



NATIONAL CENTER FOR RESPONSIBLE GAMING

# Research & Resources



A GUIDE TO GAMBLING DISORDERS AND RESPONSIBLE GAMING

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# Introduction to Gambling Disorders and Responsible Gaming

As the U.S. commercial gaming industry continues to grow in popularity and new gaming jurisdictions are established across the country, gambling disorders and responsible gaming programming have become more prominent in the public dialogue. The purpose of this guide is to present an overview of the research and information surrounding gambling disorders and responsible gaming, as well as provide additional resources that address these topics. This first section of the guide defines gambling disorders and responsible gaming, and offers a look at some of the organizations most involved in supporting research on gambling disorders at the national level.

## Gambling Disorders and Responsible Gaming Defined

**Gambling disorders** encompasses the whole range of gambling problems, and it characterizes the lives of individuals experiencing difficulties as a result of their gambling. The term “disorder” places gambling addiction firmly in the context of mental disorders (as in the American Psychiatric Association’s *Diagnostic and Statistical Manual of Mental Disorders*). Gambling disorders includes a **level 2 classification** (commonly referred to as “problem gamblers”), which describes individuals who experience problems with gambling but do not meet diagnostic criteria to be considered pathological gamblers. This category also includes **level 3 gamblers**, those with the most severe form of gambling disorders, who meet diagnostic criteria for pathological gambling. Non-gamblers fall under the **level 0 category**, and **level 1** describes social or recreational gamblers who gamble without adverse effects.

Shaffer, H.J., Hall, M.N., & Vander Bilt, J. (1997). *Estimating the prevalence of disordered gambling behavior in the United States and Canada: A meta-analysis*. Boston: Presidents and Fellows of Harvard College.

**Pathological gambling (Disorder Level 3)** is sometimes used, inaccurately, by those outside the research and medical communities interchangeably with the terms compulsive gambling and gambling addiction. Pathological gambling is actually used to describe the most severe form of gambling disorders. Pathological gambling was first classified as a psychiatric disorder in 1980 when it was included in the American Psychiatric Association’s *Diagnostic and Statistical Manual of Mental Disorders (DSM)*, third edition (*DSM-III*).

The most recent edition of the *DSM*, the *DSM-IV-TR*, published in 2000, defines pathological gambling as a “persistent and recurrent maladaptive gambling behavior.” According to the *DSM-IV-TR*, an individual who exhibits five or more of the following behaviors likely suffers from pathological gambling:

- A preoccupation with gambling (e.g., reliving past gambling experiences, planning the next venture or thinking of ways to get money with which to gamble)
- A need to gamble with increasing amounts of money in order to achieve the desired excitement
- Repeated unsuccessful efforts to control, cut back or stop gambling
- Feels restless or irritable when attempting to cut down or stop gambling
- Uses gambling as a way of escaping from problems or relieving feelings of helplessness, guilt, anxiety or depression
- After losing money gambling, often returns another day to get even (“chasing” one’s losses)

# SECTION ONE

## Introduction to Gambling Disorders and Responsible Gaming continued

- Lies to family members, therapist or others to conceal the extent of involvement with gambling
- Has committed illegal acts such as forgery, fraud, theft or embezzlement to finance gambling
- Has jeopardized or lost a significant relationship, job, or educational or career opportunity because of gambling
- Relies on others to provide money to relieve a desperate financial situation caused by gambling
- Also, the gambling behavior is not better accounted for by a Manic Episode

American Psychiatric Association. (2000). *DSM-IV-TR: Diagnostic and Statistical Manual of Mental Disorders* (Fourth ed.: Text Revision). Washington, DC: American Psychiatric Association.

While the *DSM-IV-TR* definition is the current standard, recent research suggests that pathological gambling may not always be chronic and that it does not necessarily become increasingly more severe over time. Some research has indicated that individuals with pathological gambling alternately improve and worsen over time. Another shortcoming of *DSM-IV-TR* is the absence of a definition of subclinical or level 2 gambling in spite of evidence that gambling problems are on a continuum, from moderate to severely disordered. As with every new edition of the *DSM*, health care professionals and researchers currently are considering the impact of new research on the definition of pathological gambling in the upcoming *DSM-5*, which is scheduled for publication in 2013.

LaPlante, D.A., Nelson, S.E., LaBrie, R.A., & Shaffer, H.J. (2008). Stability and progression of disordered gambling: Lessons from longitudinal studies. *The Canadian Journal of Psychiatry*, 53, 52-60.

The American Psychiatric Association is now re-examining all of the diagnoses in *DSM-IV-TR* in light of new research. Significant revisions have been proposed for the "Pathological Gambling" diagnosis in the fifth edition of the DSM:

- Rename "Pathological Gambling" "Gambling Disorders"
- Move "Gambling Disorders" from the "Impulse Control Disorders" category and reclassify as a behavioral addiction within the new category of Addiction and Related Disorders in recognition of the many commonalities between gambling disorders and substance use disorders.
- Eliminate "Illegal Acts" as a criterion for "Gambling Disorders" because studies have shown that the symptom of criminal behavior does not improve accuracy of diagnosis. The remaining nine criteria would remain intact and, at this point, an individual would still have to meet five of them for a diagnosis of gambling disorders, although lowering the threshold to four is under consideration.

American Psychiatric Association. (2010). *DSM-5: The Future of Psychiatric Diagnosis*. Retrieved May 5, 2011, from [www.dsm5.org](http://www.dsm5.org).

**Problem gambling** is a lay term frequently used to describe gambling disorders in general. This category also is used to describe the less severe, or subclinical, forms of gambling disorders. In other words, a problem gambler has problems that are gambling-related, but does not meet diagnostic criteria for the disorder.

**Responsible gaming** is the practice of enjoying gambling recreationally and socially while avoiding dangerous or negative behaviors indicative of gambling disorders. Responsible gaming can be exhibited in several ways, such as setting time and budget limits on gambling; sticking to those limits; and avoiding behaviors and situations in which gambling will have negative emotional, psychological, social, financial or even physical effects.

Responsible gaming is promoted by a variety of sources, including government entities, the gaming industry and other non-gaming organizations. They promote responsible gaming through **responsible gaming initiatives or programs** such as public service announcements or training employees. These efforts take many forms, one of which is making information on responsible gaming and gambling disorders available to casino employees and patrons. More information on responsible gaming initiatives and programs can be found on page 20.

## Supporting Research on Gambling Disorders at the National Level

In the early 1990s, a lack of financial support was stunting the growth of rigorous research into gambling disorders. The result was few peer-reviewed publications, flawed studies and a gap in understanding gambling disorders. Unfortunately, “junk science” filled the void. Junk science refers to research that is driven by political or personal agendas; uses evidence that supports a particular position and ignores contrary findings; or demonstrates a lack of concern for rigorous, scientific methods. During this time, for example, there was a lack of consensus among researchers regarding the prevalence rate of pathological gambling, with different studies producing wide variations among estimates.

The National Center for Responsible Gaming (NCRG) was established in 1996 to reverse this trend, making it the first and only national funding source in the areas of gambling research, and responsible gaming outreach and education.

### NATIONAL CENTER FOR RESPONSIBLE GAMING

The NCRG’s mission is to help individuals and families affected by gambling disorders by supporting the finest peer-reviewed, scientific research into pathological and youth gambling; encouraging the application of new research findings to improve prevention, diagnostic, intervention and treatment strategies; and advancing public education about gambling disorders and responsible gaming. Founded in 1996 as an independent 501(c)3 charitable organization, the NCRG is the American Gaming Association’s (AGA) affiliated charity.

The NCRG’s research program is directed by an independent Scientific Advisory Board of leading experts. All research grants, both long-term and project-based, are reviewed by independent peer-review panels of distinguished scientists in the field to ensure that only the highest quality research is funded.

More than \$22 million has been committed to the NCRG, an unprecedented level of funding for gambling research from the private sector. As a result of this commitment, the NCRG has supported more than 50 research projects at more than 36 prestigious research institutions, and NCRG-funded studies have been published in more than 170 highly competitive, peer-reviewed scientific journals. In addition, NCRG funds have provided essential seed money for early stage research, which has helped researchers leverage millions of federal dollars for continued research on gambling.

**Project Grants** – The NCRG operates a competitive Project Grants program to support high-quality scientific research on gambling disorders. The NCRG’s Project Grants program is designed to increase the number of researchers working in the field, encourage new investigators to explore gambling disorders and foster multidisciplinary collaboration. The program also is intended to increase the number of gambling studies disseminated through high-impact conferences and peer-reviewed journals and developed into larger projects with support from the National Institutes of Health and other major funders.

**NCRG Centers of Excellence in Gambling Research** – The NCRG has observed that competitive and substantial, multi-year research grants are the most effective vehicles for producing seminal research on gambling disorders. To make such grants more widely available, the NCRG in 2009 created the NCRG Centers of Excellence in Gambling Research. Based at top-tier research institutions across the country, the NCRG Centers of Excellence employ a long-term, institutional approach to conducting innovative and multidisciplinary research and education programs. Currently, the NCRG Centers of Excellence in Gambling Research are located at the University of Minnesota and Yale University.

