

GAMBLING DISORDER: A HIDDEN ADDICTION

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What Is Gambling?

- Webster says:
 - “to wager or risk money or anything of value on the outcome of something involving chance with the intent of winning or gaining something of more value than was risked.”
 - “any matter or thing involving risk.”
 - Typically involves consideration, risk, & a prize.

Types Of Gambling

- **“Games Of Skill”**

- Cards (Poker, Blackjack, etc)
- Pool, Darts, etc.

- **Sports**

- Horse Racing At Tracks
- Off Track Betting
- On-line
- Office Pools

- **“Games Of Chance”**

- Slot Machines
- Roulette
- BINGO
- Dice
- Raffles

- **Lottery**

- Mega Millions/Powerball
- Instant Scratch Tickets
- Daily Numbers
- Lotto

- **Stock Market ?**

- **Cryptocurrency?**

Gambling: History

- Gambling likely the oldest “vice.”
 - older than alcohol
- Gambling was a way early humans communicated with “gods”
 - an attempt to control/predict future events
- Gambling games have been found in the Egyptian pyramids
- *The Bible* has various references to gambling.
 - Tossing of lots were how decisions were made.
- Dice were found in the ruins at Pompeii
 - **loaded** dice were found in Pompeii.



Gambling In The U.S.

- **First Wave: Colonial period**
 - In 1612, the Virginia Company of Jamestown petitioned the King of England for permission to conduct a lottery
 - Lotteries funded public projects (even Ivy League Colleges)
 - Cheating at such drawings ended legality
- **Second Wave: Pre-Civil War**
 - Wild West, gambling halls, riverboat casinos
 - More cheating and this, too, was banned.
- **Third Wave: 1930s-Present**
 - Began in Las Vegas
 - Indian Gaming Act of 1988
 - Very strictly regulated-Cheating possible but very difficult.





Gambling In Maryland

- **1791-** Maryland first legalized gambling
 - “Lottery grants” to help fund projects
 - By 1830s, there were > 3,200 lotteries in Baltimore alone
- **1834-** Maryland legislature voted to stop new lottery grants
- **1870-** Inaugural running of the “Dinner Party Stakes”
 - renamed the Preakness Stakes in 1873
 - at the original Pimlico Race Course
- **Early 1900s-** Illegal slot machines began to appear
- **1940s-** Slot machines legalized in 4 Southern Counties
 - Anne Arundel, Calvert, St. Mary’s, Charles
 - 1950s & 60- nicknamed parts of Southern Maryland as “Little Vegas” & “Little Reno”
 - > 9000 slot machines in local taverns and roadhouses
 - Earned > \$24 million
- **1952-** Charitable BINGO legalized
- **1963-** Legislation to prohibit new slot machines







Gambling In Maryland

- **1973-** establishment of the Maryland Lottery
- **1990s-** discussions about slot machines begin
- **November, 2008-** State referendum allowing video lottery terminals (slot machines) in 5 casinos
 - Mandated that money be placed in to “problem gambling fund.”
- **July 1, 2012-** Maryland Center of Excellence on Problem Gambling opens as part of The University of Maryland, School of Medicine, Department of Psychiatry
- **November, 2012-** State referendum allowing a 6th casino in P.G. County, table games & 24-hour operation



Maryland Casinos



Rocky Gap
(Flintstone)
(Opened 5/12/2013)



Hollywood
(Perryville)
(Opened 9/17/2010)



Live!
(Hanover)
(Opened 6/6/2012)



