Wardle and McManus (2021)***
 - 62 men and 85 women reported a suicide attempt in the past year
 - 24 men and 13 women and were identified as having problem gambling
 - Problem Gambling Severity Index (PSGI) scores to divide them into four groups
 - PSGI scores range from 0 to 27
 - 0 = Non-gambling or non-problem gambling
 - 1-2 = Low-risk gambling
 - 3-7 = Moderate-risk gambling
 - ≥ 8 = Problem gambling



Problem Gambling, Suicide, and Gambling Severity

Odds Ratios for Suicide Attempts in the Past Year by Gambling Severity			
Four Gambling Groups	PGSI Score	Odds Ratio Men	Odds Ratio Women
Non-Gambling	0	1.0 (Reference)	1.0 (Reference)
At-Risk Gambling	1-2	0.5	0.5
Moderate-risk Gambling	3-7	0.8	1.8
Problem Gambling	≥ 8	9.0	4.9



Problem Gambling and Gambling Activity

- ***Allami et al. (2021)***
 - Meta-analysis of 104 studies examining correlates of problem gambling
 - Age, psychiatric conditions, substance use, gambling activity, employment, marital status, gender, education, income and others
 - Of 57 correlates identified, gambling activities had highest ORs:
 - Internet/online gambling: OR = 7.6
 - Non-casino-based electronic gambling machines (EGMs) OR = 7.2
 - Casino-based EGMs OR = 6.8
 - Poker OR = 5.4
 - Casino table games OR = 4.9



Problem Gambling, Suicide, and Gambling Activity

- ***Valenciano-Mendoza et al, (2021)***
 - 1112 treatment-seeking adults with gambling disorder in Spain
 - 229 reported current or past suicidal ideation
 - 74 reported recent or past suicide attempts
 - Role of gender
 - Role of gambling activity preference:
 - Non-strategic = little/no decision making, chance based
 - EGMs, video poker, keno
 - Often continuous-play games
 - Strategic = knowledge of the game used to influence/predict outcome
 - Sports betting, card games
 - Mixed = non-strategic + strategic



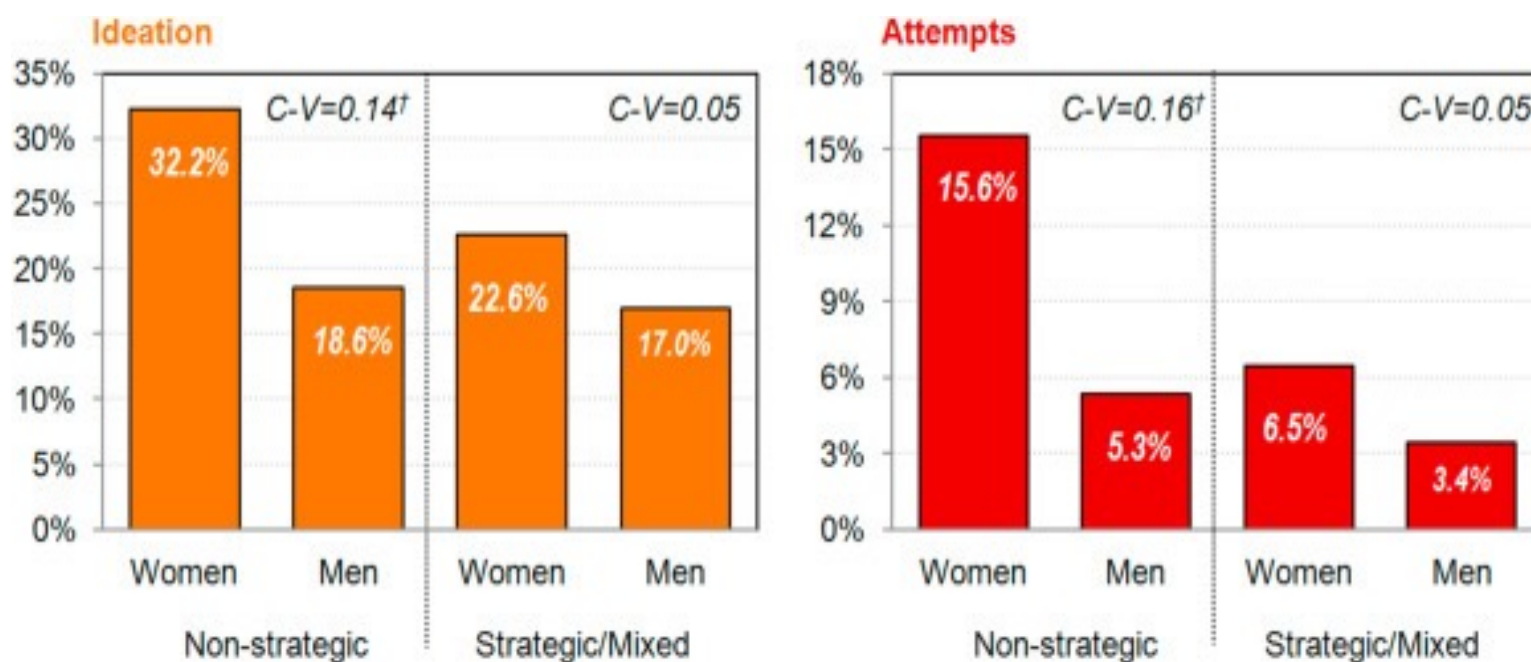
Problem Gambling, Suicide, and Gambling Activity