# SECTION TWO

## An Overview of Research on Gambling Disorders

The field of research on gambling disorders is relatively young compared with research investigating other mental health disorders. Yet, over the past 20 years, a strong foundational body of research has taken shape due to the increased availability of funding and improved standards for scientific merit.

Many of the significant advancements in the field of research on gambling disorders to date have been made by research supported by the NCRG and are detailed below.

### SIGNIFICANT ADVANCEMENTS IN THE FIELD OF RESEARCH ON GAMBLING DISORDERS

- The first reliable statistics of how many people have a gambling disorder
- Promising treatments for gambling disorders
- More evidence for the role of genetics in the development of gambling disorders behavior
- A greater understanding of youth gambling
- Improved instruments for measuring, screening and diagnosing gambling disorders
- The first national survey of gambling on college campuses
- A more sophisticated understanding of the brain's reward system
- A new understanding of addiction as a syndrome
- A better understanding of the health risks of casino employees
- A model for evaluating treatment programs
- A framework for understanding gambling as a public health issue
- Evidence that laboratory animals can be used to study gambling and gambling problems

This section offers summaries of peer-reviewed scientific studies in some of the major fields of gambling research. The topic areas have been laid out to mirror the evolution of the field of research on gambling disorders, which has grown from determining how many people have the disorder to exploring gambling as a public health issue.

The following pages are not meant to provide a comprehensive account of all the research that has been conducted to date. Rather, they include summaries of some of the most significant research conducted in the field, providing key findings from each study as well as bibliographic information to help readers find the full studies. Several of these studies are available by contacting Christine Reilly, senior research director of the NCRG, at [creilly@ncrg.org](mailto:creilly@ncrg.org).

## Prevalence: How many people have a gambling disorder?

The first reliable prevalence estimates for gambling disorders in the United States were published by Harvard Medical School's Division on Addictions in 1997 and 1999.

Shaffer, H.J., Hall, M.N., & Vander Bilt, J. (1997). *Estimating the prevalence of disordered gambling behavior in the United States and Canada: A meta-analysis*. Boston: Presidents and Fellows of Harvard College.

Shaffer, H.J., Hall, M.N., & Vander Bilt, J. (1999). Estimating the prevalence of disordered gambling behavior in the United States and Canada: A research synthesis. *American Journal of Public Health, 89*, 1369-1376.

The National Research Council of the National Academy of Sciences concluded in its 1999 report that the Harvard study, which found a pathological gambling prevalence rate of approximately 1 percent of the adult population, provided “the best current estimates of pathological and problem gambling among the general adult U.S. population and selected subpopulations.” The Harvard study was funded by a grant from the NCRG.

National Research Council (1999). *Pathological Gambling: A Critical Review*. Washington, D.C.: National Academy Press, p. 89.

The next significant development in the study of prevalence came when questions about gambling behavior were included in large-scale national surveys of health:

The National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), the largest prevalence study of psychiatric disorders in the U.S., was one of the first major national surveys to include questions about gambling. Face-to-face interviews were conducted in 2001 and 2002 with 43,093 U.S. residents aged 18 and older. The survey was conducted and supported by the National Institute on Alcohol Abuse and Alcoholism (NIAAA). Investigators at the University of Connecticut and NIAAA estimated the prevalence of lifetime pathological gambling, the most severe form of the disorder, to be 0.4 percent among the NESARC sample and lifetime “problem gambling” to be 0.9 percent among this sample.

Petry, N.M., Stinson, F.S., & Grant, B.F. (2005). Comorbidity of DSM-IV pathological gambling and other psychiatric disorders: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Journal of Clinical Psychiatry, 66*(5), 564-574.

A grant from the NCRG to the Harvard Medical School Department of Health Care Policy supported the analysis of the gambling data that was collected by the National Comorbidity Survey Replication (NCS-R), a face-to-face household survey of 9,282 individuals, 18 years and older. This landmark study of mental health in America, supported by the National Institute of Mental Health, revealed a number of key findings. Published in 2008, researchers determined a prevalence rate for gambling disorders that was consistent with other previously published large-scale studies (lifetime rate of 0.6 percent for pathological gambling; lifetime rate of 2.3 percent for problem gambling). Other findings included a high rate of concurrent psychiatric problems among people with gambling disorders, and evidence that people who develop gambling problems start gambling earlier than non-problem gamblers.

Kessler, R.C., Hwang, I., LaBrie, R., Petukhova, M., Sampson, N.A., Winters, K.C., & Shaffer, H.J. (2008). DSM-IV pathological gambling in the National Comorbidity Survey Replication. *Psychological Medicine, 38*(9) 1351-1360.

International estimates of past-year level 3 gambling prevalence rates range from 0.2 percent to 2.1 percent, according to data compiled by Christine Reilly (2009) in Volume 3 of the NCRG monograph series, *Increasing the Odds: A Series Dedicated to Understanding Gambling Disorders, Gambling and the Public Health, Part 1*. For more on the history of prevalence series, view this volume online at [www.ncrg.org/resources/publications/monographs](http://www.ncrg.org/resources/publications/monographs).

Prevalence research also has focused on subpopulations including specific age groups, such as youth and older adults (see pages 8-10), and specific ethnic groups (see page 17).

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## An Overview of Research on Gambling Disorders continued

### Age and Gambling Disorders

#### YOUTH GAMBLING

Many aspects of problem behaviors emerge during adolescence. Compared with adults or those younger, adolescents are more likely to take drugs and take risks. Adolescence itself has been called a “time-limited disorder.” Past prevalence studies found higher rates of gambling problems among adolescents than in the adult population. Anywhere from 2 percent to 7 percent of young people experience a gambling addiction. An estimated 6 percent to 15 percent of youth experience level 2 gambling problems (e.g., Welte, Barnes, Tidwell & Hoffman, 2008; Shaffer, Hall & Vander Bilt, 1999). The following summaries illustrate how research supported by the NCRG and other funders has advanced the study of youth gambling.

The University of Minnesota Medical School has examined prevalence rates from Minnesota youth since 1992. Their student self-reports come from a subset of questions in the Minnesota Student Survey, administered to ninth and 12th grade public school students every three years. In this NCRG-funded longitudinal analysis of more than 80,000 students, researcher Randy Stinchfield discovered that gambling behavior has gradually declined from 1992 to 2007. Boys were more likely to gamble overall than girls, and were more likely to be “frequent gamblers” (defined as participating in gambling behavior either weekly or daily) than girls. Even though rates of gambling activity have slowly declined from 72.9 percent in 1992 to 53 percent in 2007, Dr. Stinchfield found a statistically significant decline in frequent gambling between the 2004 and 2007 results. Results also showed a decline in underage lottery play over the 15-year span and declines in underage casino play from 1998 to 2007.

Stinchfield, R. (2011). Gambling among Minnesota public school students from 1992 to 2007: Declines in youth gambling. *Psychology of Addictive Behaviors, 25*(1), 108-117.

“A Prospective Study of Youth Gambling Behaviors,” a University of Minnesota study funded by the NCRG, provides a picture of gambling as young people age from adolescence into young adulthood. 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 problem 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 recommended 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.

Winters, K.C., Stinchfield, R.D., Botzet, A.D., & Anderson, N. (2002). A prospective study of youth gambling behaviors. *Psychology of Addictive Behaviors, 16*(1), 3-9.

The Research Institute on Addictions, University of Buffalo, conducted a national survey of more than 2,200 U.S. residents aged 14 to 21 to provide an accurate picture of youth gambling compared with adult gambling and examine key demographic influences, such as age and gender. The study was funded by a grant from the National Institute of Mental Health. Although the survey identified widespread gambling among youth, with 68 percent having gambled in the past year, the investigators found a lower prevalence rate of gambling disorders than reported in past surveys. The study indicated that 6.5 percent were classified as at-risk for a gambling problem; 2.2 percent were identified as problem gamblers and less than 1 percent as pathological gamblers. The study also identified risk factors as follows: being male, living independently and having a lower socio-economic status.

Welte, J.W., Barnes, G.M., Tidwell, M.O., & Hoffman, J.H. (2008). The prevalence of problem gambling among U.S. adolescents and young adults: Results from a national survey. *Journal of Gambling Studies, 24*(2), 119-133.

A McGill University study of Canadian students ages 12 to 17 showed that students who were identified as “probable pathological gamblers” had less effective coping skills than other students. Researchers also found that students identified as either problem gamblers or probable pathological gamblers were considerably more likely to drink alcohol, use drugs and smoke cigarettes, which, according to the study’s authors, reinforces the connection between gambling and other substance use disorders. Similar to previous studies, findings showed boys were twice as likely as girls to gamble weekly, and significantly more boys than girls met the criteria for pathological gambling. This study was supported by a research grant from the Social Science Humanities Research Council of Canada.

Gupta, R., Derevensky, J., & Margot, N. (2004). Coping strategies employed by adolescents with gambling problems. *Child and Adolescent Mental Health, 9*(3), 115-120.