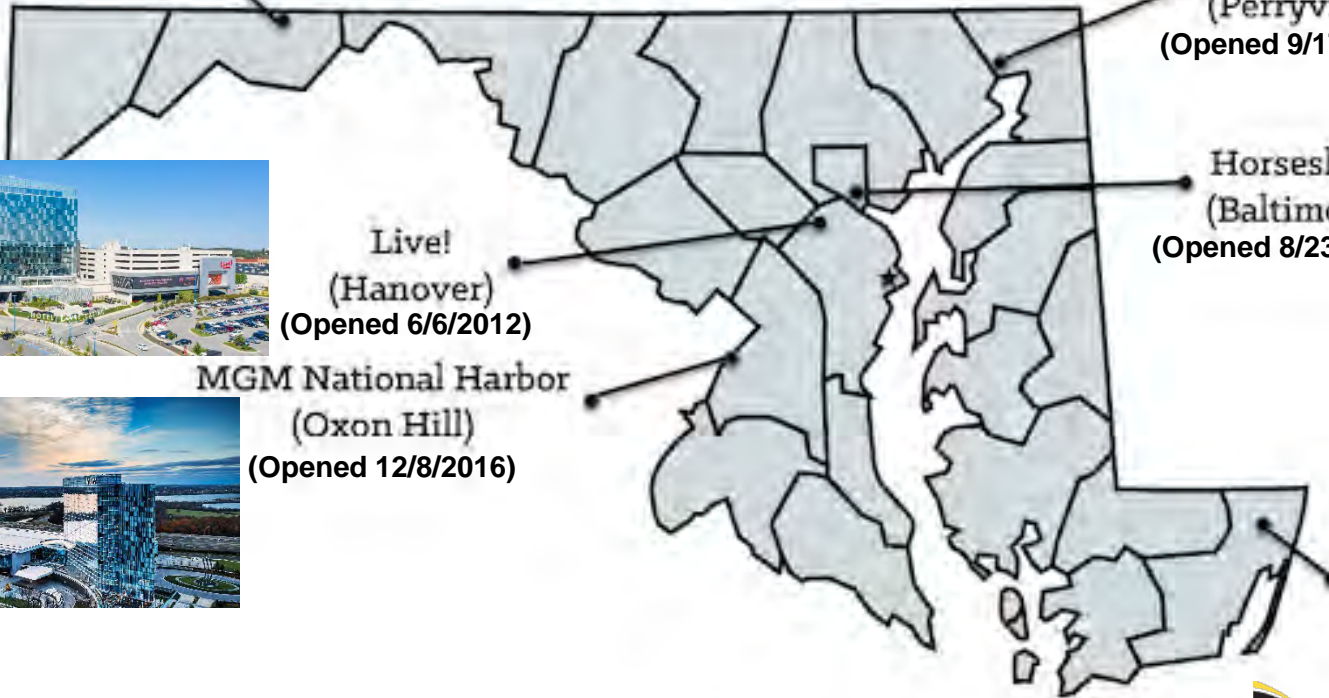
Horseshoe
(Baltimore)
(Opened 8/23/2014)



MGM National Harbor
(Oxon Hill)
(Opened 12/8/2016)



Ocean Downs
(Berlin)
(Opened 1/4/2011)



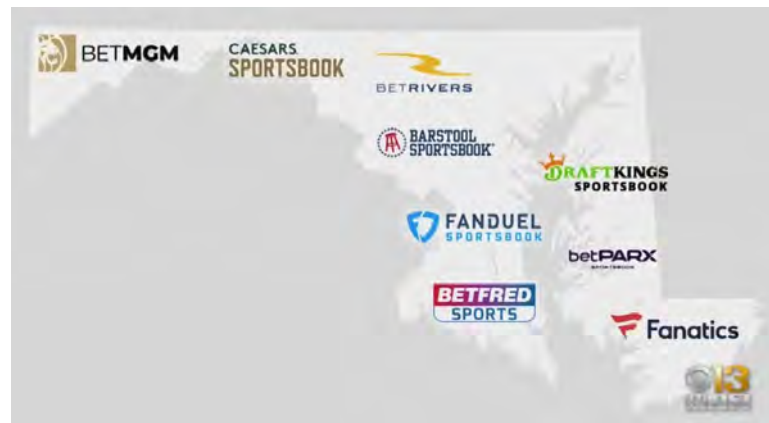
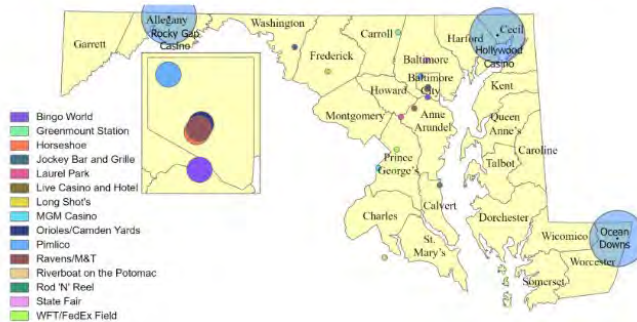