<i>Gender</i>	<i>Suicidal Ideation (n = 229)</i>	<i>Suicide attempt (n = 74)</i>
Female	65 (28%)	30 (41%)
Male	164 (72%)	44 (59%)

<i>Gambling activity</i>	<i>Suicidal ideation (n= 229)</i>	<i>Suicide Attempt (n= 74)</i>
Non-strategic	187 (82%)	65 (88%)
Strategic/Mixed	42% (18%)	9 (12%)



Problem Gambling, Suicide, and Gambling Activity



Screening for Problem Gambling

Screening, Assessment, and Intervention for Suicide Risk



Screening Instruments for Problem Gambling

■ The Lie/Bet Questionnaire

- *“Have you ever had to lie to people important to you about how much you gambled?”*
- *“Have you ever felt the need to bet more and more money?”*
- Further evaluation if “Yes” to one or both questions



Screening Instruments for Problem Gambling

Brief Biosocial Gambling Screen
A "yes" answer to any of the questions means the person is at risk for developing a gambling problem.

1. During the past 12 months, have you become restless, irritable or anxious when trying to stop/cut down on gambling?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
2. During the past 12 months, have you tried to keep your family or friends from knowing how much you gambled?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
3. During the past 12 months, did you have such financial trouble as a result of your gambling that you had to get help with living expenses from family, friends or welfare?	YES <input type="checkbox"/>	NO <input type="checkbox"/>

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Screening Instruments for Problem Gambling

- **National Opinion Research Center Diagnostic Screen for Gambling Problems – Control, Lie, Preoccupation Subscale (NODS-CLiP)**
 - *“Have you ever tried to stop, cut down, or control your gambling?”*
 - *“Have you ever lied to family members, friends, or others about how much you gamble or how much money you lost on gambling?”*
 - *“Have there been periods lasting two weeks or longer when you spent a lot of time thinking about your gambling experiences or planning out future gambling ventures or bets?”*
 - Further evaluation if “Yes” to one or more questions



Screening Instruments for Problem Gambling

- **NODS – Preoccupation, Escape, Risked Relationships, and Chasing Subscale (NODS-PERC)**
 - *“Have there been periods lasting two weeks or longer when you spent a lot of time thinking about your gambling experiences or planning out future gambling ventures or bets?”*
 - *“Have you ever gambled as a way to escape from personal problems?”*
 - *Has your gambling ever caused serious or repeated problems in your relationships with any of your family members or friends?”*
 - *“Had there ever been a period when, if you lost money one day, you would return another day to get even?”*
- Further evaluation if “Yes” to one or more questions



Screening, Assessment, Intervention for Suicide Risk

- **Universal screening with an evidence-based screening instrument for co-occurring mental health conditions**
 - Modified Mini Screen (MMS): 22-item clinician administered screen
 - Captures three major areas of psychiatric conditions
 - Mood Disorders
 - Anxiety Disorders
 - Psychotic Disorders
 - Question 4 in the Mood Disorders section:
 - ***In the past month, did you think that you would be better off dead or wish you were dead?***
 - A “Yes” response to question 4 leads to administration of the Columbia Suicide Severity Risk Scale (C-SSRS)