## COLLEGE GAMBLING

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 percent gambled in the past year and 6 percent of college students in the U.S. have a serious gambling problem that can result in psychological difficulties, unmanageable debt and failing grades.

In a 2010 study of 1,000 individuals aged 18 to 21, researchers from the Research on Addictions Institute found that college student status did not predict gambling, frequent gambling or problem gambling. Six percent of college students and 9 percent 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 percent of college students experiencing problem drinking compared to 19 percent of non-college young adults. The strongest predictor of both problem gambling and problem drinking was male gender. The researchers concluded that young males should be targeted for prevention and intervention efforts for both problem gambling and problem drinking regardless of college student status. This research was funded by a grant from the National Institute on Mental Health.

Barnes, G. M., Welte, J. W., Hoffman, J. H., & Tidwell, M.-C. O. (2010). Comparisons of gambling and alcohol use among college students and noncollege young people in the United States. *Journal of American College Health 58*(5), 443-452. doi:10.1080/07448480903540499

In the first national survey of gambling among more than 10,000 college students, investigators from Harvard Medical School and the Harvard School of Public Health found that 2.6 percent gambled on a weekly basis, a rate similar to adults. They also observed that student gamblers were more likely than non-gamblers to drink alcohol, to binge drink and to report that their binge drinking led to unprotected sex. These patterns — along with being a male and watching TV for more than three hours a day — were the most distinctive differences between gamblers and non-gamblers. The study was funded by the NCRG and the Robert Wood Johnson Foundation.

LaBrie, R.A., Shaffer, H.J., LaPlante, D.A., & Wechsler, H. (2003). Correlates of college student gambling in the United States. *Journal of American College Health, 52*(2), 53-62.

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. Alcohol policies that were punitive in nature were the most prevalent, with less than 30 percent of the schools having recovery-oriented policies. The authors concluded that the relative lack of college recovery-oriented policies suggests that schools might

# SECTION TWO

## *An Overview of Research on Gambling Disorders continued*

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. The study was funded by the NCRG and the Iowa Department of Public Health.

Shaffer, H.J., Donato, A.N., LaBrie, R.A., Kidman, R.C., & LaPlante, D.A. (2005). The epidemiology of college alcohol and gambling policies. *Harm Reduction Journal*, 2(1) doi:10.1186/1477-7517-2-1.

### OLDER ADULTS

Adults aged 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.

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). 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. This work was supported by the Mental Illness Research, Education, and Clinical Center and the Reserve Educational Assistance Program of the Department of Veterans Affairs; Women's Health Research at Yale; and the National Institute on Drug Abuse.

Desai, R.A., Desai, M.M., & Potenza, M.N. (2007). Gambling, health and age: Data from the National Epidemiologic Survey on Alcohol and Related Conditions. *Psychology of Addictive Behaviors*, 21(4), 431-440.

## **Comorbidity**

Comorbidity is the term used to describe the existence of concurrent disorders in an individual. It also refers to the ways in which these disorders interact or interfere with each other. For example, a person with high blood pressure and diabetes has different medical implications and possibilities for treatment than a person with only one of those conditions.

As with all addictive behaviors, people who struggle with gambling problems tend to have other psychological problems such as depression and anxiety, and other addictive disorders such as substance use disorders. The existence of "comorbid" disorders with gambling disorders makes it difficult to determine whether the act of gambling causes a gambling disorder or other disorders cause excessive gambling. Or, do the concurrent disorders suggest an underlying addiction syndrome? Understanding these relationships can provide a better understanding of the factors that precipitate gambling problems and strategies for resolving the disorder. Recent research has illuminated the relationship between gambling problems and other mental health disorders.

A 2008 study by Harvard Medical School's Department of Health Care Policy analyzed the gambling data included in the National Comorbidity Survey Replication (NCS-R), a landmark study of mental health in America that conducted face-to-face interviews with 9,282 individuals, 18 years and older. Among those who developed pathological gambling, 23.5 percent developed pathological gambling before any other psychiatric problem, 74.3 percent of respondents developed pathological gambling after experiencing other psychiatric problems, and 2.2 percent developed pathological gambling and other psychiatric problems at about the same time. The bottom line: respondents with any other psychiatric disorder are 17.4 times more likely to develop pathological gambling than those without such problems. This study was funded by the NCRG and the National Institute of Mental Health.

Kessler, R.C., Hwang, I., LaBrie, R., Petukhova, M., Sampson, N.A., Winters, K.C., & Shaffer, H.J. (2008). DSM-IV pathological gambling in the National Comorbidity Survey Replication. *Psychological Medicine*, 38(9) 1351-1360.

## Neurobiology, Genetics and Gambling Disorders

Recent advances in medical and scientific technology have enhanced our understanding of the biological processes of specific behaviors. For example, functional magnetic resonance imaging (fMRI) allows scientists to observe the functioning of the brain in real time. Investigations that have taken advantage of advances in brain imaging have helped establish the role played by the brain's reward center in the development of gambling disorders:

A Massachusetts General Hospital study, funded by the NCRG, used functional magnetic resonance imaging (fMRI) to monitor the brain activity of participants (without gambling problems) playing games of chance where money was at stake. This study was the first demonstration that anticipation of and winning a monetary reward in a gambling-like experiment produces brain activation very similar to that observed in users of cocaine. Two implications of the study are that (1) treatments for drug abuse might hold promise for gambling disorders; and (2) addiction is a syndrome involving a shared neurobiology with distinct expressions.

Breiter, H.C., Aharon, I., Kahneman, D., Dale, A., & Shizgal, P. (2001). Functional imaging of neural responses to expectancy and experience of monetary gains and losses. *Neuron*, 30, 619-639.

Scientific and technological developments in genetics also have advanced understanding of why and how people develop gambling disorders. The study of family history is one way to investigate the inheritance of traits or disorders.

A University of Iowa study supported by the NCRG conducted in-depth interviews with pathological gamblers and their immediate families. The researchers reported a rate of 8.3 percent for pathological gambling and 12.4 percent for any gambling disorder among the immediate family of pathological gamblers, compared to only 2.1 percent and 3.5 percent, respectively, among the control group. The study also showed that families whose members suffered from pathological gambling also had significantly higher rates of alcoholism, substance-abuse disorders and antisocial personality disorder. Demonstrating that pathological gambling runs in families is the first step toward isolating the genes that lead to the development of the disorder.

Black, D.W., Monahan, P.O., Temkit, M., & Shaw, M. (2006). A family study of pathological gambling. *Psychiatry Research*, 141(3), 295-303.

# SECTION TWO

## *An Overview of Research on Gambling Disorders continued*

### **Roads to Recovery**

Researchers are just beginning to understand what influences the transition from healthy, recreational gambling to gambling disorders. Similarly, research is starting to unravel how and why people move from gambling disorders to health. Although treatments for excessive gambling have been available for many decades, the young field of gambling research has not yet provided many scientifically tested intervention strategies.

During the past decade, the explosion of scientific research focusing on gambling and the improvements in the quality of research design have resulted in scientifically-based clinical trials of behavioral and drug treatments, as well as a new focus on natural recovery and brief interventions. This research has important implications for how health care providers, communities, insurance companies and public health planners respond to the needs of people struggling with gambling disorders.

#### **BEHAVIORAL THERAPIES**

Behavioral therapies, such as Motivational Interviewing, cognitive therapy and cognitive-behavioral therapy, have shown promise for treating gambling disorders. Motivational Interviewing, originally developed for substance use disorders, is a directive method in which the clinician helps enhance the client's motivation to change by exploring and resolving ambivalence about the problem behavior. Cognitive-behavioral therapies focus on reducing the individual's excessive gambling by correcting erroneous perceptions about probability, skill and luck that only reinforce problematic gambling behaviors.

In a 2001 study at Laval University in Quebec, pathological gamblers who received cognitive-behavioral therapy reported they felt less desire to gamble, more control over their gambling and more able to avoid gambling in high-risk situations than the control group. Only four out of 29 participants in the control group had comparable results. Following the NCRG-funded study, 86 percent of treated participants were no longer considered pathological gamblers, according to the DSM-IV criteria. At follow-up evaluations six and 12 months after the study, treatment group participants still maintained the gains from cognitive therapy.

Ladouceur, R., Sylvain, C., Boutin, C., Lachance, S., Doucet, C., LeBlond, J., & Jacques, C. (2001). Cognitive treatment of pathological gambling. *Journal of Nervous and Mental Disease, 189*, 774-780.

Recent studies have explored the utility of "brief interventions," defined as interventions that involve a short course of therapy with a professional treatment provider or that use a self-help approach in the form of manuals or online programs. Scientists hypothesize that brief interventions offer an alternative for gamblers who need help but are resistant to more formal treatment programs. Consistent with findings from the study of other addictive disorders, only 7 to 12 percent of individuals with gambling problems seek formal treatment.

