GAMBLING AND PUBLIC HEALTH

A GUIDE FOR **POLICYMAKERS**

Edited by Christine Reilly

NCRG

NATIONAL CENTER FOR RESPONSIBLE GAMING

Advancing Research, Education and Awareness

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FOREWORD

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"Both scientific and political efforts will be required to ensure that the fruits of research are disseminated efficiently to those who most need it."[1]

Science and Policy

Scientists have estimated that it takes an average of 17 years for the translation of research findings into clinical practice and public health policy. The situation becomes even more dire in emerging fields of research, such as the study of the mental health problem, gambling disorder. Then called "pathological gambling," gambling disorder was not recognized by the American Psychiatric Association until 1980[2], and research on this disorder did not gather steam until the late 1990's.[3] Compared with the other addictive disorders, public awareness of gambling disorder as a mental health condition remains low.

The National Center for Responsible Gaming (NCRG) wants to reduce the time lag between science and practice in the field of gambling disorder. This goal is grounded in our mission of helping individuals and families affected by gambling problems through the support of high quality, scientific research and the dissemination of that research to practitioners and policymakers. This publication, *Gambling and Public Health: A Guide for Policymakers*, represents an important step toward the fulfillment of our strategy to ensure that research data, rather than sitting on the shelf, informs public policy. It was written for those who shape public health policy on gambling disorder—elected officials, public health professionals, state health department directors, and gaming regulators. We hope that policymakers—especially

those in jurisdictions legalizing new forms of gambling—will use this guide as a blueprint and reference when exploring how to reduce gambling-related harms.

The content of this guide reflects a conscious effort to rely on rigorous research published in peer-reviewed scientific journals rather than unpublished "gray literature" or junk science that pervades public discourse on gambling and gambling disorder. As the editorial board of the *Journal of Gambling Studies* declared in 2001,

> While all research deserves a measure of scientific skepticism, unpublished research is particularly suspect. While it might be comparable to its published counterpart, the burden of proof for such a claim resides with the documentation of the unpublished work. Absent such detailed evidence, unpublished research represents little more than opinion.[4(p2)]

There are several compelling reasons why public health policy should be based on peer-reviewed, published scientific research:

1) Scientific research is universally acknowledged as the foundation for sound public health policy.
2) Rigorous scientific research provides a bulwark against biased, advocacy-driven research or "pseudoscience."
3) Health insurers increasingly require the use of "evidence-based practices."

Gambling as a Public Health Issue

What does it mean to look at gambling through the public health lens? To understand this, we need a historical perspective. The public perception of gambling disorder has evolved considerably over the past century. Similar to the perception of alcohol and drug use disorders, "gambling addiction" or "problem gambling" was once seen as evidence of a weak will or a moral failing. A big advance toward understanding "gambling addiction" as a "disease" or disorder came with the founding of Gamblers Anonymous® in 1957, based on the 12-Steps program of Alcoholics Anonymous. However, it was not until 1980 that "Pathological Gambling" was recognized by the American Psychiatric Association in the *Diagnostic and Statistical Manual (DSM-III).*[2] The narrow, clinical model, with its emphasis on the individual, dominated thinking about gambling and gambling disorder for a number of years until 1999 when Korn and Shaffer[5] argued for a public health approach to gambling:

> Unlike narrower clinical models of gambling, a public health perspective addresses all levels of prevention as well as treatment and rehabilitation issues. It promotes the welfare of individuals by fostering healthy, strong and safe families, communities, and workplaces. It views the individual within a social milieu and explores the influence of cultural, family, and community values on behavior. It looks not only at the behavior of individuals but at organizational and political behavior. It examines public policy (e.g., income, education, health care, and employment) and asks whether the policy fosters or discourages health. It views behaviors along a health-related continuum (i.e., health enhancing or illness producing, rather than as the sick/well dichotomy of health care practice).[5(p306)]

Contents of *Gambling and Public Health: A Guide for Policymakers*

The chapters of this publication focus on **questions** typically asked by elected officials, public health professionals, state health department directors, and gaming regulators tasked with reducing gambling-related harms in the community. The **answers** come from the body of published literature on gambling disorder. Researchers with expertise in gambling disorder played a key role in formulating these answers at the "State of the Science Meeting," hosted by NCRG in 2016. We thank the participating scientists, listed in Appendix A, for their service.

The NCRG also recognizes the Advisory Committee for the Public Health Initiative. This diverse group, composed of researchers, public health specialists, and other stakeholders concerned about the impact of gambling, helped us shape and edit this publication. A list of Advisory Committee members is included in Appendix B.

We are also grateful to the contributors to this publication who are listed in Appendix C.

Finally, we recognize the role that the donors to NCRG have played in making such initiatives possible. A list of current contributors is provided in Appendix D.

The NCRG hopes that this guide proves valuable as states and communities strive to reduce gambling-related harms.

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CHAPTER 1

LESSONS FROM THE TRENCHES: THE IMPORTANCE OF RESEARCH IN MAKING PUBLIC POLICY

By Massachusetts State Senator **Jennifer L. Flanagan**

Gaming is an industry that garners a variety of emotions from the general population, regardless of its undeniable popularity. As the gaming industry grows and changes with the times, legislators have been asked to take on the topic of internet gambling. Given that we are in the midst of a generation of people who rely on the internet for everything from banking to groceries, it is not surprising that gaming would also naturally move toward an internet-based market. This booming business is the next in a line of topics that legislators are now having to take on to ensure that this new form of entertainment is regulated properly for each of our states.

Given the novelty of this industry, there is little evidence to guide us. We cannot use information that has been tracked because there is little data to pull from. We have seen a couple of states enter this arena, but as a whole there is a lot to learn. As policy makers who are comfortable looking at facts to guide us, this can certainly be a challenge. However, we can look at the small amount of scientific research available and probable outcomes. This research is the only leg that legislators have to stand on in regard to trying to create evidence-based policy. In fact, this research will be of great help as we begin our legislative sessions, and start to address budgets for the upcoming fiscal year.

Gambling disorder is of the most concern when we discuss internet gambling. Public health policy and research are crucial to developing strategies to prevent problem gambling. Internet gambling is a booming business that has attracted many interested participants thus far. Many of these participants are able to maintain a responsible level of gambling. However, as with anything else, there are others who will be at risk or have a problem with gambling. The key is to ensure that as state lawmakers we provide resources where they are needed and programs accessible to the constituency.

As legislators, we want to make sure that all states have the resources necessary to combat problem gambling. Disordered gambling would detract from the revenues and the progress we hope to gain by embracing an industry like internet gambling. Leaders want to be sure that policy and procedures are in place to prevent people from developing gambling addiction, which can often lead to social consequences such as financial, family, and professional problems. Policy makers want to have the facts, so that they are not inadvertently leading people in the wrong direction. This is specifically true given the new type of access people will have with internet gambling.

As lawmakers, we have to tackle the difficult subjects in our chambers even when we do not want to. The key is to provide an industry in which people can participate, but in a reasonable and moderate manner. I want to look at the facts and figures and determine how, to the best of my ability, I can ensure that I am making responsible decisions for my constituency. When considering these possibilities, legislators look to public health policy to embrace preventative measures and create solutions that make sense for each of their states.

CHAPTER 2
GAMBLING: A PUBLIC HEALTH PERSPECTIVE

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Gambling disorder is a complex phenomenon in our society that impacts individuals, families, and communities. Historically, it has been an understudied field, and the level of societal impact is not well understood. Although we have seen a great level of growth in the research on gambling disorder, there are still more questions than answers. An area of great interest is the impact of gambling beyond individual experiences. With the rapid growth of gaming and gambling opportunities, the level of public health interest has intensified; specifically, how social, cultural, and economic factors are associated with problem gambling.

Strategies to address gambling from a public health perspective must be centered on data and empirical evidence. The data and evidence must also take into account the historical disconnect of the gambling field from community level experiences of gambling and communities of color. Taking into consideration such factors—ethnic, socio-economic, and cultural—allows for an expanded understanding of the distribution of gambling, from social gambling to gambling disorder. Research indicates differential factors that influence an individual's motivation to gamble. For example, individuals with a lower socio-economic status might gamble to escape poverty; whereas individuals with higher socio-economic status might gamble for entertainment. Due to these disparities, effective public health strategies and policy around gambling disorder must consider these crucial factors.

While addiction is a marginalized issue, gambling is further marginalized within those margins.

The Massachusetts Department of Public Health (DPH) is undertaking a variety of efforts in order to mitigate the harms associated with gambling in the Commonwealth. For example, as an important step in DPH's gambling prevention efforts, a regional planning process has been developed with the intention of facilitating community engagement strategies to inform gambling prevention services. One aspect of the community engagement strategies focuses on identifying community stakeholders within at-risk populations to engage their perspective to inform gambling prevention services and messaging. In theory, creating a comprehensive community engagement strategy allows for a diverse level of perspectives that is culturally appropriate and community centered in the planning and development of prevention services. A benefit of such an approach is that it creates a much more inclusive and diverse strategy that can better inform prevention services in order to reduce the incidence of gambling disorder. This is one step in the challenges that we face across the continuum of care: prevention, intervention, treatment, and recovery. On another note, while addiction is a marginalized issue, gambling is further marginalized within those margins. In other words, gambling disorder is rarely recognized and most often overlooked. Research estimates that 75% of problem gamblers have a pre-existing mental health or substance-related disorder prior to the onset of a gambling disorder.[1] Research also identifies substance-related disorders or mood disorder among rates most often associated with problem gamblers.[1] These rates identify the need for the integration of gambling within behavioral health.

One of the challenges of integration is breaking down clinical silos and incorporating integrated clinical services for the wellness of clients. Traditionally, clinicians specializing in gambling disorder have advocated for

gambling-specific services, rather than the integration of gambling within substance abuse services. The risk of such efforts is creating additional silos. This non-integrative approach could result in a missed opportunity to provide comprehensive care to individuals who might be at-risk for or have a gambling disorder.

As a step to ensure a comprehensive and integrated care for gambling disorder, in 2004, DPH established the Massachusetts Department of Public Health's *Practice Guidelines for Treating Gambling Related Problems.*[2] The treatment guide was intended to provide a public health perspective on gambling disorder and assist clinicians with the identification, assessment, and treatment of disordered gambling. Specifically, this set of practice guidelines is intended for professionals in the Commonwealth of Massachusetts who provide counseling for adults at-risk, affected by, or suffering from health-related gambling problems. In addition, the document addresses the following three areas of clinical concern: 1) counseling issues with special populations, (2) intervention strategies in differing practice settings, and (3) the role of pharmacotherapy in the treatment of gambling disorders. The *Practice Guidelines* is a key reference for clinicians to ensure that all clients receive the optimal level of care and services and an opportunity to further their understanding of gambling disorders from a public health approach.

The field of gambling has historically focused on the individual experiences and characteristics of disordered gamblers. While this has led us to a better understanding of disordered gambling, much more is needed to expand our knowledge beyond an individual's experience with gambling. By expanding the lens, we can explore the relationship of individuals, their environments, and gambling behavior. This triad of interactions is the cornerstone of a public health perspective. Adopting this lens can contribute to our understanding of individual risk (cultural, ethnic, and experiences) and protective factors,

which will promote the highest level of health.

Approaching gambling from a public health perspective promotes the examination of health-related phenomena through a population-base lens.[3] The examination of the gambling phenomena and key demographics allows us to go beyond treatment strategies to consider primary, secondary, tertiary prevention strategies. The capacity to determine how gambling is interconnected to the social determinants of health and health disparities and its impact on marginalized communities, allows us to develop efficacious interventions, inform policy, and develop a public health response that is culturally appropriate and community centered.

RECOMMENDATIONS

- Utilize community engagement strategies and empirical evidence to inform public policy relating to gambling.
- Integrate gambling disorder within behavioral health services, with a specific focus on health disparities in order to improve overall health outcomes.
- Identify measures to better inform cultural competency and health disparities.