Sports Betting

- **May, 2018-** the U.S. Supreme Court struck down a 1992 federal law that had effectively banned commercial sports betting in most states.
- **November, 2020-** Maryland voters approved the establishment of sports betting in Maryland (signed into law May, 2021).
- **December, 2021-** Retail sports betting launched at five casinos, race tracks & several other places in Maryland.
- **November, 2022-** Online sports betting launched in Maryland.



Designated Locations – Map



Gambling: Some Numbers

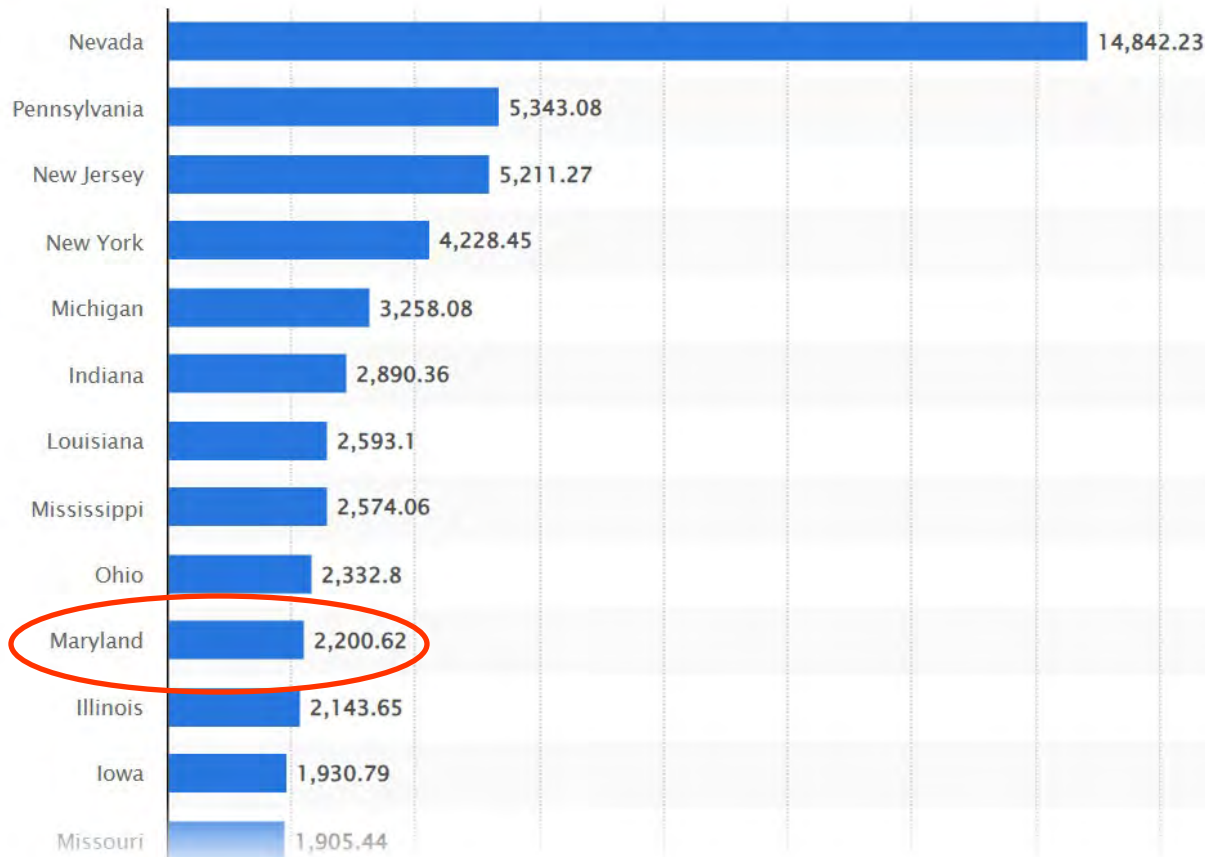
- About 85% of all adults in the US gamble at one time or another.
- 48 states have legalized gambling
 - Except Hawaii and Utah.
 - Gambling present in Hawaii and Utah via the stock market, internet gambling, cruise ship casinos, illegal gambling such as sports betting.
- 28 states (plus 2 territories) have casino gambling
- 30 states have casinos on Native American land
- 43 states have lotteries
- 6 states have river boat casinos