Researchers at the University of Connecticut Health Center found that people with gambling disorders who received in-person, professional cognitive-behavioral therapy while enrolled in Gamblers Anonymous (GA) made significantly more progress in modifying their gambling behaviors than participants only attending GA or attending GA and using a self-directed cognitive-behavioral therapy workbook. These results were maintained 12 months later. The study was supported by the National Institute of Mental Health.

Petry, N.M., Ammerman, Y., Bohl, J., Doersch, A., Gay, H., Kadden, R., Molina, C., & Steinberg, K. (2006). Cognitive-behavioral therapy for pathological gamblers. *Journal of Consulting and Clinical Psychology, 74*(3), 555-567.

A University of Calgary study tested the effectiveness of a brief treatment in a randomized clinical trial. Two self-directed motivational interventions were compared with a control group and a workbook-only control group. The brief motivational treatment involved a telephone motivational interview and a mailed self-help workbook. The brief booster treatment involved a telephone motivational interview, a workbook and six booster telephone calls over a nine-month period. Researchers measured gambling frequency and dollar losses. As hypothesized, brief motivational and brief booster treatment participants reported less gambling at six weeks than those assigned to the control groups. Brief motivational and brief booster treatment participants gambled significantly less often over the first six months of the follow-up than workbook-only participants. However, the workbook-only participants were as likely to have significantly reduced their losses over the entire year and to have not met criteria for pathological gambling after one year. Contrary to the hypothesis, participants in the brief booster treatment group showed no greater improvement than brief treatment participants. These results provide further support for the value of brief motivational treatments for pathological gambling. This research was funded by the Canadian Institutes of Health Research and the Ontario Problem Gambling Research Centre.

Hodgins, D.C., Currie, S.R., Currie, G., & Fick, G.H. (2009). Randomized trial of brief motivational treatments for pathological gamblers: More is not necessarily better. *Journal of Consulting Clinical Psychology, 77*(5), 950-960.

## DRUG INTERVENTIONS

As discussed earlier, research indicates a clear relationship between biological vulnerabilities and the development of a gambling disorder. For example, a vulnerability might be insufficient levels of chemicals — or neurotransmitters — in the brain that regulate mood and judgment. If the low mood is elevated by an activity like gambling, the person could develop a gambling problem. Furthermore, the simultaneous occurrence of depression and other psychiatric problems with a gambling disorder underlines the importance of exploring drug treatments for pathological gambling. Scientists are now experimenting with several classes of drugs for gambling disorders including antidepressants, mood stabilizers and opioid antagonists, which are used to treat narcotics addiction. Although some drug treatments have had positive outcomes, others have yet to fulfill their promise. Continued research is needed to determine the most effective drug treatment strategies.

A review essay by University of Minnesota researcher Dr. Jon Grant analyzed 12 double-blind, placebo-controlled clinical trials of antidepressants, mood stabilizers, opioid antagonists and glutamatergic agents. According to these preliminary studies, a variety of medications appear to effectively reduce the symptoms of pathological gambling in the short term (up to four months). However, Dr. Grant noted that the long-term effects of medication for pathological gambling remain largely untested. Although medications appear beneficial for the treatment of pathological gambling, future research needs to focus on trials of longer duration; the factors that predict a positive response; the impact of co-occurring disorders on response; and the effectiveness of combining medication with talk therapy. The studies analyzed in the essay have multiple funding sources.

Grant, J.E. (2007). Managing disordered gambling behavior with medication. In N. Mayes (Ed.), *Roads to Recovery from Gambling Addiction* (Vol. 2). Washington, D.C.: National Center for Responsible Gaming.

# SECTION TWO

## *An Overview of Research on Gambling Disorders continued*

### NATURAL AND SELF-GUIDED RECOVERY

According to conventional wisdom, there are only two ways out of addiction: treatment or death. It is commonly assumed that a doctor, a counselor or a rehabilitation center is essential to breaking free of addiction. As in the alcohol and drug field, researchers now have evidence that people with gambling problems can get well on their own. The presence and extent of natural recovery suggests that brief interventions, such as self-help workbooks or guides, might be effective strategies for gambling disorders.

In a study supported, in part, by the National Institutes of Health, University of Missouri researcher Wendy Slutske analyzed two U.S. national surveys, the Gambling Impact and Behavior Study (GIBS) and the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). She found that approximately one-third of the pathological gamblers recovered on their own, an estimate consistent with the rates of natural recovery from other addictive behaviors. The study also revealed that pathological gambling for most people was typically only one episode lasting a year. According to the study's author, the results of the surveys may necessitate a reexamination of the current DSM-IV criteria that characterizes pathological gambling as "chronic and persisting."

Slutske, W. (2006). Natural recovery and treatment-seeking in pathological gambling: Results of two U.S. national surveys. *American Journal of Psychiatry*, 163, 297-302.

### RELAPSE

The road to recovery from addiction is often marked by many detours. About 80 to 90 percent of individuals entering recovery from addiction will relapse during the first year after treatment. This phenomenon has been studied extensively with alcohol dependence and other substance use disorders but only recently have investigators focused on relapse among those with gambling problems.

A University of Calgary study funded by the NCRG found that, of the 101 participants with gambling problems enrolled in the year-long study, only 8 percent did not gamble during the study period. The most frequently reported factors for relapsing were optimism about winning and feeling the need to make money. The study also revealed gender differences, with women more likely to gamble as a way to deal with negative emotions or situations than men. The principal investigator, David Hodgins, Ph.D., concluded that further research is needed to identify the "triggers" or reasons for relapse and that gender differences should be taken into account.

Hodgins, D., el-Guebaly, N. (2004). Retrospective and prospective reports of precipitants to relapse in pathological gambling. *Journal of Consulting and Clinical Psychology*, 72(1), 72-80.)

## A Public Health Approach

Historically, gambling has been viewed from many varied perspectives: moral, religious, mathematical, economic, social, cultural, psychological and biological. Only recently, however, have researchers started to examine gambling within a public health framework. A public health approach addresses all aspects of the complex phenomenon of gambling and, therefore, has the potential to yield more comprehensive and effective strategies for preventing and treating gambling-related problems.

A public health approach looks at gambling disorders through a population lens to understand the distribution of the disorder in the population and the factors that influence the transition from healthy to unhealthy gambling. It encourages a shift from a narrow focus on just individual gamblers to an examination of the social setting — in other words, the social, cultural and economic variables that influence the spread and patterns of the disorder.

For more information about a public health approach to gambling, see the following:

- Korn, D.A., & Shaffer, H.J. (1999). Gambling and the health of the public: Adopting a public health perspective. *Journal of Gambling Studies*, 15(4), 289-365.
- Shaffer, H.J. (2003). A public health perspective on gambling: The four principles. *AGA Responsible Gaming Lecture Series*, 2(1), 1-27.
- Shaffer, H.J., & Korn, D.A. (2002). Gambling and related mental disorders: A public health analysis. *Annual Review of Public Health*, 23, 171-212.

## PROXIMITY AND EXPOSURE

With the recent expansion of gaming into new communities, researchers are now examining whether exposure to gambling increases gambling problems within those communities. Although the work in this area is preliminary, studies have indicated that 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. One year after the opening of the casino, the investigators observed an increase in gambling and in losses. However, this trend was not maintained over time, and the rate of gambling problems did not increase at the two- and four-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. This study was conducted with a grant from Loto-Québec and the Ministère de la Santé et des Services Sociaux du Québec.

Jacques, C. & Ladouceur, R. (2006). A prospective study of the impact of opening a casino on gambling behaviours: 2- and 4-year follow-ups. *Canadian Journal of Psychiatry*, 51(12), 764-773.

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. 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

# SECTION TWO

## *An Overview of Research on Gambling Disorders continued*

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. The NCRG and bwin.party digital entertainment plc (bwin), a European online gambling company, provided primary support for this study.

LaPlante, D.A., & Shaffer, H.J. (2007). Understanding the influence of gambling opportunities: Expanding exposure models to include adaptation. *American Journal of Orthopsychiatry*, 77(4), 616-623.

### SELF-EXCLUSION

In an effort to help individuals with gambling problems, state governments and the gaming operators have established voluntary self-exclusion programs that allow individuals to sign an agreement to ban themselves from the gaming facility. While the programs vary among different gaming jurisdictions, the goal is the same: to allow those who have a gambling problem to take a proactive step to avoid gambling. Researchers have started to study the effectiveness of self-exclusion programs.

The Division on Addictions, Cambridge Health Alliance at Harvard Medical School conducted the first examination of the long-term effects of individuals enrolled in self-exclusion programs. Researchers interviewed 113 participants enrolled in the Missouri Voluntary Exclusion Program (MVEP) for periods ranging from 3.8 to 10.5 years. The objective was to understand and assess their experience in the program. Most had positive experiences with MVEP and reduced their gambling and gambling problems after enrollment. However, 50 percent of self-excluders who attempted to trespass at Missouri casinos after enrollment were able to, indicating that the benefit of MVEP was attributable more to the act of enrollment than enforcement. While most participants did not stop gambling permanently, researchers found that a significant percentage of those interviewed experienced reduced problems with gambling after enrolling in the MVEP. Self-excluders also reported that they experienced long-term, positive outcomes, especially among those who pursued additional treatment or self-help programs after enrolling in the MVEP. This project was supported by grants from the Greater Kansas City Community Foundation's Port Authority Problem Gambling Fund and the NCRG.