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CHAPTER 3
IDENTIFYING A GAMBLING DISORDER

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How do we know if someone has a gambling disorder? What instruments do we use to identify a disordered gambler? This chapter will discuss recommendations for screening and the current diagnostic code for gambling disorder, as defined by the American Psychiatric Association's updated system, the *Diagnostic and Statistical Manual of Mental Disorders*, 5th Edition, *DSM-5.*[1]

IDENTIFYING GAMBLING DISORDER THROUGH SCREENING

Screening for potential health problems has become commonplace. For example, people are now routinely screened for high blood pressure, cholesterol levels, and cervical cancer. However, routine screening for gambling disorder is not done for several reasons. First, a low rate of treatment seeking by disordered gamblers has been documented in studies in the United States and other countries. For example, in an analysis of two U.S. national surveys, "only 7%–12% had ever sought either formal treatment or attended meetings of Gamblers Anonymous."[2(p297)] The low rate of treatment-seeking among disordered gamblers means that few people present themselves for screening.

Second, gambling disorder is a low base rate disorder compared with, for example, depression and alcohol use disorder. In other words, while 1% of the US adult population can be diagnosed with a gambling disorder, as many as 9% have a current problem with a mood disorder

such as depression.[3,4] Consequently, mental healthcare providers and public health professionals may not feel the urgency of screening for a relatively rare disorder or not have access to the latest research on screening for gambling disorder.

A third issue is that it is rare for a healthcare professional in the U.S. to receive training about this disorder while in graduate or medical school. With little or no knowledge about the health issues associated with a gambling problem, it is not surprising that this topic is ignored in mainstream health clinics.

However, approximately 50% of disordered gamblers *are* in treatment for other psychiatric disorders according to the National Comorbidity Survey Replication (NCS-R). The authors concluded that:

> Even though none of the NCS-R respondents with lifetime PG ever received treatment for gambling problems, nearly half received treatment for some mental or substance problem. Given that three-fourths of PG cases occur only subsequent to the onset of other *DSM-IV* disorders, one might think onset of PG could be prevented if clinicians increased their monitoring for emerging gambling problems.[3(p9)]

Moreover, the routine screening of a gambling problem among individuals with substance use disorders, other mental disorders, and other at-risk groups, is also supported by this study as well the NESARC (National Epidemiologic Survey on Alcohol and Related Conditions), which concluded that screening for gambling should be considered for individuals seeking treatment for other psychiatric disorders in view of the high rate of comorbidity with other mental disorders.[5] The NESARC and NCS-R findings highlight the need to expand identification of disordered gamblers and to reduce or remove barriers to seeking and receiving treatment for this disorder.

Brief Screens

Brief screens—questionnaires that take 1 minute or less or have 5 or fewer items—are important because healthcare providers face significant time and financial constraints. A brief screen should accurately identify the most people in need of treatment without generating false positives. The brief screen should narrow down the number of people who will be referred for the more time-intensive and costly comprehensive assessment. If someone obtains a positive result on a brief screen—that is, the brief screen indicates a gambling problem—the person should be referred for a more comprehensive gambling disorder assessment.

Brief Screens for Gambling Disorder

Several brief screens that have been well-researched for accuracy are available:

- Lie-Bet Screen
- NODS-CLiP
- NODS-PERC
- Brief Biosocial Gambling Screen (BBGS)

A complete analysis, including the pros and cons of each of these screens is available in the NCRG monograph, *What Clinicians Need to Know about Gambling Disorders,* available for free download at www.ncrg.org/resources/monographs.

The NCRG recommends the use of the BBGS for the following reasons:

- The BBGS was developed on the basis of the three most endorsed criteria for "pathological gambling" in the NESARC survey of a 43,000 nationally representative random sample.[6]
- Independent evaluation for its relevance to the changed diagnostic criteria in *DSM-5* found that the BBGS maintained its accuracy in identifying a gambling disorder.[7]

- An independent study of the use of BBGS in substance use treatment settings found that the BBGS had the best accuracy compared with other brief screens.[8]
- The BBGS has a time frame of 12 months rather than lifetime, which is more clinically useful when seeking to find out if person has a current problem. This "current" time frame also reduces the number of false positives.

The Brief Biosocial Gambling Screen (BBGS)[6(p585)]

- During the past 12 months, have you become restless, irritable or anxious when trying to stop/cut down on gambling?
- During the past 12 months, have you tried to keep your family or friends from knowing how much you gambled?
- 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?

Answering "Yes" to any one item suggests the presence of a gambling disorder and need for further assessment.

An interactive, online version of the BBGS is available at www.divisiononaddiction.org. This can be useful for public health departments that wish to provide a link to a confidential, online screen on their websites. Also, NCRG has made available the BBGS in magnet form, suitable for attaching to file cabinets in clinics. The free magnets can be obtained by contacting the NCRG (978-338-6610; info@ncrg.org).

SOGS and GA-20 Questions?

Why are the South Oaks Gambling Screen (SOGS)[9] and the Gamblers Anonymous 20 Questions not included in the above section? First, both are relatively long for a screener; as noted above, there are much shorter, sound screens available. Second, SOGS is considered outdated by scientists. It was based on *DSM-III* and has a relatively low correlation with *DSM-5.*[10] Third, a SOGS score tends to result in high rates of false positives—a problem in a clinical setting where time and financial restraints prevail. Fourth, there is no scientific evidence to demonstrate that the GA [20] Questions—based on a help-seeking sample not representative of most disordered gamblers—provides an accurate assessment.

THE *DSM-5:* FROM PATHOLOGICAL GAMBLING (PG) TO GAMBLING DISORDER

What's next if a client responds positively to a brief screen? Clinicians typically use a detailed clinical interview (sometimes aided by structured ones available in the research literature) to determine if the person meets the official diagnosis of a "Gambling Disorder," based on the American Psychiatric Association's (APA) *Diagnostic and Statistical Manual of Mental Disorders (DSM).* The most recent edition—*DSM-5*, published in 2013—offered important changes for the diagnostic code of "Pathological Gambling," (PG) first included in the *DSM* in 1980.[1, 11]

Renaming: From Pathological Gambling to Gambling Disorder

Officially changing the name to "Gambling Disorder" (GD) in *DSM-5* was a welcome revision for many researchers and clinicians who have expressed concern that the label "pathological" is a pejorative term that only reinforces the social stigma of being a "problem gambler."[12]

Reclassification

In the *DSM-IV,* "Pathological Gambling" was classified under the section titled, "Impulse Control Disorders Not Elsewhere Classified," along with Compulsive Hair Pulling (Trichotillomania); Intermittent Explosive Disorder; Kleptomania; and Pyromania.[13] The *DSM-5* moved GD to the section, Substance-Related and Addictive Disorders and classified as a Non-Substance Related Disorder.[1]

The rationale for this change was the growing scientific literature on gambling disorder that has revealed common elements with substance use disorders. Many scientists and clinicians have long believed that disordered gamblers closely resemble individuals with alcohol and other drug problems. Now, neuroscience research is substantiating these commonalities. According to Dr. Charles O'Brien, chair of the Substance-Related Disorders Work Group for *DSM-5,* brain imaging studies and neurochemical tests made a "strong case that [gambling] activates the reward system in much the same way that a drug does."[14] Disordered gamblers report cravings and highs in response to their stimulus of choice; personal and social problems arise from indulgence in this addictive behavior; and it also runs in families, often alongside a family history of substance use disorders. As observed by Petry et al.[11], other research findings have also documented the close relationship between a gambling disorder and substance use disorders:

- Similar symptoms such as tolerance and withdrawal.
- Both disorders show high rates of comorbidity in both epidemiological surveys and clinical samples.
- Common genetic vulnerabilities associated with similar biological markers and cognitive deficits.
- Treatments that have shown promise for gambling disorder are based on those for substance use disorders.

Note, however, that the *ICD-10,* the World Health Organization's International Classification of Disease, is due to be updated in 2018. Will the *ICD-11* follow the

DSM-5 on the reclassification of "Gambling Disorder" as an addiction? Or, maintain its status as an impulse control disorder?[15]

Changes in Diagnostic Criteria

The diagnostic criteria for gambling disorder in the *DSM-5* reflect several major changes from the *DSM-IV.* The *DSM-5* reduced the number of criteria required for a diagnosis from 5 to 4. The *DSM-5* also eliminated the criterion, "has committed illegal acts such as forgery, fraud, theft or embezzlement to finance gambling," reducing the total number of symptoms to nine. The rationale for this change is the low prevalence of this behavior among individuals with a gambling disorder. In other words, no studies have found that assessing criminal behavior helps distinguish between people with a gambling disorder and those without one,[16] suggesting that its elimination will have little or no effect on prevalence rates and little effect on diagnosis. Although committing illegal acts will no longer be a stand-alone criterion for diagnosis, the accompanying text in the *DSM-5* states that illegal acts are associated with the disorder.[1] In particular, the criterion related to lying to others to cover up the extent of gambling includes specific mention of illegal activities as a form of lying.

Other changes with the criteria are as follows:

- "Is preoccupied with gambling" is now, "Is often preoccupied with gambling" to clarify that one need not be obsessed with gambling all of the time to meet this diagnostic symptom.
- "Gambles as a way to escape from problems" is now "Gambles when feeling distressed."
- In the text accompanying the criteria, "chasing one's losses" is clarified as the frequent, and often long-term, "chase" that is characteristic of gambling disorder, not short-term chasing.
- Finally, to diagnose a gambling disorder, the symptoms that are displayed by the individual must

occur within a 12-month period, unlike the *DSM-IV* that did not provide a time period for symptoms. In other words, if the person had two resolved symptoms years ago and two symptoms in the past year, he or she would not qualify for a diagnosis.

What's in a Name? Plenty!

Confused by the many terms used to describe gambling addiction? You're not alone. Reflecting the "conceptual chaos" of an emerging field, these terms include "problem gambling," "pathological gambling," "compulsive gambling," and "probable pathological gambling."[17]

We strongly recommend more consistency in the use of the term "Gambling Disorder," and its related term "disordered gambling," by scientists, clinicians, public health departments, related agencies, and media for several reasons:

- The public and the media seem confused about the multitude of different terms.
- An outdated term such as "compulsive gambling" implies that gambling disorder is part of the Obsessive-Compulsive spectrum—which is not a well-substantiated link, although this was an area of early research.
- The term "pathological" further stigmatizes the person with a gambling disorder.
- The use of the term "problem" as an official descriptor is not found in any of the *DSM* editions with reference to other disorders (e.g., there is no "Problem Schizophrenia" or "Problem Substance Use"). Rather, it is a label used by some researchers to identify either those who have met some symptoms of disordered gambling but not enough to qualify for a diagnosis or to reflect a broad group that includes these "subclinicals" and those with a diagnosis. Instead, researchers should consider the levels system proposed by Harvard Medical School researchers.[17]

The term "disorder" not only places a gambling disorder firmly in the context of all mental disorders defined in the American Psychiatric Association's *DSM-5,* but also conveys the disorder that characterizes the lives of individuals experiencing problems as a result of their gambling.

Other Changes in the Diagnostic Code

For the first time, the *DSM* recognizes that gambling disorder exists on a spectrum with symptoms ranging from mild to severe. The *DSM-5* specifies the following in terms of severity[1]:

- Mild: 4-5 criteria met
- Moderate: 6-7 criteria met
- Severe: 8-9 criteria met

RECOMMENDATIONS

- Consider incorporating brief and accurate tools to screen for a possible gambling disorder as part of routine health intake procedures at primary health clinics, as well as at substance abuse and mental health treatment programs.
- Use the Brief Biosocial Gambling Screen.
- Continue supporting research on the validity and utility of all brief screens.
- Follow the *DSM-5* criteria to determine the presence of a gambling disorder.
- Replace outdated and confusing terms with "gambling disorder."

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CHAPTER 4

IS THE ERA OF STATE PREVALENCE STUDIES OVER?