Gambling In The U.S.: The Money

- Legal gambling in the U.S. is over a \$100 **B**illion/year profit-making industry.
- Casinos gross > \$60 billion/year
 - Direct state and local tax revenues of @ \$10 billion/year
 - \$65-70 million/month total revenue in Maryland
- Lotteries have @ \$70 billion/year in sales
 - @ \$19 billion/year profit
 - Lottery is 3rd largest source of revenue in Maryland
 - Behind sales tax and income tax
- Used for various things in different states

Gambling In The U.S.:

Gross Revenue Casinos (2022)



in millions of dollars

Money Gambled: Maryland

Lottery, Casinos, Sports Wagering Contribute \$1.585 Billion to the State in FY2024

August 9, 2024

Maryland Lottery and Gaming posts second-largest single-year transfer to the state

The Maryland Lottery and the state's casinos, sportsbooks and daily fantasy sports operators combined to contribute \$1.585 billion to Maryland's good causes in Fiscal Year 2024 (July 1, 2023 through June 30, 2024).

Legal Gambling Age

- State-specific
- Tribal casinos & overseas military casinos exempt
 - Casino 21yo
 - Sports 21yo
 - Poker Rooms 21yo
 - Lottery 18yo
 - Daily Fantasy 18yo
 - Horse Racing (pari-mutuel) 18yo
 - Bingo 18yo

Terminology

- Problem (problematic)
- Compulsive
- At risk
- Pathological
- Disordered
- Gambling vs Gaming
 - Also on-line gambling vs Social media “addiction”

Problem Gambling in the U.S.

- Numbers vary depending on type of study
- Adults
 - @ 1% (up to 3%)- Pathological/Disordered (@ 2 million)
 - @ 2-3%- at risk/problematic (@ 4-6 million)
- Adolescents
 - 1-7%- Pathological
 - 5-10%- at risk or problematic
- College
 - 3-11%-Pathological
 - 5-15%- at risk or problematic



MD Prevalence Survey

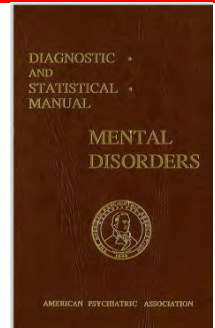
- Original phone survey conducted in 2010 (before casinos)
- Repeat surveys in 2017, 2020, 2022, 2024(now by mail)
- Only adults
- 90% of adults in Maryland have gambled
- Among adults gambling in Maryland
 - @ 22% gambled **monthly** in the past year (spend @ \$190/month gambling)
 - @15% gambled **weekly** in the past year (spend @ \$550/month gambling)
- Found 1.6% have “probable pathological” gambling and 2.4% have “problem” gambling.
 - When combined, the prevalence rate of problem & pathological gambling is @ 4% (>150,000 adults).

History of the Diagnosis

The Diagnostic & Statistical Manual of Mental Disorders (DSM)

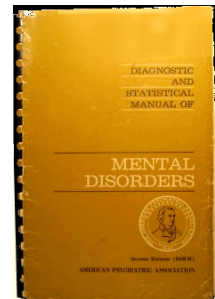
- **DSM I (1952)**

- Disordered gambling not mentioned
- Substance related disorders placed in “Personality Disorders- Sociopathic PD.”