Nelson, S.E., Kleschinsky, J.H., LaBrie, R.A., Kaplan, S., & Shaffer, H.J. (2010). One decade of self exclusion: Missouri casino self-excluders four to ten years after enrollment. *Journal of Gambling Studies*, 26(1), 129-144.

A Laval University study evaluated improvements in a self-exclusion program operated by a Quebec casino. The improvements represent a therapeutic approach to self-exclusion, as opposed to a punitive approach focused on punishing violators, by providing meetings with a counselor, telephone support, a choice of self-exclusion time periods and a mandatory meeting at the end of the self-exclusion period. Among the self-excluders who chose the improved service, 40 percent wanted an initial voluntary evaluation and 37 percent of these individuals actually attended that meeting. Seventy percent of gamblers came to the mandatory meeting, which was a required condition to end their self-exclusion. The majority of participants was satisfied with the improved self-exclusion service and perceived it as useful. The researchers observed major improvements between the final and the initial evaluation on time and money spent, consequences of gambling, scores on the DSM-IV criteria for pathological gambling and psychological distress. This study was supported by grants from the Foundation Mise-Sur-toi (Loto- Quebec).

Tremblay, N., Boutin, C., & Ladouceur, R. (2008). Improved self-exclusion program: Preliminary results. *Journal of Gambling Studies*, 24, 505-518.

## Emerging Research Areas

While continuing to expand on established research areas, the field of research on gambling disorders also is exploring new areas, including the study of vulnerable populations and the impact of new gambling media.

### ETHNIC AND RACIAL MINORITIES

The research base on gambling among ethnic and racial minorities remains under-developed. Only recently was an analysis of nationwide prevalence estimates for these special populations published.

An analysis of the data from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) has provided prevalence rates of gambling disorders among blacks (2.2 percent) and Native/Asian Americans (2.3 percent) that were higher than that of whites (1.2 percent). However, the research team found that all racial and ethnic groups exhibited similar patterns in terms of development of symptoms, time course and treatment seeking for pathological gambling. The investigators concluded that the prevalence of gambling disorders, but not its onset or course of symptoms, varies by racial and ethnic group. They conjectured that varying prevalence rates may reflect, at least in part, cultural differences in attitudes toward gambling and its acceptability and accessibility. This research was supported by National Institutes of Health, the American Foundation for Suicide Prevention and the New York State Psychiatric Institute.

Alegria, A.A., Petry, N.M., Hasin, D.S., Liu, S.M., Grant, B.F., & Blanco, C. (2009). Disordered gambling among racial and ethnic groups in the US: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *CNS Spectrums*, 14(3), 132-142.

This study demonstrates that further investigations are needed to ascertain how ethnicity, culture, language, socio-economic class and social and family networks affect risk, diagnosis, prevention and treatment in these groups. Although research points to a higher prevalence rate for gambling disorders in these communities, it is not always clear if such problems have been accurately measured in view of cultural differences. Consequently, researchers are now testing screening and diagnostic instruments for cultural bias.

A Washington University, St. Louis study used the Gambling Assessment Module (GAM), an instrument developed with funding from the NCRG, to test the reliability of the diagnostic criteria for pathological gambling in the DSM-IV among African Americans. The GAM is the only existing instrument that diagnoses problem gambling across both the American Psychiatric Association's and the World Health Organization's criteria. It also is the only assessment in the world that can determine a diagnosis that is specific to the games a person plays. The investigators found that the DSM-IV criteria have substantial reliability among African Americans, meaning that clinicians should have confidence when using the criteria to diagnose among this population. The study was funded by the National Institute on Drug Abuse.

Cunningham-Williams, R.M., Ostmann, E.L., Spitznagel, E.L., & Brooks, S.J. (2007). Racial/ethnic variation in the reliability of DSM-IV pathological gambling disorder. *Journal of Nervous and Mental Disease*, 195 (7), 551-559.

# SECTION TWO

## An Overview of Research on Gambling Disorders continued

### GENDER

Historically, gambling was a predominantly male pastime. However, as legalized gambling has expanded, female participation has increased. This trend has raised questions about whether men and women differ in their gambling preferences and play patterns, in their progress to more disordered states of gambling behavior, and in their response to various treatment therapies. Preliminary research has started to answer some of these questions.

Harvard Medical School researchers analyzed the preferences for types of games played by 2,256 participants in the Iowa Gambling Treatment Program to test the assumptions that men gravitate to table games and track betting while women prefer bingo and slot machines because of inherent gender differences. The study found that gender was not a determining influence on game preference. The authors cautioned against over-generalizing the impact of gender on gambling and gambling-related problems. This work was supported by the Iowa Department of Public Health and the NCRG.

LaPlante, D.A., Nelson, S.E., Labrie, R.A., & Shaffer H.J. (2006). Men & women playing games: Gender and the gambling preferences of Iowa Gambling Treatment Program participants. *Journal of Gambling Studies*, 22(1), 65-80.

A Yale University study analyzed data from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) to determine whether the association between psychiatric disorders and gambling problems was stronger in women than men. The findings were consistent with other studies showing that men are more likely to gamble and to develop gambling-related problems than women. However, the investigators did find that, compared to men, a stronger association existed between depression and other mood disorders and gambling problems among women classified as at-risk for developing a gambling disorder. The greater severity of psychiatric problems among these women parallels research on alcohol. One possible interpretation is that gambling problems might impact the course of mood, anxiety and substance use disorders more in women than in men. The authors argued that the findings provide evidence of the need for more intensive screening of gambling problems among patients in primary care and mental health settings. This work was supported by the Veteran's Administration Hospital Mental Illness Research Education and Clinical Center (MIRECC VISN 1), and Women's Health Research at Yale.

Desai, R.A., & Potenza, M.N. (2008). Gender differences in the associations between past-year gambling problems and psychiatric disorders. *Social Psychiatry and Psychiatric Epidemiology*, 43, 173-183.

### INTERNET GAMBLING

Internet gambling has gained increasing public scrutiny during the past decade, affecting policy, regulations and public concern about its safety. Because it is often a solitary activity that can provide instant or rapid gratification, online gambling has been perceived as riskier than land-based forms of gambling. Until recently, there has been little peer-reviewed research on Internet gambling, and the available research has relied on gamblers' self-descriptions of past Internet gambling behavior.

Harvard Medical School researchers have pioneered new methods for studying online gaming by virtue of their access to the actual wagering transactions of 40,000 online gamblers, including every keystroke of every person that subscribes to bwin.party digital entertainment plc (bwin), a European online gambling company. Using this data reflecting *actual* gambling patterns, rather than relying on self-report, provides "objective detailed information about betting behavior, and the conditions under which gamblers place wagers." Primary support for this article was provided by bwin.party digital entertainment plc.

Shaffer, H. J., Peller, A., J., LaPlante, D. A., Nelson, S. E., & LaBrie, R. A. (2010). Toward a paradigm shift in Internet gambling research: From opinion and self-report to actual behavior. *Addiction Research & Theory*, 18(3), 270-283.

The analysis of the bwin data has produced seven peer-reviewed publications that contradict the notion that Internet gambling breeds excessive and problematic gambling. For example, one study found that the majority of bwin subscribers engage in moderate sports betting, with the median-level player making 2.5 sports bets of 4 euros (or approximately \$5.25 in U.S. dollars) every fourth day.

A similar investigation of 4,222 subscribers playing casino games online (for example, slots and video poker) determined that the median betting behavior was to play casino games once every two weeks during a period of nine months. Subscribers lost a median of 5.5 percent of total monies wagered. The researchers identified a group of heavily involved bettors whose activity exceeded that of 95 percent of the sample. The findings suggest that time spent gambling might be a better indicator for gambling disorders than money lost. The researchers also found moderate gambling behaviors in a study of Internet poker players. As players experienced more losses, they moderated their gambling, as measured by decreases in the duration of gambling sessions, the total number of gambling sessions and the total amount of money wagered. According to the authors, this finding suggests that the majority of individuals curbed their gambling based on their wins and losses — exhibiting what might be considered rational betting behavior: “This suggests that, at the population level, losing discourages ongoing play and winning encourages continuing play.” The studies mentioned here have multiple funding sources.

Broda, A., Laplante, D. A., Nelson, S. E., Labrie, R. A., Bosworth, L. B., & Shaffer, H. J. (2008). Virtual harm reduction efforts for Internet gambling: Effects of deposit limits on actual Internet sports gambling behavior. *Harm Reduction Journal*, 5, 27.

LaBrie R.A., Kaplan, S.A., LaPlante, D.A., Nelson, S.E., and Shaffer, H.J. (2008). Inside the virtual casino: A prospective longitudinal study of actual Internet casino gambling. *European Journal of Public Health*, 18(4), 410-416.