ALTERNATIVE APPROACHES

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State governments want to know how many people in their state have a gambling disorder, especially when a new form of legalized gambling is introduced to the jurisdiction. The most common research commissioned by state governments on gambling is a prevalence study using traditional telephone survey methodology. A prevalence study estimates the rate of the disorder in a particular place, at a particular time. It offers a snapshot of how many people have the disorder.

LIMITATIONS OF TRADITIONAL PREVALENCE SURVEYS

However, typical state prevalence studies using traditional telephone surveys have several limitations.

Lack of sufficient funds

States tend to under-fund telephone surveys, perhaps not realizing that low prevalence disorders, such as gambling disorder (approximately 1% of the adult population nationally[1]) require much larger samples to obtain accurate prevalence data than, let's say, a study of mood disorders such as depression (national rate of about 9% of the adult population[2]). Other factors that drive up the cost of telephone surveys include technology such as caller ID and the increasing use of cell phones, especially by the

subpopulations most vulnerable to developing gambling problems—namely, young adults and some minority groups. According to the American Association of Public Opinion Research (AAPOR), "the cost per completion in a U.S. RDD cell phone survey is most often at least twice that of a completion in a U.S. RDD landline survey, and under certain design conditions can be three or four times as expensive."[3] (RDD stands for Random Digital Dialing, a method for selecting people for involvement in telephone statistical surveys by generating telephone numbers at random.)

Low response rates

As mentioned above, response rates to telephone surveys continue to decline because of caller ID, cell phones replacing traditional landlines, a general reluctance to take calls from unknown callers, and the reluctance of certain subpopulations, especially ethnic and racial minorities, to respond to surveys. While research on the relationship between response rates and survey bias has become more complicated over the past several years, it is clear that low response rates have the potential to introduce significant bias into survey results. These high levels of non-response bias can undermine research findings, complicating or negating the usefulness of the research for public health decision making.

Prevalence Studies Do Not Answer All Questions

Prevalence rates offer a snapshot in time. A one-time survey will not offer evidence of new cases of the disorder or indicate the effectiveness of public health interventions over time. Moreover, the low rate of treatment-seeking among disordered gamblers—only 7% to 12% seek outside assistance[4]—means that the need for treatment resources cannot be simply extrapolated from the prevalence rate. To do so, runs the risk of allocating an excessive number of resources for treatment that will go unused, suggesting to the public that the problem is exaggerated.

General population prevalence surveys also generally do not have large enough samples of certain minority

groups to provide actionable information related to the health of those groups. Thus, gaps in knowledge exist for racial and ethnic minority groups, certain age cohorts like adolescents or the elderly, or groups that are particularly difficult to reach, such as military veterans or individuals experiencing homelessness. This weakness in the data is particularly important as many minority subpopulations might be particularly vulnerable to addictive disorders.

SOLUTIONS

Despite these shortcomings, there are various routes that states can follow to answer questions about gambling involvement and problems in their jurisdictions.

Rely on National Surveys

States can rely on national surveys, which show little deviation between states, to get a rough estimate of how many people in the state gamble and have a gambling disorder. For example, national surveys have estimated rates of gambling disorder from less than 0.5% to 1.5% in the adult population during the past 30 years.[1,5–8] These estimates have been stable over the past three decades from study to study, time to time, and place to place despite the various methodologies employed by researchers. The constancy of these rates—in spite of the dramatic increase in legalized gambling in the United States during this period—counters the conventional wisdom that increased exposure to gambling necessarily results in higher rates of the disorder.[9]

National surveys include the following:

- National Epidemiologic Survey of Alcohol and Related Conditions (sample: 43,000)[8]
- National Comorbidity Survey Replication (sample: 10,000)[1]
- Gambling Impact and Behavior Study, National Opinion Research Center (sample: 2,417)[6]

Add Gambling Questions to Existing Surveys

Adding gambling questions to existing state health surveys can be a cost-effective way to collect data about gambling behaviors and problems in one's state. For example, several states have added gambling questions to the Behavioral Risk Factor Surveillance System (BRFSS) for their state. The BRFSS is the nation's premier system of health-related telephone surveys that collect state data about US residents regarding their health-related risk behaviors, chronic health conditions, and use of preventive services. BRFSS now collects data in all 50 states as well as the District of Columbia and three U.S. territories. BRFSS completes more than 400,000 adult interviews each year, making it the largest continuously conducted health survey system in the world. For more information, visit the Centers for Disease Control and Prevention (https://www.cdc.gov/brfss/).

There are a number of factors that go into determining what questions should be added to existing surveys. In addition to the advantage of using questions from existing and well-researched standardized survey instruments, below are some questions to consider before choosing questions to be added.

- What is the purpose of adding questions about gambling behaviors?
- Are you interested in gathering data on gambling participation, gambling- related problems, or both?
- How many questions will you be able to add to the survey and at what cost?
- What other questions are already included in the survey?
- How often will gambling questions be included in the survey?

After you have answered the above questions you should consult with an expert in gambling research in addition to the researchers administering the survey to which you are adding questions. The NCRG staff is available to provide contact information for qualified experts if necessary.

Analyze Existing Resources

States have access to existing datasets which might be helpful. For example, the All-Payer Claims Data are large-scale databases that systematically collect health care claims data from a variety of payer sources, which include claims from most health care providers on a statewide basis. For more information, contact the APCD Council (www.apcdcouncil.org/).

Another potential data set is self-exclusion. Casino self-exclusion programs, which provide gamblers with the opportunity to voluntarily seek limits on their access to gambling venues, can serve as a barometer of the concentration of disordered gambling in an area.[10]

RECOMMENDATIONS

- Consult with qualified epidemiologists. You will find epidemiologists—public health specialists who study patterns of disease and disorders in a population—at your state department of health or at local universities. They can help shape the research methdology needed to answer your state's questions.
- Publicize the bid beyond state borders. If your state wishes to commission a study, consider promoting the request for proposals (RFP) outside your state, if allowed, and be sure to connect with sponsored research offices at major research universities and with scientists with an interest in this topic. The NCRG operates a robust research program and is happy to help with disseminating information about RFPs to the right audience. (Contact Christine Reilly at creilly@ncrg.org.)
- Use rigorous, peer review to evaluate proposals submitted, following the criteria for scientific merit established by the National Institutes of Health. The NCRG is happy to consult on peer-review procedures and policies. (Contact Christine Reilly at creilly@ncrg.org.)

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CHAPTER 5

WHO IS AT RISK? FACTORS IN THE DEVELOPMENT OF A GAMBLING DISORDER

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To predict who might be at risk for a gambling disorder, we first need to understand the various influences at play in the development and maintenance of the disorder. In this chapter, we will examine some of the biological, psychological, social, and ecological factors that might contribute to an individual's inclination to gamble excessively and develop a gambling disorder.

ADDICTION AS A SYNDROME MODEL

The latest research consistently affirms the view that you cannot understand gambling disorder outside of the other addictive disorders. In this light, it is helpful to examine the "syndrome model" of addiction, developed by Howard J. Shaffer and colleagues at Harvard Medical School.[1] According to this model, there are shared neurobiological, psychological, and social risk factors that influence the development and maintenance of different expressions of addiction. The risk factors are similar for both substance-based disorders, including alcohol and drug dependence, and for behavioral or activity-based addictions, including a gambling disorder. One person with a substance use disorder and another with a gambling disorder are experiencing disorder-specific, but analogous, expressions of the same underlying condition. The syndrome model

seeks to explain certain realities that treatment providers have been encountering for years: the fact that addictions often co-occur; phenomena like "addiction hopping"; and the fact that addictive disorders with different objects appear to respond positively to similar treatments.

NEUROLOGICAL AND BIOLOGICAL RISK FACTORS

Although technological advances in brain imaging, drugs, and genetics emerged in the late 20th century, the recognition that gambling disorder has a neurobiological component pre-dates these advances. Both scientists and clinicians have previously observed that people diagnosed with a gambling disorder experience negative biological consequences.[2] For example, just like individuals with drug dependence who develop tolerance for the drug and, therefore, need higher doses of the drug to experience the desired mood or feeling, those with gambling problems often need to gamble increasing amounts of money to achieve the same level of excitement experienced at lower levels of wagering. When an individual attempts to reduce or stop gambling, he or she might experience symptoms of withdrawal. This process is called neuroadapation and refers to changes in the structure and function of the brain.[2] Among others, this discovery led researchers to further investigate the various aspects of the neurological and biological factors that predispose a person to developing a gambling disorder.

Genetic Vulnerability

Research has shown that a number of psychological disorders, including addictive disorders and depression, run in families.[3,4] This is the case for gambling disorder. Also, family studies have consistently demonstrated that disordered gamblers have elevated rates of parents, children, or siblings with substance use disorders, suggesting a possible shared genetic vulnerability

between gambling disorder and other addictions.[5] These family studies, as well as twin studies, suggest that genetic factors create a biologically based vulnerability toward developing a gambling disorder. However, family and twin studies also support the view that environmental factors are also etiologically important. Whereas it is difficult to determine how much relative influence the genetic and environment factors have on the origins of an addictive disorder, it is generally understood that both sets of factors work together to influence the development of a gambling disorder and other addictive disorders.[1]

Neurotransmitters

One of the ways that genetics may influence the development of addictive disorders is through the transmission of underlying imbalances in the brain's neurotransmitters. Neurotransmitters are chemicals that carry signals to perform the varying functions of the central nervous system. A complex system of neurotransmitters, such as dopamine, serotonin, endogenous opioids and hormones, are responsible for what we feel, how we think, and what we do. Imbalances within this system have been shown to influence both behavioral and substance addictions.

Several neurotransmitters have been implicated in addiction. A salient one is dopamine. Blum and co-authors have hypothesized that an imbalance in dopamine is the root cause for a "reward deficiency syndrome"—a state of dopamine imbalance involving multiple genes that causes an individual to crave environmental stimuli to compensate for the inherent imbalance—regardless of the consequences.[6] In this way, genetically determined levels of a brain chemical can influence the development of an addiction. Understanding the role in addiction of dopamine, and other neurotransmitters, such as serotonin and endogenous opioids, is vital to scientists who are seeking drug interventions for addictive disorders that target these chemicals.

PSYCHOLOGICAL AND SOCIAL RISK FACTORS

The Burden of Co-occurring Disorders

Perhaps the most established fact about gambling disorder is that a large majority of the affected individuals have one or more mental health problems as illustrated in the infographic on page 28. This fact has always been apparent to clinicians who know, for example, that clients with bipolar disorder may gamble excessively during a manic phase and develop a gambling problem. (The *DSM-5* diagnosis for gambling disorder acknowledges that a manic phase might be responsible for excessive gambling.[7]) The largest study that examined the co-occurring disorders among disordered gamblers was the National Epidemiologic Survey of Alcohol and Related Conditions (NESARC) that surveyed 43,000 representative Americans. The NESARC concluded that almost 75% of those diagnosed with gambling disorder had a co-occurring alcohol use disorder, while almost 40% had a co-occurring drug problem.[8]

Gambling disorder is also highly comorbid with other common psychiatric conditions. The NESARC found that people with gambling disorder had very high rates of personality disorders (more than 60%), mood disorders (almost 50%), and anxiety disorders (more than 40%).[8] The fact that so many people with gambling disorder have other mental health conditions raises the question of which disorder occurs first. Is it that problematic gambling behavior is an outcome of some other previously existing condition, such as a depressed person turning to gambling as a means of escape? Or, perhaps a person suffers financial and relationship problems as a result of excessive gambling and consequently develops depression.