- **DSM II (1968)**

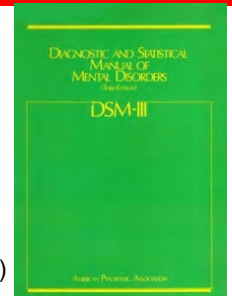
- Disordered gambling not mentioned
- Substance related disorders placed in “Personality Disorders and Certain Other Non-Psychotic Mental Disorders”



History of the Diagnosis

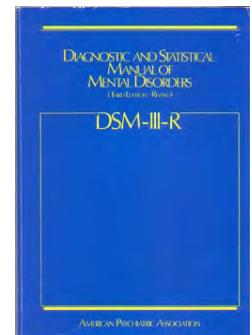
- **DSM III (1980)**

- 1st time “**Pathological Gambling**” included
- Placed in “**Disorders of Impulse Control- NEC**” (w Kleptomania, Pyromania)
- Focus on finances and compromised, disrupted or damaged family, personal, & vocational pursuits
- 7 criterion (3 required for diagnosis)



- **DSM III-R (1987)**

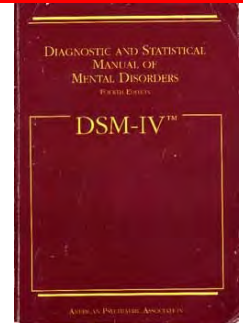
- Remained “**Pathological Gambling**”
- Remained in “**Impulse Control Disorders NEC**”
- Basically, changed from focus on fraud and money to adapting substance dependence criteria to gambling
- Increased to 9 criterion (4 required for diagnosis)



History of the Diagnosis

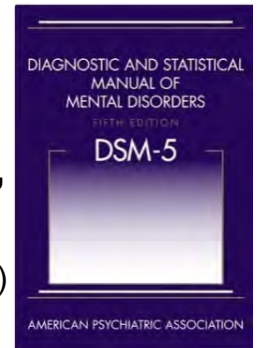
- **DSM IV (1994)**

- Remained “**Pathological Gambling**”
- Remained in “**Impulse-Control Disorders NEC**”
- New set of 10 criterion (5 required for diagnosis)



- **DSM-5 (2013)**

- Renamed: “**Gambling Disorder**”
- Reclassified: in “**Substance Related & Addictive Disorders**”
- Reduced to **9 criterion** (Elimination of “illegal acts” criterion, as with SUDs)
- Diagnostic cut-off lowered: 5 to **4** (different than SUDs)
- Addition of **Severity Specifiers**- Mild(4-5), Moderate(6-7), Severe(8-9)
- Addition of **Course Specifiers**- Episodic or Persistent
- Addition of **time frame**: symptoms present **within a 12-month period** (as with SUDs)



DSM-5 Diagnostic Criteria

Persistent and recurrent problematic gambling behavior leading to clinically significant impairment or distress... 4 (or more) of the following in a 12-month period:

1. Needs to gamble with increasing amounts of money in order to achieve the desired excitement.
2. Is restless or irritable when attempting to cut down or stop.
3. Has made repeated unsuccessful efforts to control, cut back, stop gambling.
4. Is often preoccupied with gambling (e.g., having persistent thoughts of reliving).
5. Often gambles when feeling distressed (e.g. helpless, guilty, anxious, depressed).
6. After losing money gambling, often returns another day in order to get even (“chasing” one’s losses).
7. Lies to conceal the extent of involvement with gambling.
8. Has jeopardized or lost a significant relationship, job, or educational or career opportunity because of gambling.
9. Relies on others to provide money to relieve a desperate financial situation caused by gambling.

“Unique” Characteristics Of Pathological Gambling

- The behavior is harder to define.
- Gambling is a “hidden” addiction.
 - less physical consequences of use
 - overdose is not possible
- Gambling is even less perceived of as a disorder than substance addiction.
- No good objective tests for “use.”
- The problem is more often perceived of as the solution.