Screening, Assessment, Intervention for Suicide Risk

COLUMBIA-SUICIDE SEVERITY RATING SCALE *Screening*

	Past month	
Ask questions that are in bold and underlined.	YES	NO
Ask Questions 1 and 2		
1) <u>Have you wished you were dead or wished you could go to sleep and not wake up?</u> Person endorses thoughts about a wish to be dead or not alive anymore, or wish to fall asleep and not wake up.		
2) <u>Have you had any actual thoughts of killing yourself?</u> General non-specific thoughts of wanting to end one's life/die by suicide without general thoughts of methods, intent, or plan.		
If YES to 2, ask questions 3, 4, 5, and 6. If NO to 2, go directly to question 6.		
3) <u>Have you been thinking about how you might do this?</u> Person endorses thoughts of suicide and has thought of at least one method. e.g. "I thought about taking an overdose but I never made a specific plan as to when where or how I would actually do it....and I would never go through with it."		
4) <u>Have you had these thoughts and had some intention of acting on them?</u> Active suicidal thoughts of killing oneself and reports having some intent to act on such thoughts. e.g. "I have the thoughts but I definitely will not do anything about them."		
5) <u>Have you started to work out or worked out the details of how to kill yourself?</u> <u>Do you intend to carry out this plan?</u> Thoughts of killing oneself with details of plan fully or partially worked out and person has some intent to carry it out.		
6a) <u>Have you done anything, started to do anything, or prepared to do anything to end your life?</u> Examples: Collected pills, obtained a gun, gave away valuables, wrote a will or suicide note, took out pills but didn't swallow any, held a gun but changed your mind or it was grabbed from your hand, went to the roof but didn't jump; or actually took pills, tried to shoot yourself, cut yourself, tried to hang yourself, etc.		
6b) If YES, ask: <u>Was this within the past 3 months?</u>		

Response Procedure to C-SSRS Screening: **Low Risk** **Moderate Risk** **High Risk**



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Screening, Assessment, Intervention for Suicide Risk

- Individuals who are rated by the C-SSRS as “Moderate” or “High” risk should be assessed by a licensed clinician to determine what the next intervention should be
- All individuals at moderate or high risk should create a Suicide Safety Plan in collaboration with a treatment provider
 - Stanley-Brown Suicide Safety Plan has six steps:
 - Step 1: Recognizing the warning signs of an impending suicidal crisis.
 - Step 2: Using coping strategies.
 - Step 3: Contacting others to distract from suicidal thoughts.
 - Step 4: Contacting family members or friends who may help to resolve the crisis.
 - Step 5: Contacting mental health professionals or agencies; and
 - Step 6: Reducing the availability of means to complete suicide.



Screening, Assessment, Intervention for Suicide Risk

Patient Safety Plan Template

Step 1: Warning signs (thoughts, images, mood, situation, behavior) that a crisis may be developing:	
1.	_____
2.	_____
3.	_____
Step 2: Internal coping strategies – Things I can do to take my mind off my problems without contacting another person (relaxation technique, physical activity):	
1.	_____
2.	_____
3.	_____
Step 3: People and social settings that provide distraction:	
1. Name _____	Phone _____
2. Name _____	Phone _____
3. Place _____	4. Place _____
Step 4: People whom I can ask for help:	
1. Name _____	Phone _____
2. Name _____	Phone _____
3. Name _____	Phone _____
Step 5: Professionals or agencies I can contact during a crisis:	
1. Clinician Name _____	Phone _____
Clinician Pager or Emergency Contact # _____	
2. Clinician Name _____	Phone _____
Clinician Pager or Emergency Contact # _____	
3. Local Urgent Care Services _____	
Urgent Care Services Address _____	
Urgent Care Services Phone _____	
4. Suicide Prevention Lifeline Phone: 1-800-273-TALK (8255)	
Step 6: Making the environment safe:	
1.	_____
2.	_____
<small>Safety Plan Template ©2008 Barbara Stanley and Gregory K. Brown, is reprinted with the express permission of the authors. No portion of the Safety Plan Template may be reproduced without their express, written permission. You can contact the authors at bhs2@columbia.edu or gregbrow@mail.med.upenn.edu.</small>	

The one thing that is most important to me and worth living for is:



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Screening, Assessment, Intervention for Suicide Risk

- Individuals who are rated by the C-SSRS as “Moderate” or “High” risk should receive counseling on access to lethal means
 - Express concern about their safety and wish to keep them safe
 - Assess whether the person at risk has access to a firearm or other lethal means
 - Work with the person, their family and/or support system to limit their access until they are no longer at elevated risk
 - Make a specific plan with timelines and roles



Conclusions

- Problem gambling is associated with an increased risk for suicide
- Factors that may influence this increased risk include:
 - Female gender
 - Current and lifetime diagnosis of mood disorders
 - Particularly major depression
 - Anxiety disorders and substance use disorders
 - Greater severity of gambling problems
 - Gambling activity
- Identifying and addressing problem gambling among individuals with psychiatric disorders may help decrease suicide risk
- Screening, assessment, and intervention for suicide risk among those with problem gambling may be an effective way to prevent suicide attempts



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Thank you!

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