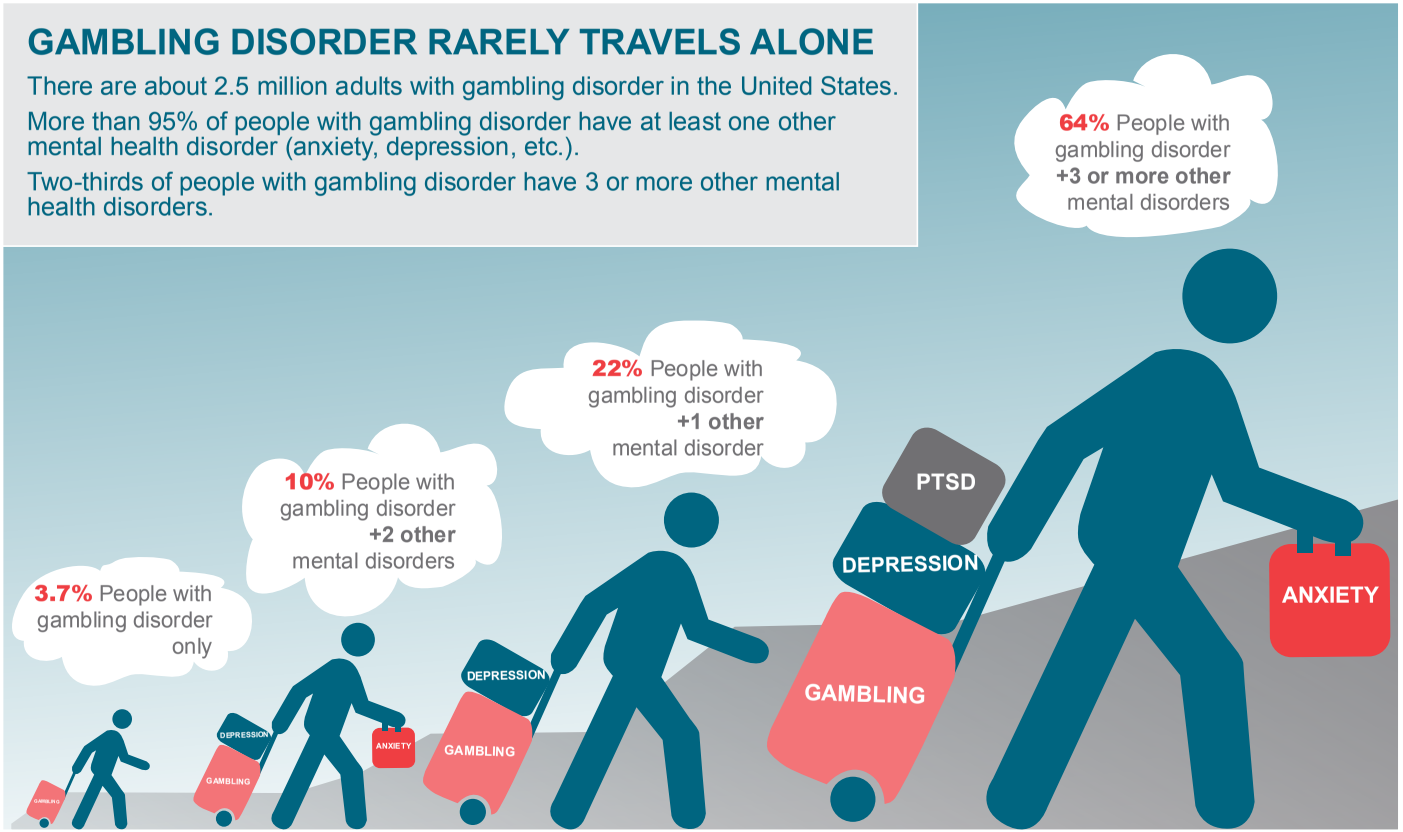
The National Comorbidity Survey Replication (NCS-R) answered these questions in its study of 10,000 representative adults in the US. The NCS-R found that about 25% of the time the gambling disorder occurred before the onset of the other disorder, and about 75% of

GAMBLING DISORDER RARELY TRAVELS ALONE

There are about 2.5 million adults with gambling disorder in the United States.

More than 95% of people with gambling disorder have at least one other mental health disorder (anxiety, depression, etc.).

Two-thirds of people with gambling disorder have 3 or more other mental health disorders.



The data presented show rates of co-occurring disorders in the ~1% of adult Americans who have gambling disorder.
The data comes from the landmark mental health study, the National Comorbidity Survey Replication, conducted by Harvard Medical School and funded by the National Institutes of Mental Health.

the time the Gambling Disorder occurred after another disorder was already present.[9] It is, therefore, vital for clinicians to assess clients who have gambling problems for other psychiatric and addictive disorders. Individuals not treated for a co-occurring disorder may encounter more difficulties resolving their gambling problem.

Demographics

Race and Ethnicity. The National Epidemiologic Survey of Alcohol and Related Conditions (NESARC) is one of the few national studies focused on the correlation between demographics and gambling disorder. NESARC found that African-Americans are significantly less likely to engage in gambling than Caucasian Americans but significantly more likely to have a gambling disorder.[10] In contrast to previous studies, NESARC found a rate of gambling disorder among Hispanics closer to that of Caucasians.[10] Unfortunately, the survey was unable to collect sufficient data on Asian-Americans and Native Americans, and therefore, the jury is out on whether these groups have rates of gambling disorder higher than the national average.

Youth. Many aspects of problem behaviors emerge during adolescence. Compared with adults or those younger, adolescents are more likely to take drugs and take risks. Experts often refer to adolescence itself as a "time-limited disorder." Past prevalence studies found higher rates of gambling problems among adolescents than in the adult population. Anywhere from 2% to 7% of young people experience a gambling disorder.[11,12]

A University of Minnesota study funded by the NCRG, provides a picture of gambling as young people age from adolescence into young adulthood.[13] The 2002 study found three key factors—at-risk gambling during adolescence, male gender and parents with a history of gambling problems—associated with an increased likelihood of a gambling disorder as a young adult (early 20s). The findings also revealed that participants with

disordered gambling behaviors displayed other risky behaviors, such as alcohol and drug use, smoking, and delinquency, at a higher rate than other teens, with boys exhibiting more risky and disruptive behaviors across the board. The study's authors recommends that males with delinquency, substance abuse problems and a family history of gambling problems should be a priority for screening, research, and prevention strategies because the study's results showed they are at high risk for developing gambling problems as adults.

Males with delinquency, substance abuse problems and a family history of gambling problems should be a priority for screening, research, and prevention strategies.

College Students. College students are also regarded as a vulnerable subpopulation. Recent research has investigated gambling patterns and the relationships between gambling and other risky behaviors, as well as the prevalence of gambling policies on college campuses. While the vast majority of college students who are of legal age to gamble do so responsibly, the most recent research estimates that 75% gambled in the past year and 6% of college students in the U.S. have a serious gambling problem that can result in psychological difficulties, unmanageable debt, and failing grades.[14]

In a 2010 study of 1,000 individuals age 18 to 21, researchers from the Research Institute on Addictions found that college student status did not predict gambling, frequent gambling or problem gambling.[14] According to this study, 6% of college students and 9% of non-college young adults experienced problem gambling, showing an insignificant difference. In contrast, being a college student was associated with higher levels of alcohol use and problem drinking, with 27% of college students experiencing problem drinking compared to 19% of non-college young adults. The strongest predictor of both gambling problems and problem drinking was male

gender. The researchers concluded that young males, regardless of college student status, should be targeted for prevention and screening and intervention efforts for both gambling disorder and problem drinking.

Despite this rate of gambling problems, few institutions of higher education offer policies on gambling. In the first national assessment of gambling policies at colleges and universities, Harvard Medical School researchers found that, while all of the institutions in the nationally representative sample had alcohol policies, less than one-quarter had gambling policies.[15] Alcohol policies that were punitive in nature were the most prevalent, with less than 30% of the schools having recovery-oriented policies. The authors concluded that the relative lack of college recovery-oriented policies suggests that schools might be overlooking the value of rehabilitative measures in reducing addictive behaviors among students. Since there are few college gambling-related policies, schools might be missing an opportunity to inform students about the dangers of excessive gambling.

Older Adults. Adults age 65 and over are the fastest growing segment of the population and often have more time and money to spend on leisure activities, such as gambling. Older adults, especially those in retirement, could be vulnerable to gambling problems because of loneliness, limited financial resources, and decreased cognitive functioning that could lead to poor decision-making. Consequently, researchers have begun to study the health risks of seniors who gamble. Thus far, studies have yielded a mixed picture, with some investigations identifying gambling as a significant health threat to seniors, while others suggest that gambling might provide the benefit of socialization for older adults.[16,17]

Yale School of Medicine researchers analyzed data on 25,000 individuals aged 40 and older from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC).[18] Older recreational gamblers reported better

physical and mental health functioning than older non-gamblers, despite similar levels of chronic illness. The study authors offered two possible explanations: (1) Older adults who function well enough to engage in social activities in the community may be more likely to gamble recreationally. (2) Older adults may find that gambling keeps them social and more active than they might otherwise be; therefore, they realize a health benefit.

Clearly, more research on the vulnerabilities of older adults is warranted. Until evidence to the contrary, however, we should assume that elderly Americans are not at a higher risk for gambling disorder than the adult general population.

ENVIRONMENT

There are numerous environmental factors that have been implicated in whether a person develops an addictive disorder, and even the type of addictive disorder. Environment includes several factors: exposure to objects of addiction, social acceptance, lifestyle, and culture.[19] Social acceptance can either encourage or mitigate the development of a disorder. Strong social acceptance from one's family can be a protective factor against many psychological disorders. However, being in a place where alcohol and other drug use are socially acceptable, like certain college settings, can increase use and, potentially, the development of disordered behavior.

A parallel factor to social acceptance is lifestyle. Lifestyle factors include employment or living situations that encourage or discourage disordered behavior. For example, working at a bar might encourage alcohol use while living in a monastery might discourage it.

Culture can also influence factors related to developing a gambling disorder. Willingness to seek treatment, feelings of social isolation, and the receipt of credit or blame are all culturally bound phenomena that can influence the

development and maintenance of addictive behavior. For example, gambling is a popular pastime in some Asian cultures, which may lead to more exposure to gambling in general, even at a young age. These factors might contribute to higher rates of disorder in these particular communities.[10] These complex factors are not well understood, and more research is needed to unravel these relationships.

Trauma and Stressors. Trauma has been shown to have a strong influence on addictive behaviors. Traumas are relatively common in America, experienced by almost half of the population[19], and trauma-related conditions, such as post-traumatic stress disorder (PTSD), are known to be associated with higher rates of all types of addictive behaviors. Traumas can include natural disasters, violence, physical or sexual abuse, terrorism events, or serious accidents. In addition to discrete traumatic events, evidence also shows that other negative events, such as divorce or marital separation, may be associated with problem behaviors. Although not technically traumatic, these negative events do influence the development of the disorder. In fact, divorce or marital separation has been found to correlate significantly with gambling disorder as discussed in the demographics section above.[8] There are many other non-traumatic life experiences that can cause stress either acutely, as with a job loss, or over a long period of time, such as discrimination related to race, gender, or sexuality. It is also important to remember that traumas and stressors can interrelate and amplify each other. For example, a veteran who suffered a trauma in a combat situation may have a hard time finding a job, which in turn can lead to greater strain on family relationships, increase stress even more and can lead to further traumas and stressors. In fact, new research shows that military veterans may have a higher rate of gambling

Traumas are relatively common in America, experienced by almost half of the population[19]

problems than the adult general population, and should be considered an appropriate target for public health interventions.[20]

Exposure and Proximity. An environmental factor relevant to the gambling field is the issue of exposure and proximity to gambling opportunities. It may seem obvious that exposure is necessary for addiction but it is important to remember that while exposure is necessary for addiction it is not sufficient to cause addiction.[1] If minimal exposure was all that was necessary for a gambling addiction, everyone who ever used a slot machine or played cards for money would become addicted, and we know that this is not the case. About 80% of Americans gamble each year[21], and only about 1% of the US population can be diagnosed with a gambling disorder.[9] That said, exposure to an object of addiction at a young age, exposure to a parent's addiction, or repeated exposure to the object could increase the likelihood of developing an addiction. One recent study found that children of disordered gamblers were 4 times more likely to develop the disorder.[22] As noted above, this figure does not clarify how much of this increased vulnerability is due to genetic and environmental factors; it is likely that both factors work together to increase the likelihood of developing a gambling disorder. For this reason, it is important for mental health professionals to understand their clients' family history.[4,23,24]