Psychiatric Co-Morbidity

- High correlation with mood and anxiety disorders
 - One study found 76% of pathological gamblers had a major depressive disorder with recurrent episodes in 28%
- Suicide risk is high:
 - 22-81% with SI
 - 7-30% with attempt
- Very high co-morbidity w alcohol & nicotine use disorders
 - If current alcohol dependence diagnosis, 16 times more likely to have current gambling problem (RIA; 2003)
- Less but significant co-morbidity with various drug use disorders

Associated Medical Findings

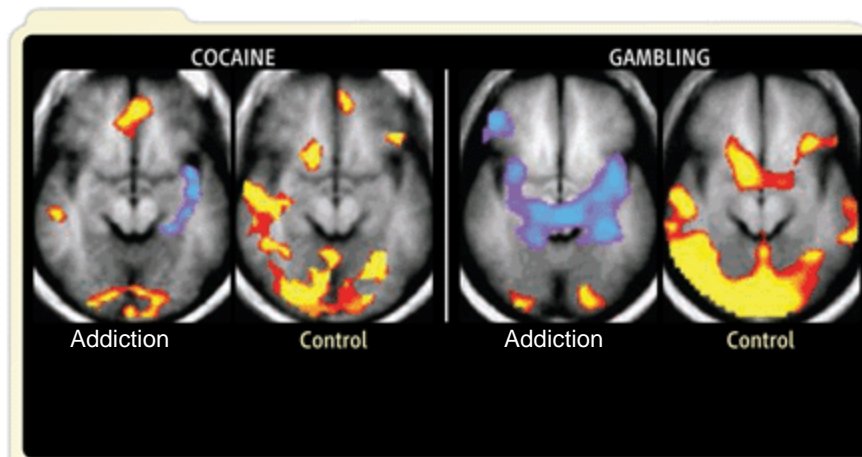
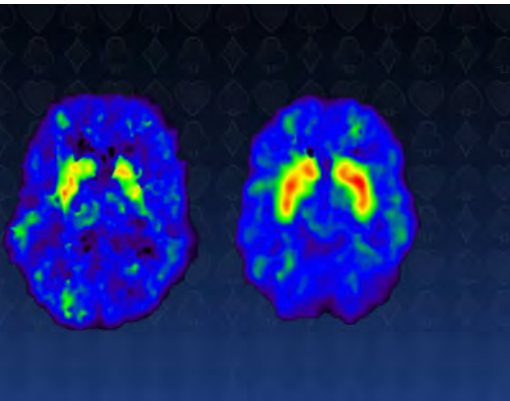
- 2-6% of primary care patients meet the criteria of problem or pathological gamblers
- Increased incidence of
 - insomnia
 - irritable bowel syndrome
 - peptic ulcer disease
 - hypertension
 - headaches/migraines

Neurochemistry

- Norepinephrine- Arousal
- Dopamine- Reward
- Serotonin- Compulsivity
- Glutamate- Craving; Cues
- Opiate- Reward Modulation

Neuroimaging

- Ventromedial prefrontal cortex (vmPFC)
 - implicated in decision-making circuitry in risk-reward assessment
 - decreased activation in PG subjects during gambling cues
- Also decreased activity in the basal ganglia and thalamus
- Also impacts areas involved with dealing with stress



Impulsivity

- A predisposition toward rapid, unplanned reactions to internal or external stimuli without regard to the negative consequences of these reactions to the impulsive individual or to others
- Executive function deficits, including:
 - Planning
 - Cognitive flexibility
 - Inhibition
- Greater in pathological gamblers compared to controls.

Genetics

- Gambling addiction has a genetic component.
 - More in identical twins than non-identical
- Like with other addictions, it is very complicated.
- Only inherit an increased risk.
- Associations with:
 - Dopamine receptor genes
 - Serotonin transporter genes
 - Monoamine Oxidase A Gene
- Additionally, shared genetic association with other addictions (such as alcohol)



Early Exposure

- @40-50% of children have been exposed to on-line gambling by adolescence
 - “Social” casino games
 - “Loot Boxes” in video games
- Watching adults gamble
- Holiday Lottery Tickets
- School Bingo fund-raisers, etc.