LaBrie, R. A., LaPlante, D. A., Nelson, S. E., Schumann, A., & Shaffer, H. J. (2007). Assessing the playing field: A prospective longitudinal study of Internet sports gambling behavior. *Journal of Gambling Studies*, 23, 347-362.

LaPlante, D. A., Kleschinsky, J. H., LaBrie, R. A., Nelson, S. E., & Shaffer, H. J. (2009). Sitting at the virtual poker table: A prospective epidemiological study of actual Internet poker gambling behavior. *Computers in Human Behavior*, 25(3), 711-717

LaPlante, D.A., Schumann, A., LaBrie, R.A., & Shaffer, H.J. (2008). Population trends in Internet sports gambling. *Computers in Human Behavior*, 24, 2399-2414.

Nelson, S. E., LaPlante, D. A., Peller, A. J., Schumann, A., LaBrie, R. A., & Shaffer, H. J. (2008). Real limits in the virtual world: Self-limiting behavior of Internet gamblers. *Journal of Gambling Studies*, 24(4), 463-477.

Shaffer, H. J., Peller, A. J., LaPlante, D. A., Nelson, S. E., & LaBrie, R. A. (2010). Toward a paradigm shift in Internet gambling research: From opinion and self-report to actual behavior. *Addiction Research & Theory*, 18(3), 270-283.

Xuan, Z., & Shaffer, H. J. (2009). How do gamblers end gambling: Longitudinal analysis of Internet gambling behaviors prior to account closure due to gambling related problems. *Journal of Gambling Studies*, 25(2), 239-252.

# SECTION THREE

## Responsible Gaming Education and Outreach Initiatives

The goal of responsible gaming is to prevent gambling-related harms, promote healthy gambling and protect vulnerable populations, such as youth. Responsible gaming programs and policies use a diverse range of tools including customer education and access to resources that address gambling-related problems.

The NCRG and the AGA both have played important roles in the history of responsible gaming, raising awareness and developing tools to be used by the commercial gaming industry.

In addition to these groups, there are national, state and local organizations and companies that work to promote responsible gaming and prevent gambling disorders.

### The NCRG's Responsible Gaming Education and Outreach Initiatives

Since its inception in 1996, the NCRG has been a leader not only in funding research but also in translating research findings into educational and responsible gaming programs.

#### NCRG CONFERENCE ON GAMBLING AND ADDICTION

Since 1999, the annual NCRG Conference on Gambling and Addiction has brought together researchers, health care providers, regulators, policy makers and gaming industry representatives from around the world. The conference provides a unique forum for these audiences to discuss the latest research advances in the field of gambling and related disorders, and how these findings can be incorporated into practical, real-world applications. Each year the conference explores a different theme, presenting the most current topics from scientific, clinical, government and industry perspectives. Since 2002, the NCRG has also annually recognized outstanding contributions to the field of gambling studies with the NCRG Scientific Achievement Award presented at the conference. The NCRG conference is held each October in conjunction with the Global Gaming Expo, the gaming industry's largest international trade show and conference.

More information about the NCRG Conference on Gambling and Addiction is available at [www.ncrg.org/conference](http://www.ncrg.org/conference). Summaries of key sessions from past conferences are available on the NCRG blog, Gambling Disorders 360°, at <http://blog.ncrg.org>.

#### GAMBLING DISORDERS 360° AND OTHER SOCIAL MEDIA

Gambling Disorders 360° is the blog for the NCRG that explores the latest news, issues and research relating to gambling disorders and responsible gaming. The blog is also a forum where researchers, clinicians, regulators, policymakers and industry representatives can come together to share knowledge and best practices, and candidly discuss the field's most pressing and vital issues. To subscribe to Gambling Disorders 360°, visit <http://blog.ncrg.org>.

The NCRG is also active on Facebook and Twitter. To connect with the organization on Facebook, visit [www.facebook.com/theNCRG](http://www.facebook.com/theNCRG). To follow the NCRG on Twitter, visit [www.twitter.com/theNCRG](http://www.twitter.com/theNCRG).

## Milestones in Responsible Gaming

- 1957** Gamblers Anonymous established.
- 1995** Harrah's Entertainment helps fund the first national problem gambling helpline.
- 1996** The National Center for Responsible Gaming is established.
- 1998** National Gambling Impact Study Commission hearings are held on Capitol Hill with NCRG leaders providing expert testimony. The Commission commends the gaming industry as the largest contributor to gambling research.
- 1998** Responsible Gaming Education Week, an annual public and employee education program, is launched by the AGA.
- 1999** The NCRG hosts its first annual Conference on Gambling and Addiction.
- 2000** The NCRG awards a multiyear contract to Harvard's Division on Addictions to establish the Institute for Research on Pathological Gambling and Related Disorders, the first university-based center dedicated to research on gambling disorders.
- 2001** The first edition of *Responsible Gaming Quarterly*, a joint publication of the NCRG and the AGA, is published. The publication highlights industry, government, academic and treatment initiatives to address gambling disorders.
- 2003** The AGA board of directors enacts the AGA Code of Conduct for Responsible Gaming, a complete set of guidelines governing employee and customer education, underage gambling, alcohol service, advertising and research.
- 2004** Publication of "A Science-based Framework for Responsible Gambling: The Reno model," in which three leading researchers provide a blueprint for grounding responsible gaming in scientific research. (Blaszczynski, A., Ladouceur, R., & Shaffer, H.J. (2004). A science-based framework for responsible gambling: The Reno model. *Journal of Gambling Studies*, 20(3), 301-317.)
- 2005** The AGA launches its first "Keep it Fun" campaign with a series of responsible gaming public service announcements (PSAs), which debuted on the Travel Channel.
- 2007** EMERGE, an online responsible gaming training program for gaming employees, is launched.
- 2007** The NCRG launches *Increasing the Odds: A Series Dedicated to Understanding Gambling Disorders*, a monograph series providing easy-to-read summaries of the latest peer-reviewed research about gambling disorders.
- 2007** The NCRG establishes the annual NCRG Road Tour to share information about the latest research on gambling disorders and make key stakeholders aware of the science-based programs and resources the NCRG has to offer.
- 2008** The NCRG partners with colleges and universities to form the Task Force on College Gambling Policies to develop recommendations for science-based campus gambling policies
- 2009** The NCRG releases *A Call to Action – Addressing College Gambling: Recommendations for Science-based Policies and Programs*
- 2009** The NCRG launches a free webinar series, which provides year-round educational opportunities designed to help individuals better understand and address critical issues related to gambling disorders and responsible gaming.
- 2010** The NCRG launches its blog, Gambling Disorders 360°.
- 2010** The NCRG forms an Advisory Committee to oversee the development of CollegeGambling.org, a resource for administrators, student health and life professionals, current and prospective college students, and parents. The online resource built upon the recommendations of the Task Force on College Gambling Policies.
- 2011** The NCRG launches CollegeGambling.org, the first site of its kind developed to help colleges and universities address gambling and gambling-related harms on campus.

# SECTION THREE

## *Responsible Gaming Education and Outreach Initiatives continued*

### PEER

The *Partnership for Excellence in Education and Responsible Gaming (PEER)* is a dynamic, one-of-a-kind program created by the NCRG to provide gaming entities with the tools and resources needed to develop a comprehensive and world-class responsible gaming program. The PEER program offers members full access to the blueprint and best practices needed to implement the Code of Conduct for Responsible Gaming, and in-depth, how-to instructions to put these words into action. PEER members also have access to unique employee training opportunities, on-call implementation assistance, and an annual report card to demonstrate progress on their initiatives. To learn more about the PEER program and how it can help your organization, visit [www.ncrg.org/peerprogram](http://www.ncrg.org/peerprogram).

### EMERGE

The *Executive, Management and Employee Responsible Gaming Education (EMERGE)* program is a science-based, online training program for gaming industry employees developed by Harvard Medical School faculty with support from the NCRG. EMERGE is the only program of its kind grounded in scientific research but designed for a lay audience. The self-paced program teaches employees about the nature of addiction, how gambling can become an addiction, and the specific responsible gaming policies and practices of their organization. EMERGE is an important component of the PEER program. For more information, download the brochure and view a demo of the program at [www.ncrg.org/public-education-and-outreach/employee-communications/emerge-training](http://www.ncrg.org/public-education-and-outreach/employee-communications/emerge-training).

### THE TASK FORCE ON COLLEGE GAMBLING POLICIES

The Task Force on College Gambling Policies was established in 2008 by NCRG and the Division on Addictions at the Cambridge Health Alliance, a teaching affiliate of Harvard Medical School. For more than a year, task force members worked to combine scientific research findings with real-world experiences in student health and university policy issues to develop science-based policy recommendations about gambling that will help higher education institutions inform their students about the risks of excessive gambling, mitigate gambling-related harms and offer rehabilitative programs that can help reduce addictive behaviors. To download the full “Call to Action” report, visit [www.ncrg.org/files/ncrg/uploads/docs/publiceducation\\_outreach/a\\_call\\_to\\_action\\_full\\_report\\_92909.pdf](http://www.ncrg.org/files/ncrg/uploads/docs/publiceducation_outreach/a_call_to_action_full_report_92909.pdf).