Proximity to gambling opportunities continues to be an issue of concern. As mentioned earlier, exposure to gambling, in and of itself, does not necessarily increase the rate of gambling problems. A Laval University study of the impact of a new casino in Canada's Hull, Quebec, region tested the assumption that the rate of pathological gambling is related to the accessibility and availability of gambling activities.[25] One year after the opening of the casino, the investigators observed an increase in gambling and losses. However, this trend was not maintained over time, and the rate of gambling problems did not increase

at the 2 and 4 year follow-ups with the study's subjects. The study authors conjectured that these findings could be evidence that the population adapted to the presence of new gambling opportunities.[25]

A review of previous research by Harvard Medical School researchers revealed insights about the consequences of gambling expansion, as well as the concept of adaptation.[26] The adaptation effect suggests that after initial exposure to gambling resulting in excessive gambling, people and populations adapt to the changed environment and moderate their behavior. Exposure to gambling is required for gambling-related problems to develop, but, the researchers observed, exposure is not the same for all people, all places or all time points. Expansion also does not uniformly or proportionately relate to the prevalence of gambling problems in society; that is, a two-fold expansion of gambling does not necessarily translate into a two-fold increase in gambling-related problems in a population. Factors such as socioeconomic status, personal exposure levels, a region's vulnerability characteristics, and other influences play a role. They concluded that exposure does not seem to create uniform consequences. The experience of one person or community might not generalize to other people or communities. Some of the studies suggest that some people and some places might have adapted to the risks and hazards of gambling.[26]

Some of the studies suggest that some people and some places might have adapted to the risks and hazards of gambling.[26]

Casino Employees and Exposure. A group that is most "exposed" to gambling is casino employees, and that is why many responsible gaming programs and regulations provide for employee training on responsible gaming and disordered gambling. A Harvard Medical School study found that casino employees appear to have a slightly higher rate of gambling disorder than the adult general population.[27] The study authors were not sure

if exposure to gambling on a daily basis or that people with problems were attracted to this line of work account for this phenomenon. But they also found that over a 3-year period, most of the employees moved back toward health rather than to a state of gambling disorder, thereby providing more proof for the adaptation effect.[28] Nonetheless, it is prudent for gaming companies and gaming jurisdictions to require education of employees about the risks of gambling disorder.

RECOMMENDATIONS

- Keep in mind that all mental and behavioral disorders have multiple causes.
- Consider the following subpopulations as potential targets for screening and public health interventions:
  - Individuals with other addictive and psychiatric disorders
  - Individuals with a family history of gambling disorder
  - Children, adolescents, and young adults, especially males
  - African-Americans
  - Casino employees
  - Military veterans
- Link to BetOnU, a free, confidential, online intervention for college students. Organizations are welcome to post a link to it at www.CollegeGambling.org.

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CHAPTER 6

ROADS TO RECOVERY: EVIDENCE-BASED STRATEGIES

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People recover from a gambling disorder in a variety of ways. Approximately 30% recover "naturally," without help from formal treatment.[1] Others find assistance from Gamblers Anonymous®, talk therapy, medication, and help for co-occurring disorders. Despite the numerous strategies available to clinicians, the field has yet to establish a treatment standard or an FDA-approved medication.

With insurers' increasing reliance on evidence-based treatment strategies, research on recovery from gambling disorder has important implications for how we respond to the needs of people struggling with gambling disorder. This chapter will summarize the latest research on recovery.

GAMBLERS ANONYMOUS®

Gamblers Anonymous®(GA) is a self-help fellowship that provides mutual support for individuals experiencing gambling-related problems. GA is based on the 12 Steps of Alcoholics Anonymous (AA). The major goal of this fellowship is to garner from its members a commitment to abstinence from gambling, a lifelong commitment to the principles of GA, and participation in GA meetings.[2] However, few controlled studies have evaluated the effectiveness of 12-step programs. Scientists in the 1970s and 1980s were skeptical that voluntary, peer-led self-

help groups could be studied scientifically.[3] Fortunately, researchers have resolved many of the methodological challenges of such research. The results are showing positive outcomes from the use of 12-step programs for those with an alcohol use disorder.[4,5] In the field of gambling, a University of Connecticut study included GA as one of the interventions compared with Cognitive Behavioral Therapy.[6] This research suggests the promise of combining Cognitive Behavioral Therapy with attendance at GA meetings. However, more research is needed to provide evidence for the role that GA plays in recovery.

ASSISTED RECOVERY: TALK THERAPY

Because of the lack of clinical trials of treatment programs for gambling disorder, health care providers have had to borrow clinical strategies designed for similar mental health problems, such as alcohol use disorder, or rely on anecdotal information when developing treatment plans.[7]

> ... [T]each the client healthy behavior patterns to implement skills and strategies to change those thinking patterns and to interrupt addictive behaviors.[8]

Researchers are now beginning to make significant inroads in their search for evidence-based treatments. The approach with the most empirical support from randomized trials is Cognitive Behavioral Therapy (CBT).

This semi-structured, problem-oriented approach focuses on challenging the irrational thought processes and beliefs that are thought to maintain compulsive behaviors and to teach the client healthy behavior patterns to implement skills and strategies to change those thinking patterns and to interrupt addictive behaviors.[8] The therapist facilitates the replacement of dysfunctional emotions, thoughts and behaviors through a series of goal-oriented, explicit, systematic procedures,

which include thought-replacement, role playing, desensitization, relaxation techniques, and homework assignments. Often a client is asked to keep a diary of significant events and associated feelings, thoughts, and behaviors in order to gain insight into what triggers the unhealthy thoughts and behaviors, and to record the pros and cons of trying new ways of behaving and reacting to cravings. In the case of applying CBT with a person with a gambling disorder, an additional feature would involve how to properly manage finances and address financial problems resulting from gambling debts. Attention to financial issues is important for initial abstinence but are also essential for relapse prevention.

DRUG THERAPY

Several lines of research support the view that biological vulnerabilities can contribute to the development of a gambling disorder. For example, a vulnerability might be insufficient levels of chemicals in the brain that regulate mood and judgment. If a low mood is elevated by an activity like gambling, the person could indulge in gambling activity and, for some, develop a gambling problem. Furthermore, the common co-occurrence of depression and other psychiatric problems with a gambling disorder underlines the importance of exploring drug treatments.

Although no medication has received regulatory approval as a treatment specifically for gambling disorder, multiple double-blind clinical trials of various drugs have demonstrated the superiority of some active drugs to placebo. The medications with the strongest empirical support are naltrexone and nalmefene, the opioid receptor antagonists shown to be effective for decades among patients with alcohol and other drug dependent disorders.[8] Research has shown that these drugs blunt the craving for gambling in disordered gamblers.[9]

The picture is less clear with SSRIs (selective serotonin reuptake inhibitors), commonly used to treat depression. Similarly, investigations of glutamatergic treatments and other available medications under consideration for re-purposing as treatment for gambling disorder remain preliminary.

BRIEF INTERVENTIONS

Because of the resistance to treatment among disordered gamblers—only 7% to 12% seek either formal treatment or participate in Gamblers Anonymous®[1]—there is great interest in brief interventions because people do not perceive such approaches as "treatment."[10] For example, a Harvard Medical School study of the self-help toolkit, *Your First Step to Change: Gambling,* demonstrated the promise of brief interventions.[11] Participants were randomly assigned to 1 of 3 conditions: (1) a printed toolkit, (2) the toolkit and a brief guide to the toolkit's content, or (3) assignment to a wait-list condition. At the end of the study period, significantly more toolkit recipients than control group participants reported recently abstaining from gambling. The authors concluded that minimally invasive, self-directed resources like *Your First Step to Change: Gambling* offer a promising intervention for disordered gamblers otherwise resistant to formal treatment. (A free, confidential, interactive, online version of *Your First Step to Change: Gambling* is available at www.basisonline.org.)

Other studies, especially those utilizing motivational interviewing, have shown similar promise. Motivational interviewing is a therapeutic style of interacting with individuals to encourage them to (1) focus on their personal reasons for needing to address problem behaviors, (2) identify factors that work against change, (3) address the natural ambivalence about change, (4) and negotiate with the counselor to make behavior changes that are realistic for them.[10]

SELF-EXCLUSION PROGRAMS

Preliminary research indicates that self-exclusion programs typically available at casino venues and online gambling sites, might be helpful adjuncts for certain clients in treatment for gambling disorder.[7] Self-exclusion programs allow gambling customers to "ban" themselves from the gaming venue for a period of time ranging from 1 year to lifetime, depending on the jurisdiction. In such programs, enrolled customers do not receive marketing materials from the gambling operator. Studies in both the US and Canada suggest that self-exclusion is best understood as a therapeutic rather than punitive program. The Canadian investigation found better outcomes when treatment and/or minimal guidance was offered to enrolled customers.[12,13] A US study observed that despite violations of the trespassing agreement, many of the participating gamblers eventually moved back toward health. This led the study authors to conclude that it was the act of making a decision to enroll in the program rather than fear of the consequences of trespassing that motivated the enrolled gamblers.[14] Although preliminary, this research suggests that for some gamblers, self-exclusion can be a safe and effective way to work on recovery from gambling disorder.

FINANCIAL COUNSELING

An important adjunct to treatment is providing financial counseling, for it is safe to assume that most severely disordered gamblers are experiencing significant financial problems. The National Council on Problem Gambling has the following booklets available for free: *Problem Gamblers and their Finances: A Guide for Treatment Professionals and Personal Financial Issues for Loved Ones of Problem Gamblers.* Visit www.ncpgambling.org for more information.

IS CONTROLLED GAMBLING POSSIBLE FOR THOSE IN RECOVERY?

Nearly all available therapies for treating gambling disorder are focused on the goal of abstinence. For example, Gamblers Anonymous® takes a very strong stance on the importance of complete abstinence from gambling for achieving recovery. In treatment studies, abstinence from all forms of gambling has traditionally been required for the treatment to be considered a success.

But to what extent is abstinence achieved? There is no consensus among the experts with this question. It appears that some clients choose and achieve abstinence after treatment[15] but this option is most certainly a variable one. For example, an Australian study found that 90% of recovered disordered gamblers participated in some form of gambling in the past year.[16] Such a finding leads us to ask, if reducing gambling rather than abstaining was a treatment goal, is it possible that more individuals would seek treatment? Clearly, more research—especially longitudinal studies—are needed to understand this phenomenon. Also, it's important to ask if such a finding is generalizable to other countries and cultures.

TREATMENT OF CO-OCCURING DISORDERS

The scientific community is united in its observation that disordered gamblers must be assessed and treated for co-occurring disorders. More than 90% of people with a gambling disorder had another psychiatric problem at some point in their life, and 75% experienced such problems prior to the onset of the gambling problem.[17] (See page 28 for an illustration of co-occurring disorders in gambling disorder.) It is clear that disordered gamblers will find it challenging to recover if their other psychiatric issues are not addressed.

RECOMMENDATIONS

- Make available on websites confidential screening instruments and self-help resources for individuals seeking help but resistant to treatment such as *Your First Step to Change: Gambling* (www.basisonline.org).
- Make clinical trials of both behavioral and pharmaceutical interventions a priority.
- Assess individuals in treatment for gambling disorder for co-occurring psychiatric problems.
- Facilitate research on self-exclusion data.