Problem Gambling Assessment Instruments & Screens

- South Oaks Gambling Screen (SOGS)
- National Opinion Research Center DSM Screen for Problem Gambling (NODS)
- G.A.'s Twenty Questions
- “Lie-Bet” 2 Question Brief Screen
- CLiP
- PERC
- Brief Biosocial Gambling Screen
- SOGS-R A- Adolescent Screen

NODS/NODS-SA

- 17 questions based on the 10 DSM-IV criteria
 - breaks out some of the questions
 - some frequency questions
- Being validated with DSM-5 criteria
- NODS- SA (self-administered)
 - 10 questions

NODS-CLIP

Have there ever been periods lasting 2 weeks or longer when you spent a lot of time thinking about your gambling experiences or planning out future gambling ventures or bets?

Yes No

Have you ever tried to stop, cut down, or control your gambling?

Yes No

Have you ever lied to family members, friends, or others about how much you gamble or how much money you lost on gambling?

Yes No

If “Yes” to one or more questions, further assessment is advised.

LIE-BET

1. Have you ever lied to people important to you about how much you gambled?
2. Have you ever felt the need to bet more and more money?

If the answer is “yes” to either or both, further assessment is needed.

Brief Biosocial Gambling Screen

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 NO
2. During the past 12 months, have you tried to keep your family or friends from knowing how much you gambled? YES NO
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 NO

Treatment

- Pharmacotherapy
- Psychotherapy
- Mutual help

Pharmacotherapy

- **No FDA approved medications**
- Few well powered, double-blind, placebo-controlled trials
- More difficult to objectively measure gambling behavior.
- Many studies look at craving, impulsivity, etc.

Pharmacotherapy

- **Naltrexone**
 - *mu, kappa & delta* antagonist
 - Inhibits mu opioid receptor input to the VTA
 - Ultimately causes decreased DA release
 - Appears to alter hedonic response
 - Lowering pleasure associated w use/gambling
 - Multiple open label studies/case reports
 - 5 Double-blind placebo-controlled trials
 - 2 significantly better than placebo on gambling behavior
 - No studies with Vivitrol

Pharmacotherapy

- **Nalmefene**
- Structurally similar to naltrexone
- *mu & delta* antagonist; *kappa* partial agonist
- Less hepatotoxicity than w/ naltrexone
- Used for Alcohol Use Disorder in Europe
- Injectable form FDA approved in U.S. in 1995 (d/c'd) & IN form in 2023 for opioid overdose
- 2 Double-blind placebo-controlled trials
 - Significantly better than placebo w gambling behavior

Pharmacotherapy

- **SSRIs**

- Fluoxetine, escitalopram, fluvoxamine, paroxetine, sertraline

- **Mixed results**

- Initial studied with some benefit for fluvoxamine & paroxetine (# of days spent gambling; amount of money lost gambling; preoccupation with gambling; urges to gamble)
- Later studies with no difference from placebo
- Some + results with escitalopram in individuals with anxiety (n=13)

Pharmacotherapy

- **Bupropion**
 - 1 study with no difference from placebo
 - 1 study with similar benefits to naltrexone

Pharmacotherapy

- **Anticonvulsants**
 - Valproic acid, carbamazepine, topiramate
 - Several studies
 - No difference from placebo
 - Topiramate w 1 study equal to lithium in individuals without bipolar disorder

Pharmacotherapy

- **Antipsychotics**
 - Olanzapine, haloperidol
 - Several studies
 - No difference from placebo

Pharmacotherapy

- **Lithium**
 - Promising results in individuals with gambling disorder and bipolar spectrum disorder

Pharmacotherapy

- **N-acetyl cysteine**
 - Glutamate modulator
 - Small study with trend to some positive results
- **Memantine**
 - D-aspartate N-methyl receptor antagonist w indirect glutamate effects
 - Open-label trial with + results