### COLLEGEGAMBLING.ORG

Building upon the recommendations of the Task Force on College Gambling Policies, the NCRG developed [www.CollegeGambling.org](http://www.CollegeGambling.org) as a tool to help current and prospective students, campus administrators, campus health professionals and parents address gambling and gambling-related harms on campus. The first site of its kind, [CollegeGambling.org](http://www.CollegeGambling.org) brings together the latest research and best practices in responsible gaming and the field of addiction awareness and prevention in order to provide a substantive and versatile resource that will help schools and their students address this important issue in the way that best fits each school’s needs.

### TALKING WITH CHILDREN ABOUT GAMBLING

*Talking with Children about Gambling* is a research-based guide designed to help parents, as well as others who work with youth, deter children from gambling and recognize possible warning signs of problem gambling and other risky behaviors. The guide was developed in consultation with the Division on Addictions at Cambridge Health Alliance, a teaching affiliate of Harvard Medical School. For more information, download the brochure at [www.ncrg.org/public-education-and-outreach/college-and-youth-gambling-programs/talking-children-about-gambling](http://www.ncrg.org/public-education-and-outreach/college-and-youth-gambling-programs/talking-children-about-gambling).

## THE RESEARCH MONOGRAPH SERIES

To help ensure the general public has access to the latest available research about gambling, in May 2007 the NCRG launched a new series of publications called *Increasing the Odds: A Series Dedicated to Understanding Gambling Disorders*. These publications translate into lay terms the latest peer-reviewed scientific research on gambling. Each volume presents a snapshot of the most critical research available to date, by one of the authors of each study. Monograph topics include: “Youth and College Gambling,” “Roads to Recovery from Gambling Addiction,” “Gambling and the Public Health” and “Evaluating Self-Exclusion as an Intervention for Disordered Gambling.” The sixth volume, published in the summer of 2011, looks at the reasons why neurobiological research is vital to understanding gambling disorders. To download PDFs of these publications, visit [www.ncrg.org/resources/publications/monographs](http://www.ncrg.org/resources/publications/monographs).

## The Gaming Industry’s Responsible Gaming Education and Outreach Initiatives

As the body of research on gambling disorders, prevention, treatment and recovery increases, the gaming industry has implemented policies and programs to promote responsible gaming and to make resources available to anyone who has a gambling disorder.

### AMERICAN GAMING ASSOCIATION

The AGA was established in 1995 to represent the commercial casino entertainment industry by addressing federal legislative and regulatory issues affecting its members and their employees and customers, such as federal taxation, regulatory issues, and travel and tourism matters.

The AGA also provides leadership in addressing newly emerging national issues and in developing industry wide programs on critical issues such as gambling disorders and underage gambling. Since its inception, the AGA has been a leader in developing responsible gaming programs and resources, and disseminating these tools to its member companies. Through various partnerships, the AGA has broadened the reach of its responsible gaming resources to make them available to a wider audience and to raise the standard of responsible gaming throughout the industry.

The AGA’s member companies were instrumental in establishing the NCRG in 1996, creating the first charitable non-profit organization devoted exclusively to funding research on gambling disorders. In addition, the AGA has developed and implemented a number of responsible gaming campaigns.

### AGA CODE OF CONDUCT FOR RESPONSIBLE GAMING

The AGA and its member companies codified their commitment to employing responsible gaming practices across the industry when its board of directors enacted the AGA Code of Conduct for Responsible Gaming.

The AGA Code of Conduct is an industry pledge to employees, patrons and the public to integrate responsible gaming practices into every aspect of daily operations, including employee assistance and training, alcohol service policies, and advertising and marketing practices.

The Code encourages members to provide employees with education and training on responsible gaming, how to prevent underage gambling and underage drinking, and provisions for preventing unattended minors on casino floors. Members also are asked to provide brochures and have prominently displayed signage on responsible gaming and the odds of winning at casino games, as well as where to get help for gambling disorders. The Code

# SECTION THREE

## *Responsible Gaming Education and Outreach Initiatives continued*

stresses the importance of self-exclusion programs and responsible advertising, as well as a commitment to the community-at-large by encouraging members to fund and support scientific research on gambling.

To view the full text of the AGA Code of Conduct, visit <http://www.americangaming.org/social-responsibility/responsible-gaming/code-conduct>.

### RESPONSIBLE GAMING NATIONAL EDUCATION CAMPAIGN

In 1998, the AGA launched the Responsible Gaming National Education Campaign, a long-term comprehensive program to promote responsible gaming practices and increase knowledge and awareness of gambling disorders. The program serves as the foundation for the AGA's responsible gaming outreach activities and initiatives, including the "Keep It Fun" campaign. Throughout the year, the AGA produces a number of informational resources on responsible gaming for casino companies and patrons, including guides about the odds of winning at popular casino games and responsible gaming behavior. These resources are available in both English and Spanish.

### RESPONSIBLE GAMING EDUCATION WEEK

Responsible Gaming Education Week (RGEW) was started by the AGA and its member companies in 1998. Held during the first week of August each year, RGEW is an industrywide education outreach effort targeted to employees, patrons and the public. During RGEW, industry representatives across the country promote a national theme through organized public education and awareness programs in their communities.

For more information on RGEW, contact Brian Lehman at [blehman@americangaming.org](mailto:blehman@americangaming.org).

## **Individual Company Programs**

In addition to participating in the AGA's industrywide responsible gaming initiatives, the AGA's member companies implement their own responsible gaming activities and programs in their facilities and communities throughout the year. More information about these programs is available through individual company representatives. Contact information for company representatives is available in the AGA's resource publication, *U.S. Commercial Casino Industry: Facts at Your Fingertips* (<http://www.americangaming.org/industry-resources/research/facts-your-fingertips>).

## **State Efforts**

Since the commercial casino industry is regulated at the state level, every state has its own statutes and regulations related to responsible gaming, with which casino properties must comply. For information on state regulations, access the AGA's *Responsible Gaming Statutes and Regulations* publication (<http://www.americangaming.org/industry-resources/research/responsible-gaming-statutes-and-regulations>).

# SECTION FOUR

## Glossary of Terms

**Addiction:** A popular term usually used to describe dependence on alcohol and other drugs. However, new research has expanded the definition to include gambling disorders, excessive shopping and other “substance-less” activities that can have the same effect as alcohol or drugs, such as symptoms of withdrawal. All addictive behaviors are characterized by the three Cs: loss of control, craving the object of addiction and continued involvement in spite of negative consequences.

**Clinical trial:** A study of voluntary participants used to determine the safety and effectiveness of a particular treatment. It should be designed to ensure objective results, that is, results that are not tainted by the bias of the scientists involved in the study or the voluntary participants in the study.

**Cognitive-behavioral Therapy (CBT):** Rooted in the cognitive therapy model that seeks to influence emotion and behavior by identifying and changing distorted or unrealistic ways of thinking. Cognitive therapy techniques and behavioral modification techniques merged in the 1970s, resulting in cognitive-behavioral therapy (CBT). CBT, in the form of either “talk” therapy or self-help guides, has shown promise for gambling disorders by correcting erroneous perceptions about probability, skill and luck that only reinforce problematic gambling behaviors.

**Comorbidity:** Refers to the phenomenon in which a person has more than one disorder. Most people with gambling-related problems have another psychiatric disorder, such as depression, or addictive behavior, such as alcoholism. However, it is not always clear if the other disorder helped cause the excessive gambling, is itself the result of the excessive gambling, or is independent of the gambling problem.

**Control group:** Represents subjects participating in an experiment or clinical trial, who closely resemble the treatment group in many demographic variables, but who are not receiving the active medication or factor being studied. The purpose of the control group is to serve as a comparison group when treatment results are evaluated.

**Double-blind study:** An experiment or clinical trial in which neither the subjects nor the researchers know which subjects are or are not receiving the active medication, treatment or factor being studied. This technique is used to eliminate subjective bias from study results.

**DSM:** Acronym for *Diagnostic and Statistical Manual of Mental Disorders*, which is published by the American Psychiatric Association and used to categorize psychiatric diagnoses. *DSM* lists known causes of these disorders, statistics in terms of gender, age at onset and prognosis, as well as some research concerning the optimal treatment approaches.

**Epidemiology:** A term often called the science of public health. Epidemiology is the field dealing with the incidence and prevalence of disease in large populations, and with detection of the source and cause of epidemics of a disease or disorder.

**Gambling:** Risking something of value, usually money, on an outcome that is controlled solely by chance in the hope of gaining something of greater value.

**Gambling disorders:** A broad term intended to encompass the various levels of gambling problems.

**Meta-analysis:** A statistical synthesis of data from separate but similar (i.e., comparable) studies leading to a quantitative summary of pooled results.