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CHAPTER 7
WORKFORCE ISSUES FOR GAMBLING DISORDER

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Introduction

Does the field have a sufficient and well trained workforce—counselors, social workers, psychologists, psychiatrists, and public health professionals—to serve the needs of people with a gambling disorder? There is not sufficient evidence to answer this question. On the one hand, because so few people are likely to seek formal treatment—approximately 7% of disordered gamblers[1]—the current workforce might be sufficient. On the other hand, if screening for gambling disorder is increased and if the Affordable Care Act and the Mental Health Parity and Addiction Equity Act serve to increase the number of people seeking behavioral health treatment in general, then the current work force might need to be expanded.

In addition, questions of skill and knowledge standards for service providers come into play. Gambling disorder is an emerging field and assumptions made 20 years ago might not stand against new research developments. It is, therefore, important to ascertain if continuing education programming and credentialing programs reflect the most up-to-date research on gambling disorder.

This chapter will consider these issues as we look to the future of the workforce for gambling disorder treatment.

Background: Behavioral Health Workforce Issues in the US—The SAMSHA Report

Most healthcare providers who see disordered gamblers in their practice also see clients with other problems, especially addictive disorders. It is, therefore, instructive to look at the larger workforce issues affecting counselors, psychologists, social workers, psychiatrists, and other treatment providers specializing in addiction. The Substance Abuse and Mental Health Services Administration (SAMHSA), a branch of the US Department of Health and Human Services, released the *Report to Congress on the Nation's Substance Abuse and Mental Health Workforce Issues* in 2013.[2] In summary, the report identified the following threats to the workforce serving people with addiction:

- High staff turnover rates,
- Worker shortages, especially in rural areas,
- Aging workforce,
- Stigma about addictive disorders,
- Inadequate compensation, and
- Inadequate representation to the racial and ethnic composition of the US.

The field of gambling disorder should heed these warnings as potential threats to our public health system's ability to serve disordered gamblers seeking treatment.

Public Support for Gambling Disorder in the US

Thirty-nine states currently dedicate public funds to address gambling disorder. States vary in the services that they provide. The services most commonly supported by state agencies are: helplines (87%), awareness programs (85%), and treatment services (82%). Additional services supported by state government include a range of public health initiatives including training, prevention, evaluation, research, and certification.[3]

Credentials Currently Available

The following are the two national organizations in the United States that offer clinicians' certification for treating gambling disorder:

- International Gambling Counselor Certification Board (IGCCB) (http://www.ncpgambling.org/training-certification/ncgc-certification/)
- American Academy of Health Care Providers in the Addictive Disorders (www.americanacademy.org)

These certification programs offer skills and knowledge pertaining to gambling involvement and gambling disorder, as well as counseling skills adapted for use with an individual with a gambling disorder.

Among the 39 states that provide public funding for problem gambling services, 12 require certification and/or licensure for practitioners to deliver treatment services for gambling disorder: Kansas, Massachusetts, Nebraska, Nevada, New York, and Oregon require certification; Michigan requires licensure; Missouri, New Jersey, Oklahoma, Pennsylvania, Ohio, and Washington require both licensure and certification.[3] In general, licensure requires a higher standard of knowledge and experience than a certification.

Standards: What Should Clinicians Know About GD?

The NCRG convened a panel of leading researchers/clinicians to help think through the areas of gambling-specific knowledge that should be most important in educating and testing practitioners specializing in gambling disorder. The results of this consultation were published in the NCRG monograph, *What Clinicians Need to Know about Gambling Disorders.* This publication is available for free download from the NCRG website (http://www.ncrg.org/resources/monographs).

Below is a summary of the areas identified as vital to the clinician's education when treating a person with a gambling disorder:

- **Psychosocial factors** in the development of a gambling disorder, including co-occurring disorders, demographics, environment, exposure, trauma and stressors, and physical and emotional precipitants.
- **Neurological and biological risk factors** in the development of a gambling disorder including genetic vulnerability and imbalances in the system of neurotransmitters.
- **Vulnerable populations**, such as adolescents, college-aged individuals, and certain racial and ethnic minorities, that may be at elevated risk for gambling problems.
- The pros and cons of the various **screening instruments** available to assist in identifying an individual who may have a gambling disorder.
- The symptoms of **Gambling Disorder in the *DSM-5*** and the rationale for the changes from *DSM-IV* (a full discussion is offered in the white paper, *From Pathological Gambling to Gambling Disorder: Changes in the DSM-5,* available for free download from http://www.ncrg.org/resources/white-papers).
- The rate of **natural recovery** from gambling disorder and **low rate of treatment-seeking**.
- **Psychosocial interventions** for gambling disorder such as cognitive therapy, cognitive-behavioral therapy (CBT), brief interventions and motivational interviewing, Gamblers Anonymous®, and self-exclusion from gaming venues.
- **Pharmacological treatment** of gambling disorder including naltrexone, SSRIs, mood stabilizers, and over-the-counter dietary supplements.

In summary, any credential focused on specialization in gambling disorder should be based on the latest research and require knowledge of the above areas.

RECOMMENDATIONS

- Base the need for qualified clinicians on the estimated rate of treatment-seeking among disordered gamblers, rather than the prevalence rate data. If the projected need for service providers is based on prevalence data, excessive resources may be funded; in the face of unused resources, policy makers and the public may perceive that no treatment resources are needed.
- Create or adopt credentials for gambling disorder specialists that reflect the latest research and a comprehensive view of the disorder.
- Require evidence-based training for those seeking certification or renewal.
- Keep in mind that the threats to a viable behavioral workforce, observed by SAMHSA, could be a problem for serving the needs of disordered gamblers as well.

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CHAPTER 8

WHAT POLICYMAKERS NEED TO KNOW ABOUT RESPONSIBLE GAMBLING AND PREVENTION

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INTRODUCTION

In recent decades, there has been a shift in public health research and policy from medicine as a reactive force that tries to cure disorders that have already occurred to a proactive force that seeks to promote positive health behaviors and prevent diseases before they emerge (or at least mitigate their effects after emerging). Efforts to study "health promotion" and "social determinants of health" are examples of this shift in focus.[1]

The field of gambling disorder and responsible gaming is no exception to this shift in focus, with calls to regulators, public health employees, and the gaming industry to enact responsible gambling and prevention policies.

Definitions

"'Responsible gambling' refers to policies and practices designed to prevent and reduce potential harms associated with gambling; these policies and practices often incorporate a diverse range of interventions designed to promote consumer protection, community and consumer awareness and education, and access to efficacious treatment."[2(p308)]

"Disease prevention, understood as specific, population-based and individual-based interventions for primary and secondary (early detection) prevention, aiming to minimize the burden of diseases and associated risk factors."[3(p1)]

The desire for this shift is understandable and potentially beneficial to the field. However, there is a major problem

regarding this focus: the lack of a high-quality research base to serve as the basis for informing specific prevention and responsible gambling policies. This problem is not surprising given the relative lack of available research funds to support rigorous research to address the complexity of policy effects on gambling behavior. Nonetheless, it is discouraging that a recent comprehensive literature review on responsible gaming found only 29 peer-reviewed articles that used methodologies allowing for the direct translation of the research into a real-world application.[4]

it is discouraging that a recent comprehensive literature review on responsible gaming found only 29 peer-reviewed articles that used methodologies allowing for the direct translation of the research into a real-world application.[4]

This situation creates a conundrum for regulators and public health workers charged with implementing prevention and public health policies. The lack of research-based information complicates their ability to ensure that new responsible gaming policies and practices will be safe, efficacious, and cost effective.

This chapter will discuss responsible gambling including the Reno Model, a theoretical framework for implementing policies and practices even in the absence of high-quality research. It will then discuss prevention, including specific examples of prevention efforts.

RESPONSIBLE GAMBLING

The Reno Model

The Reno model was developed by Alex Blaszczynski, Robert Ladouceur, and Howard Shaffer, three highly respected experts in the field of gambling disorder and responsible gambling. Their model was published in *Journal of Gambling Studies* in 2004.[2]

The Reno model was developed to accomplish two goals: first, to outline a strategic framework for action related to responsible gambling; and, second, to provide clear definitions of important groups and concepts related to responsible gambling including defining informed choice, stakeholders, underlying assumptions, and key principles.

Informed Choice

The concept of "informed player choice" has become a fundamental tenet of modern responsible gaming policy, but it is not always clear what the term means and how it should be implemented. The Reno model provides a useful definition of the responsibilities of both individuals and industry members in regard to the decision to gamble, and this definition provides the foundation for understanding informed player choice: "Any responsible gambling program rests upon two fundamental principles: (1) the ultimate decision to gamble resides with the individual and represents a choice, and (2) to properly make this decision, individuals must have the opportunity to be informed."[2(p311)]

The clear delineation of roles and responsibilities is fundamental to designing and operating any responsible gaming program effectively. The industry and government regulators are responsible for providing information to consumers, while the ultimate decision to gamble always resides with the consumer. Examples include brochures that explain the odds or how slot machines work.

Stakeholders

The Reno model identifies four groups of key stakeholders in the field of gambling: (1) consumers, (2) industry, (3) healthcare providers, and (4) governments. Each group has differing needs and incentives which are sometimes aligned with, and sometimes in competition with, the needs and incentives of other stakeholders. However, in the long term, all stakeholders benefit from reducing the incidence and prevalence of gambling disorder.[2]

When designing gambling regulations or public health policies it is imperative that policymakers develop a clear understanding of what responsibilities lie with which stakeholders. For example, who is responsible for identifying if an individual has a gambling disorder? In some jurisdictions, the government tracks individual's gambling behavior and refers individuals to treatment for addictive disorders. In the United States, the decision for when to seek treatment is generally left to the individual while healthcare providers conduct interviews that ultimately might lead to the diagnosis of a clinical disorder. In the past, there has been discussion about the industry taking responsibility for identifying who has a problem and intervening to stop individuals from gambling in casinos or other gambling venues. However, it remains to be seen if gaming employees can safely and accurately identify customers with a gambling problem.

ASSUMPTIONS

Another important factor that may be overlooked in the development of regulatory policy and responsible gambling practice are the underlying assumptions that influence policymakers and the industry.

The Reno Model provides six underlying assumptions on which the model is based. It is possible that many intractable disagreements between stakeholders could be better understood if the assumptions underlying the differing opinions could be openly discussed and debated. The six assumptions are as follows.

(1) Safe levels of gambling participation are possible.
(2) Gambling can provide recreational, social and economic benefits to individuals and the community.
(3) Some participants, family members and others can suffer significant harm as a consequence of excessive gambling.

(4) The total social benefits of gambling must exceed the total social costs.
(5) Abstinence is a viable and important, but not necessarily essential, goal for individuals with gambling-related harm.
(6) A return to safe levels of play is an achievable goal for some gamblers who have developed gambling-related harm.[2]

KEY PRINCIPLES

Finally, the Reno model provides 5 key principles to guide the development of regulatory policies and responsible gambling practices. The key principles act as both goals and rules for achieving those goals.

(1) Key stakeholders will commit to reducing the incidence (i.e., the emergence of new cases) and, ultimately, the prevalence of gambling-related harms.
(2) Working collaboratively, the key stakeholders will inform and evaluate public policy aimed at reducing the incidence of gambling-related harms.
(3) Key stakeholders will collaboratively identify short and long term priorities thereby establishing an action plan to address these priorities within a recognized time frame.
(4) Key stakeholders will use scientific research to guide the development of public policies. In addition, the gambling industry will use this scientific research as a guide to the development of industry-based strategic policies that will reduce the incidence and prevalence of gambling-related harms.
(5) Once established, the action plan to reduce the incidence and prevalence of gambling-related harms will be monitored and evaluated using scientific methods.[2]

RESPONSIBLE GAMING POLICIES AND PROGRAMS

Responsible gaming policy and practice is strongly influenced by the tug-of-war between political pressure to implement policies and the scientific reality that supporting research is wanting. That being the case, the principles laid out in the Reno model, and discussed earlier in this article, can be useful for guiding decision-makers in creating policies related to responsible gambling. To wit:

- Key principle #1 emphasizes that the goal for policymakers is to reduce the incidence and prevalence of gambling related harms.
- Key principle #3 informs that key stakeholders will collaboratively identify short and long-term priorities.
- Key principles # 4 and #5 provide guidance on the important role that scientific research will play in informing public policies and gambling industry practices.