Pharmacotherapy

- **To be studied:**
 - Psilocybin; MDMA
 - Ketamine
 - Tolcapone-COMT inhibitor
 - Glucagon-like peptide 1 (GLP-1) agonists

Neurostimulation

- Transcranial Magnetic Stimulation (TMS)
- Transcranial Direct Current Stimulation (tDCS)
- Studies to date (@ 10) have primarily looked at variables related to gambling.
 - Urges, craving, cognitive flexibility, decision making, gambling behaviors
 - No data on impact on real-life gambling behavior
- Evidence that rTMS may reduce craving and tDCS may improve decision making

Special Case

- **Pramipexole (Mirapex); Ropinirole (Requip)**
 - Dopamine-2 full agonists
 - Used to treat Parkinson's Disease & RLS
- **Aripiprazole (Abilify)**
 - Dopamine-2 partial agonist
 - Used to treat bipolar disorder
- Multiple case-reports of patients that have developed gambling problems (& other impulse control problems)
- Fewer reports with other D-2 agonists

Psychotherapy

49

- **Cognitive Behavioral Therapy**
- **Motivational Interviewing**
- **Mindfulness-based Interventions**
- **Self-directed Interventions**

Gamblers Anonymous

- Founded In 1957 By Jim W.
- 12 Steps
 - Similar to AA
- Open & Closed Meetings
 - Not as many open meetings secondary to legal concerns
- Pressure Relief Group
 - Not Found In AA
 - Gambler And Spouse Meet With GA members
 - Bring in income and debt information
 - The group works out a budget to repay those owed money
- Also GamAnon for loved-ones



Voluntary Exclusion Program (VEP)

- A self-limiting, exclusion tool for individuals who find themselves at-risk for gambling problems.
- Operated by Maryland Lottery & Gaming Control Agency
- Maryland gaming venues
 - 6 Maryland casinos, 6 of Maryland's instant bingo facilities, Maryland Lottery, Sports betting venues
- “Lifetime” or “2-year” commitment
 - To get off, must complete a Healthy Lifestyle Choices Workbook; can meet with a counselor

**Cumulative Enrollment in the Voluntary Exclusion Program
By Type of Gambling
2018-2022**

	<u>Casino</u>	<u>Lottery</u>	<u>Instant Bingo Hall*</u>	<u>Daily Fantasy (Opened October 2022)</u>	<u>Sports Wagering (Opened October 2022)</u>	<u>Total</u>
2018	1,975	332	14			2,321
2019	2,342	396	23			2,761
2020	2,438	420	39			2,897
2021	2,524	474	127			3,125
2022	2,704	548	250	8	9	3,519

* General application added bingo as a separate option in 2020.

MCEPG



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No Cost Training, Events, Webinars
Reimbursement available for providers

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recovery need the support
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SPORTS BETTING IN MARYLAND

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The Maryland Center of Excellence on Problem Gambling

- 24/7 Call Center/Referral Services
- Peer Recovery Specialist Program
- Training & Professional Education
- Clinical Consultation & Supervision
- Public Awareness
- Prevention Programs
- Policy Development
- Research

The Maryland Center of Excellence on Problem Gambling

Gambling Peer Support

Gambling recovery does not need to be a solo journey...
Have the conversation with someone who "has been there?"

Gambling Peer Recovery Specialists help individuals limit, control, or stop their gambling by connecting them to the most useful resources in their communities.

Peers have lived experience in addiction and can support your path to recovery by:

- Helping you access treatment or referral to find your gambling, or stop it all together.
- Connecting you to resources whenever you feel in Maryland that will support your recovery process.
- Providing continued support and encouragement so you can continue to work toward your goals.

HELPING IS FREE & CONFIDENTIAL 24/7
1-800-GAMBLER
CALL US TODAY AT

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TEXT US: 813-626-6272
CHAT WITH US: helpygamblingproblem.org
Scan code to learn more

Resources

**Maryland Center of Excellence
on Problem Gambling**

www.MdProblemGambling.com

800-GAMBLER

National Council on Problem Gambling

www.ncpgambling.org

Gamblers Anonymous

www.gamblersanonymous.org



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