As noted above, policymakers do not have a wealth of research-based findings as a guide and, thus, should proceed cautiously and with adequate infrastructure in place to evaluate the safety and efficacy of any responsible gaming policies.

The categories of responsible gambling policies and practices are described below, along with a brief summary of the research and what may be concluded with respect to each category. The categories are listed in order from largest to smallest number of included studies. Full descriptions of the research and the complete bibliography are available in the scientific article published in *Addiction Research and Theory.*[4]

Self-exclusion programs

Self-exclusion programs give individuals the opportunity to voluntarily exclude themselves from gambling opportunities including both land-based and online gambling venues.

Nine studies on self-exclusion were included in the literature review, including four that reported positive outcomes for individuals who are enrolled in self-exclusion programs[5–8] and one that was unable to determine the effectiveness of self-exclusion.[9]

CONCLUSIONS

Self-exclusion programs should be viewed as a therapeutic initiative meant to improve individual health and not a law enforcement program meant to punish individuals already experiencing significant negative health outcomes.[8]

Self-exclusion programs have been shown to be safe and beneficial for some people. To maximize their benefits, they should include (1) multiple options for time of exclusion rather than a lifetime ban as the only option; (2) a mandatory meeting to sign up that provides information on gambling disorder, the self-exclusion program, and resources for treatment; and (3) mandatory meeting at the end of the exclusion period to ensure that individuals understand what the conclusion of the program means for themselves and their health.[8]

Tracking Behavioral Characteristics

One preventive approach is to develop an algorithm that could prospectively predict who is going to experience harm from gambling and then introduce a preventive intervention resource before the onset of problems. This type of predictive algorithm is easier to design in an online gambling setting where researchers have access to every action of the gambler than in a bricks-and-mortar casino where tracking this type of customer behavior is more difficult.

While a number of studies have found general patterns that distinguish individuals experiencing gambling-related harm from those who do not,[10–16] no one has demonstrated an algorithm that can do this efficiently.[4]

CONCLUSIONS

While the research on behavioral characteristics is ever improving, there is not yet definitive, peer-reviewed evidence of any behavioral algorithm that can predict future gambling-related harm.

Setting Gambling Limits

Setting gambling spending limits, sometimes called pre-commitment, offers gamblers the opportunity to predetermine a limit to the amount of time or money that they want to spend gambling.

Of the 5 studies that examined setting gambling limits, there was some indication that requiring individuals to set a time and cash limit might reduce money spent on gambling.[17–19] However, there was no evidence that this reduction in expenditure occurred in individuals who are experiencing gaming-related harm and, ultimately, no indication that gambling-related harm was reduced.

CONCLUSIONS

There is not yet any evidence that limit-setting programs reduce gambling-related harm.

Modifying Game Features

Modifications in game features include changes that have been made to the structure or operation of specific gambling games in order to encourage responsible gambling behavior. These changes might include slowing down the rate of play on a machine or having a machine display a warning message at some point before or during play.

There are 4 peer-reviewed studies that examined responsible gambling features. Two of the studies found that warning messages were recalled by some gamblers

and graphic warning messages increased the perceived severity of gambling related losses.[20,21] The other 2 studies did not find any significant impact on a number of responsible gambling specific game features including messages, alarm clocks, and a play money mode.[22,23]

CONCLUSIONS

Evidence for the efficacy of game features is mixed, and no research has yet shown that game features reduce harm in a real-world setting.

Employee Training

Although some type of casino employee training in responsible gambling is nearly universal, only 3 studies have attempted to evaluate the effectiveness of such programs.[24–26]

One of the studies found some improvement in staff knowledge after a responsible gambling training session.[24] In the other 2 studies, one found that casino venue staff were unable to accurately identify which casino patrons had gambling disorder[25], while the other found interactions between gaming venue staff and patrons related to gambling disorder awkward and potentially unproductive.[26]

CONCLUSIONS

Research indicates that employee training can improve employees' knowledge of responsible gaming. However, there is no evidence that increasing knowledge among casino venue staff can help staff to accurately identify casino patrons with a gambling disorder.

PREVENTION

As discussed earlier, there is only modest research on the effectiveness of policies aimed at preventing gambling-related harms. Part of the reason for this is that rigorous prevention research is expensive to undertake and meaningful designs are complicated to implement. Much of the available gambling research focuses on small

groups of individuals over short time periods. This narrow focus greatly limits the utility of this research for broader populations over a longer time frame.

For this reason, this section will focus on broad prevention goals that can be accomplished through a variety of activities and resources. These principles include increasing public awareness, reducing risk factors, increasing protective factors, early screening, early intervention, and targeting interventions for vulnerable populations.

Increasing Public Awareness

Public media campaigns designed to make the general public aware of health problems and refer individuals to treatment are extremely common. However, no research has demonstrated the utility of this approach for preventing gambling disorder. Two research projects[27,28] studying the impact of billboards found only a minimal increase in awareness and no consequent rise in treatment admissions.

EXAMPLE

One study sought to increase admission rates to problem gambling treatment by adding a series of roadside billboard posters for a 24-week period. The findings showed that at least some individuals remembered information presented on the billboards, but treatment admission rates continued to decline during the billboard campaign period.[27]

Reducing risk factors

According to the syndrome model, discussed in chapter 5, addiction is a relationship between a vulnerable person and the object of addiction.[29] These vulnerabilities, sometimes called risk factors, include comorbid mental and physical disorders, a history of trauma, elevated levels of stress, poverty or low social economic status, and a lack of access to healthcare.

Where possible, policymakers should work together with other allied individuals and organizations to reduce these known risk-factors. While the direct impact of a reduction of any of these individual risk factors on prevalence of gambling disorder is likely to be small, the associated health benefits in other areas might be quite significant.

EXAMPLE

Treatment seeking for gambling disorder is rare; it is estimated that only 7% - 12% of individuals with the disorder seek formal treatment or help through GA.[30] Policymakers interested in helping under-served populations could partner with community health organizations to increase access to healthcare, such as individuals with disabilities or individuals experiencing homelessness. Increasing access to healthcare for these groups would benefit their health generally, and potentially increase their ability to seek treatment for gambling disorder.

Increasing protective factors

Like the goal of reducing risk factors, increasing protective factors can have broad-based positive effects on population health. Some protective factors for gambling disorder include an increase in individual resilience, the strengthening of social connections, improved family and community support, and increased access to preventive healthcare. As with reducing risk factors, policymakers should work with organizations on broad-based projects to increase protective factors.

EXAMPLE

There is some evidence that mindfulness training can be beneficial for individuals with addictive disorders.[31] Policymakers interested in helping those with gambling disorder could partner with other allied health organizations to offer mindfulness training in community centers, schools, universities, or other locations. This type of program would likely have broad-based positive

impacts on the health of individuals who participate in addition to building protective factors against gambling disorder.

Screening for Gambling Disorder

One well-established way to improve health outcomes for serious medical conditions is to move afflicted individuals into treatment. In order to do this, early screening is necessary. This practice is common in physical health care; consider the prevalence of screens like mammograms for breast cancer. However, similar screening for mental health conditions is less consistently implemented.

Early screening for gambling disorder can take place in a variety of places including in a general practitioner's office, in outpatient treatment offices, in outpatient mental health treatment settings, in inpatient addiction settings, or in online or mobile-based health programs.

However screening is implemented, the individuals conducting the screening must have a concrete set of directives for what to do if an individual tests positively for gambling-related problems. Some examples are available in the NCRG publication *What Clinicians Need to Know about Gambling Disorders* (available for free download from www.ncrg.org/resources/monographs). Also, see chapter 5, "Identifying a Gambling Disorder."

EXAMPLE

The vast majority of individuals with gambling disorder have comorbid mental health conditions, and approximately 50% are in treatment for these problems.[32] For this reason, policymakers could work with outpatient mental health and drug treatment providers to promote the value of screening all clients for a possible gambling problem. Such general screening at existing mental and behavioral health programs could meaningfully improve treatment given that an untreated gambling problem would likely be a barrier to recovery from the presenting problem.

Early intervention

Another concept that has proven to be successful in treating mental health conditions is early intervention. One form of an early intervention is the provision of a gambling helpline, common throughout the United States. Also, an early intervention can be self-directed and private. This may include self-directed resources delivered via workbooks, websites or smartphone apps, which can be either simply informational or provide the individual with personalized normative feedback based on their behavior.

One of the benefits of self-directed early interventions is that it might be used by an individual who would not otherwise seek formal treatment. Also, once a website or mobile app is built, the cost to keep it running is minimal when compared to formal treatment, while the resource may also be scaled up to serve many more people for a relatively low cost.

EXAMPLE 1

One example of a personalized normative feedback early intervention tool was created by the NCRG for college students. BetOnU is available on the website www.CollegeGambling.org. This tool is free, publicly available, and has been tested by leading researchers for safety and efficacy.[33] College health offices, public health departments, and other interested organizations are welcome to link to this free intervention for college students.

EXAMPLE 2

Another example of early intervention is the gambling helpline. Many states have dedicated gambling helpline phone numbers that are advertised on the back of lottery tickets, on state responsible gambling literature, billboards, and other media. These phone lines are generally answered by trained staff who can provide callers with information on gambling disorder, responsible gaming, and how to get access to treatment. One study of data provided by the West Virginia gambling helpline showed

that 76% of helpline callers who were offered treatment set up an appointment for an in-person assessment and 55 callers actually attended the assessment.[34] Though we don't know if all helpline programs are this effective, this study provides evidence that helplines can be a useful method for helping treatment seekers get connected with treatment services.

Targeted interventions for vulnerable populations

Finally, one way to make prevention efforts more direct and cost-effective is to target populations known to have specific vulnerabilities for mental health disorders. This may include groups that have traditionally faced systematic prejudices including racial and ethnic minority groups, groups with high levels of co-occurring disorders such as individuals with low socio-economic status, or other potentially vulnerable groups such as veterans returning from foreign wars or young people.

Targeted interventions may be more cost-effective and easier to evaluate than more general interventions because of their smaller scope.

EXAMPLE

There is evidence that trauma and posttraumatic stress disorder are risk factors for gambling disorder.[35] Policymakers could partner with local veterans organizations to include screening for gambling disorder among other health services provided for veterans.

RECOMMENDATIONS

- Follow the Reno Model in the development of responsible gaming programs and regulations. A summary of the Reno Model written for non-academic audiences is available in the NCRG monograph, *Gambling and Public Health, volume 4,* available for free download from www.ncrg.org/resources/monographs.
  - Whenever possible rely on evidence-based practices and policies.
  - Collaborate with all key stakeholders in the development of practices and policies.
- Focus on prevention goals that address well established principles of prevention:
  - Reduce risk factors; e.g., increasing access to healthcare in underserved communities.
  - Increase protective factors; e.g., offering mindfulness training to vulnerable subgroups.
  - Conduct early screening; e.g., including screening for gambling disorder in outpatient mental health treatment facilities.
  - Provide training for clinicians conducting the screening.
  - Focus on early intervention; e.g., link to BetOnU, a free, evidence-based intervention for college students unsure about their gambling behavior.
  - Target vulnerable populations; e.g., provide information on gambling disorder to veterans' groups.
- View self-exclusion programs as a therapeutic initiative meant to improve individual health and not a law enforcement program meant to punish individuals already experiencing significant negative health outcomes.
  - Include multiple options for time of exclusion.
  - Require a sign-up meeting that provides information on the Gambling Disorder, the self-exclusion program, and resources for treatment.
  - Require a meeting at the end of the exclusion

period to ensure that individuals understand what the conclusion of the program means for themselves and their health.
    - Request that self-exclusion enrollees consent to being contacted for future research projects to facilitate studies of the effectiveness and safety of the program.
- Support gambling helplines with appropriately trained staff as an avenue for sending people to treatment.
- Proceed with caution when considering under-studied responsible gaming programs such as those that promise identification of disordered gamblers through a behavioral algorithm; limit-setting programs; and modifications of game features.
- Require evidence-based employee training programs that can improve employee knowledge of gambling disorder.
- Support research focused on responsible gaming and prevention in order to build the knowledge base about these areas.

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CHAPTER 9
SUMMARY OF RECOMMENDATIONS

Chapter 2 – **Gambling: A Public Health Perspective**

- Utilize community engagement strategies and empirical evidence to inform public policy relating to gambling.
- Integrate gambling disorder within behavioral health services, in order to improve overall health outcomes with a specific focus on health disparities.
- Identify measures to better inform cultural competency and health disparities.

Chapter 3 – **Identifying a Gambling Disorder**

- Consider incorporating brief and accurate tools to screen for a possible gambling disorder as part of routine health intake procedures at primary health clinics, as well as at substance abuse and mental health treatment programs.
- Use the Brief Biosocial Gambling Screen.
- Continue supporting research on the validity and utility of all brief screens.
- Follow the *DSM-5* criteria to determine the presence of a gambling disorder.
- Replace outdated and confusing terms with "gambling disorder."

Chapter 4 – **Is the Era of State Prevalence Studies Over? Alternative Approaches**

- Consult with qualified epidemiologists. You will find epidemiologists—public health specialists who study patterns of disease and disorders in a population—at your state department of health or at local universities. They can help shape the study needed to answer your state's questions.
- Publicize your bid beyond state borders. If your state wishes to commission a study, consider promoting the request for proposals (RFP) outside your state, if allowed,

and be sure to connect with sponsored research offices at major research universities and with scientists with an interest in this topic. The NCRG operates a robust research program and is happy to help with disseminating information about RFPs to the right audience. (Contact Christine Reilly at creilly@ncrg.org.)

- Use rigorous, peer review to evaluate proposals submitted, following the criteria for scientific merit established by the National Institutes of Health. The NCRG is happy to consult on peer-review procedures and policies. (Contact Christine Reilly at creilly@ncrg.org.)

Chapter 5 – **Who is At-Risk? Factors in the Development of a Gambling Disorder**

- Keep in mind that all mental and behavioral disorders have multiple causes.
- Consider the following subpopulations as potential targets for screening and public health interventions:
  - Individuals with other addictive and psychiatric disorders
  - Individuals with a family history of gambling disorder
  - Children, adolescents, and young adults, especially males
  - African-Americans
  - Casino employees
  - Military veterans
- Link to BetOnU, a free, confidential, online intervention for college students. Organizations are welcome to post a link to it at www.CollegeGambling.org.

Chapter 6 – **Roads to Recovery: Evidence-Based Strategies**

- Make available on websites confidential screening instruments and self-help resources for individuals seeking help but resistant to treatment such as *Your First Step to Change: Gambling* (www.basisonline.org).
- Make clinical trials of both behavioral and pharmaceutical interventions a priority.
- Assess individuals in treatment for gambling disorder for co-occurring psychiatric problems.
- Facilitate research on self-exclusion data.

Chapter 7 – **Workforce Issues in Gambling Disorder**

- Base the need for qualified clinicians on the estimated rate of treatment-seeking among disordered gamblers, rather than the prevalence rate data. If the projected need for service providers is based on prevalence data, excessive resources may be funded; in the face of unused resources, policy makers and the public may perceive that no treatment resources are needed.
- Create or adopt credentials for gambling disorder specialists that reflect the latest research and a comprehensive view of the disorder.
- Require evidence-based training for those seeking certification or renewal.
- Keep in mind that the threats to a viable behavioral workforce, observed by SAMHSA, could be a problem for serving the needs of disordered gamblers as well.

Chapter 8 – **What Policymakers Need to Know about Responsible Gaming and Prevention**

- Follow the Reno Model in the development of responsible gaming programs and regulations. A summary of the Reno Model written for non-academic audiences is available in the NCRG monograph, *Gambling and Public Health, Volume 4,* available for free download from www.ncrg.org/resources/monographs.
  - Whenever possible rely on evidence-based practices and policies.
  - Collaborate with all key stakeholders in the development of practices and policies.
- Focus on prevention goals that address well established principles of prevention:
  - Reduce risk factors; e.g., increasing access to healthcare in underserved communities.
  - Increase protective factors; e.g., offering mindfulness training to vulnerable subgroups.
  - Conduct early screening; e.g., including screening for gambling disorder in outpatient mental health treatment facilities.
  - Provide training for clinicians conducting the screening.

  - Focus on early intervention; e.g., link to BetOnU, a free, evidence-based intervention for college students unsure about their gambling behavior.
  - Target vulnerable populations; e.g., provide information on gambling disorder to veterans' groups.

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  - Include multiple options for time of exclusion.
  - Require a sign-up meeting that provides information on gambling disorder, the self-exclusion program, and resources for treatment.
  - Require a meeting at the end of the exclusion period to ensure that individuals understand what the conclusion of the program means for themselves and their health.
  - Request that self-exclusion enrollees consent to being contacted for future research projects to facilitate studies of the effectiveness and safety of the program.
- Support gambling helplines with appropriately trained staff as an avenue for sending people to treatment.
- Proceed with caution when considering under-studied responsible gaming programs such as those that promise identification of disordered gamblers through a behavioral algorithm; limit-setting programs; and modifications of game features.
- Require evidence-based employee training programs that can enhance employee knowledge
- Support research focused on responsible gaming and prevention to build the knowledge base about these areas.

APPENDIX A

PARTICIPANTS
NCRG STATE OF THE SCIENCE MEETING

JULY 25-26, 2016

Donald W. Black, MD, is director of the psychiatry residency training program, vice chair for education in the department of psychiatry, and professor of psychiatry at the University of Iowa College of Medicine. His clinical and translational research has focused on topics such as personality disorders and gambling disorder. Black co-authored, with Jon Grant, *DSM-5 Guidebook: The Essential Companion to the Diagnostic and Statistical Manual of Mental Disorders.* Dr. Black has led two NCRG-funded research grants and was the 2016 recipient of the 2016 NCRG Scientific Achievement Award.

Adam Goodie, PhD, is professor of psychology and director of the Center for Gambling Research and the Georgia Decision Lab at the University of Georgia. His primary areas of current research interest are the role of perceived control in basic decision making; contributors to the development, maintenance and recovery from gambling disorder, particularly those related to cognitive distortions; and personality effects and individual differences in decision making and gambling disorder. Dr. Goodie has received two research grants from NCRG.

Debi LaPlante, PhD, is an assistant professor of psychiatry at Harvard Medical School (HMS) and the director of academic affairs at the Division on Addiction, Cambridge Health Alliance, an HMS Teaching Hospital. Her research is focused on a variety of topics including DUI offenders, gambling disorder, and evaluation of responsible gaming programs. Dr. LaPlante recently completed an NCRG grant on the health risks of Native American youth.

Gloria M. Miele, PhD, is a leadership development and executive coach, trainer, consultant and speaker. She has a PhD in clinical psychology and serves on the Columbia University faculty. She is a trainer for NIDA's Clinical Trials Network and the Addiction Technology Transfer Centers. Dr. Miele is a current member of the NCRG Scientific Advisory Board.

T. Celeste Napier, PhD, is professor in the department of pharmacology at Rush Medical College; director of the Center for Compulsive Behavior and Addiction; and professor in the department of psychiatry at Rush. Her research focuses on maladaptations associated with addictions at molecular, signal transduction, neuronal and system pathophysiology, and behavioral levels. Dr. Napier has led two NCRG research grants and served as a peer reviewer for NCRG.

Lisa Najavits, PhD, is professor of psychiatry at Boston University School of Medicine and director of Treatment Innovations. Her research interests include substance abuse, trauma, behavioral addictions, veterans' mental health, community-based care and development of new psychotherapies. She is the author of *Seeking Safety: A Treatment Manual for PTSD* and a past member of the NCRG's Scientific Advisory Board.

Marc N. Potenza, PhD, MD, is director of the Yale Center of Excellence in Gambling Research (funded by NCRG); director of Women and Addictions Core of Women's Health Research; and professor of psychiatry, child study and neurobiology at Yale University School of Medicine. Dr. Potenza was honored by the NCRG with the Scientific Achievement Awards in 2003 and 2008. He has led the NCRG Center of Excellence in Gambling Research at Yale since 2009.

Christine Reilly, MA, is the senior research director of the National Center for Responsible Gaming (NCRG). Previously, she served as the executive director of the Institute for Research on Pathological Gambling and Related Disorders at the Division on Addiction at Harvard Medical School and Cambridge Health. From 1997 through 2000, she served as the first executive director of the NCRG.

Russell Sanna, PhD, joined the NCRG as executive director on March 1, 2016. Most recently, he was the executive director of the Harvard Medical School Division of Sleep Medicine and, in earlier posts, served as the associate dean for external relations at the Harvard Design School and the assistant director of the Harvard Art Museums.

Wendy Slutske, PhD, is a professor in the department of psychological sciences at the University of Missouri, Columbia. Her research focuses on gender differences in the etiology and comorbidity of alcohol use disorders, disordered gambling behavior; the genetic and environmental underpinnings of addictive disorders; and the description and classification of addictive disorders. Dr. Slutske was honored by the NCRG with the Scientific Achievement Award in 2011 and is a past member of the NCRG's Scientific Advisory Board.

Nathan Smith, ALM, is program officer at the NCRG. He is the co-author of "State-level Social Capital and Suicide Mortality in the 50 US States," with Dr. Ichiro Kawachi, in *Social Science and Medicine* (2014), volume 120. He received his ALM with a concentration in psychology from Harvard University.

Katherine Spilde, PhD, MBA, is chair of the Sycuan Institute on Tribal Gaming and associate professor in the School of Hospitality at San Diego State University. She is a cultural anthropologist specializing in tribal government

gaming. Her areas of research include the economic and social impacts of gambling and Indian gaming, responsible gaming and corporate social responsibility, needs assessment and program evaluation, federal recognition, and tribal governance. Dr. Spilde recently joined the NCRG board of directors.

Jeremiah Weinstock, PhD, is associate professor in the department of psychology at Saint Louis University. His research interests include addictions, especially gambling disorder; alcohol use disorders; cocaine and heroin dependence; motivational interviewing; contingency management; and cognitive behavioral therapy, and treatment outcome. He recently completed a research grant funded by the NCRG.

APPENDIX B

ADVISORY COMMITTEE
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APPENDIX C

Contributors to *Gambling and Public Health: A Guide for Policymakers*

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Ken C. Winters, PhD
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Special thanks to the American Gaming Association (AGA) and the Association of Gaming Equipment Manufacturers (AGEM) for sponsoring the annual AGEM-AGA Golf Classic, presented by JCM Global, that has raised more than $1 million for the NCRG.

The American Gaming Association, Reed Exhibitions and Global Gaming Expo contributed in-kind services to the annual NCRG Conference on Gambling and Addiction.

Other Contributors include:

- Betsson Group ($8,000);
- Caesars Entertainment ($5,000);
- William Hill US ($5,000);
- Seneca Gaming Corporation ($5,000);
- Delaware North ($5,000);
- Paragon Gaming ($5,000);
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- BMM Testlabs ($3,000).

APPENDIX E

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Chief Commercial Officer
Senior Vice President
Konami Gaming, Inc.

Mark Lipparelli
Founder, Gioco Ventures LLC
Former Chairman, Nevada Gaming Control Board
Nevada State Senator

Kathleen M. Scanlan, MA
Executive Director
Association of Problem Gambling Service Administrators

Katherine Spilde, PhD, MBA
Chair
Sycuan Institute on Tribal Gaming
San Diego State University

Mark Vander Linden
Director of Research and Responsible Gaming
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APPENDIX E

NCRG Scientific Advisory Board

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