**Natural recovery:** Recovery without help from formal treatment.

# SECTION FOUR

## Glossary of Terms continued

**Neurotransmitter:** A chemical in the body that moves between neurons and communicates chemical messages such as pain, pleasure, emotion and touch sensation. Some neurotransmitters implicated in addiction and other psychiatric disorders include serotonin, dopamine and norepinephrine.

**Pathological gambling:** According to the *DSM-IV*, it is a persistent and recurrent maladaptive gambling behavior as indicated by certain characteristics. The term is used to describe the most severe level of a gambling disorder. (For a complete list of the characteristics and more information about pathological gambling, see page 3.)

**Peer-review:** A process in which a scientific researcher's scholarly work, research or ideas are subjected to the scrutiny of others who are experts in the same field.

**Placebo:** A substance having no pharmacological effect, but administered as a control in testing experimentally or clinically the efficacy of a biologically active preparation (i.e., a medication).

**Prevalence:** The total number of cases of a disease or condition in a given population at a specific time.

**Problem gambling:** A term commonly used to describe the less severe, or subclinical, forms of gambling disorders in which the individual has gambling-related problems but not of sufficient severity to meet diagnostic criteria for pathological gambling. (For a complete list of pathological gambling behaviors and more information about gambling disorders, see page 3.)

**Public health:** The science and practice of protecting and improving the health of a community, as by preventive medicine, health education, control of communicable diseases, application of sanitary measures and monitoring of environmental hazards.

**Randomized clinical trial:** The randomized clinical trial is one in which the subjects — individuals who have volunteered to participate in the study — are assigned to different treatments or to a control group by chance (i.e., randomly) to reduce any potential bias that might be associated with participant characteristics.

**Relapse:** Refers to a breakdown or failure in a person's attempt to maintain change in any set of behaviors.

**Responsible gaming:** The practice of enjoying gambling recreationally and socially while avoiding dangerous or negative behaviors indicative of gambling-related problems. Responsible gaming can be exhibited in several ways, such as setting time and budget limits on gambling; sticking to those limits; and avoiding behaviors and situations in which gambling will have negative emotional, psychological, social, financial or even physical effects.

**Responsible gaming initiatives or programs:** Efforts undertaken by the gaming industry, regulators and other non-gaming organizations that seek to help individuals enjoy gambling recreationally and socially, while avoiding dangerous or negative behaviors indicative of gambling disorders. Elements of these programs can include encouraging people to gamble for fun and as a social outlet, not as a way to make money or escape from problems; to be aware of risks and odds of winning; to set predetermined, acceptable limits for losses; and provide information for customers who are seeking help.

# SECTION FIVE

## Contacts and Resources

### National Associations and Organizations

#### **National Center for Responsible Gaming**

[www.ncrg.org](http://www.ncrg.org)

Washington, D.C. Headquarters  
1299 Pennsylvania Avenue, NW, Suite 1175  
Washington, DC 20004  
t: 202-552-2689

Boston Headquarters  
900 Cummings Center, Suite 418-U  
Beverly, MA 07915  
t: 978-338-6610

Email: [info@ncrg.org](mailto:info@ncrg.org)

#### **American Gaming Association**

[www.americangaming.org](http://www.americangaming.org)

1299 Pennsylvania Avenue, NW, Suite 1175  
Washington, DC 20004  
t: 202-552-2675  
Email: [info@americangaming.org](mailto:info@americangaming.org)

# SECTION FIVE

## Contacts and Resources continued

### Experts in the Field of Gambling Disorders

The following list of recognized experts in the field of gambling disorders is categorized by their areas of expertise. Individual names may appear in more than one category.

#### ECONOMIC IMPACT OF GAMBLING DISORDERS

**William Eadington, Ph.D.**

Director, Institute for the Study of Gambling  
and Commercial Gaming

University of Nevada, Reno

t: 775-784-1442

eadington@unr.edu

*Expertise: economic impact of gambling, regulation, costs and  
benefits of legalized gaming and public policy*

**Douglas M. Walker, Ph.D.**

Associate Professor of Economics

College of Charleston

t: 843-953-8192

walkerd@cofc.edu

*Expertise: noted researcher specializing in the economic  
impact of gambling*

#### GENETICS

**Donald W. Black, M.D.**

Professor of Psychiatry

University of Iowa Carver College of Medicine

t: 319-353-4431

donald-black@uiowa.edu

*Expertise: genetics and family history of pathological gambling,  
and pharmacological treatment of gambling disorders*

**Wendy Slutske, Ph.D.**

Professor, University of Missouri

Department of Psychological Sciences

t: 573-882-4043

slutskew@missouri.edu

*Expertise: behavioral genetics of gambling disorders,  
personality and gambling disorders, natural recovery and  
course of gambling disorders*

#### INTERNET GAMBLING

**Richard LaBrie, Ed.D.**

Associate Director for Research and Data Analysis  
Division on Addiction, Cambridge Health Alliance

*Expertise: pathological and gambling disorders, youth and  
college gambling, Internet gambling and self-exclusion  
programs*

For information requests or interviews contact:

Media Relations at Cambridge Health Alliance

t: 617-503-8428

**Howard J. Shaffer, Ph.D., C.A.S.**

Associate Professor

Harvard Medical School

Director, Division on Addictions

Cambridge Health Alliance

*Expertise: noted addiction researcher and clinician, especially  
on youth gambling, epidemiology of gambling and related  
disorders, the natural history of addictive disorders, and  
general public health issues (e.g., prevention and treatment)*

For information requests or interviews contact

Media Relations at Cambridge Health Alliance

t: 617-503-8428

## MINORITY AND CULTURE-SPECIFIC

### **Renee M. Cunningham-Williams, Ph.D., M.P.E., L.C.S.W.**

Associate Professor  
George Warren Brown School of Social Work  
Washington University in St. Louis  
t: 314-935-4563  
williamsr@wustl.edu

*Expertise: epidemiology of and diagnostic issues in problem/pathological gambling, health disparities in racial/ethnic minorities, co-occurring disorders*

### **Nolan Zane, Ph.D.**

Professor of Psychology and  
Asian American Studies  
Director, Asian American Center  
on Disparities Research (AACDR)  
University of California–Davis  
t: 530-752-5419  
nwzane@ucdavis.edu

*Expertise: culturally-informed treatments for ethnic minorities, Asian American mental health issues and sociocultural factors in addictive behaviors*

## NEUROSCIENCE/NEUROBIOLOGY

### **Michael Bozarth, Ph.D.**

Associate Professor  
State University of New York-Buffalo  
t: 716-645-0267  
bozarth@buffalo.edu

*Expertise: neurobiology of addiction*

### **Marc N. Potenza, M.D., Ph.D.**

Professor of Psychiatry  
and Child Study Center  
Yale University School of Medicine  
t: 203-974-7356  
marc.potenza@yale.edu

*Expertise: treatment strategies and neurobiology of pathological gambling*

## OLDER ADULTS

### **Rani Desai, Ph.D.**

Associate Professor of Psychiatry and Epidemiology  
Yale School of Medicine  
t: 203-932-5711 ext. 3615  
rani.desai@yale.edu

*Expertise: health risks of gambling for adults over age 65*

# SECTION FIVE

## Contacts and Resources continued

### PREVALENCE AND POPULATION

**Linda B. Cottler, Ph.D., M.P.H.**

Chairwoman of the Scientific Advisory Board  
Dean's Professor of Epidemiology  
Chair, Department of Epidemiology  
College of Public Health & Health Professions  
University of Florida College of Medicine  
t: 352-273-5468  
lbcottler@ufl.edu

*Expertise: epidemiology and prevalence of pathological gambling*

**Richard LaBrie, Ed.D.**

Associate Director for Research and Data Analysis  
Division on Addiction, Cambridge Health Alliance  
*Expertise: pathological and gambling disorders, youth and college gambling, Internet gambling and self-exclusion programs*

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**Howard J. Shaffer, Ph.D., C.A.S.**

Associate Professor  
Harvard Medical School  
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*Expertise: noted addiction researcher and clinician, especially on youth gambling, epidemiology of gambling and related disorders, the natural history of addictive disorders, and general public health issues (e.g., prevention and treatment)*

For information requests or interviews contact  
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t: 617-503-8428

### TREATMENT AND RECOVERY

**Donald W. Black, M.D.**

Professor of Psychiatry  
University of Iowa Carver College of Medicine  
t: 319-353-4431  
donald-black@uiowa.edu

*Expertise: genetics and family history of pathological gambling, and pharmacological treatment of gambling disorders*

**Jon E. Grant, M.D.**

Professor of Psychiatry  
University of Minnesota Medical Center  
t: 612-273-9736  
grant045@umn.edu

*Expertise: drug treatments for gambling disorders*

**David Hodgins, Ph.D.**

Professor of Psychology  
University of Calgary  
t: 403-220-3371  
dhodgins@ucalgary.ca

*Expertise: relapse and brief interventions for gambling disorders*

**Robert Ladouceur, Ph.D.**

Professor Emeritus of Psychology  
Laval University  
t: 418-656-3996  
Robert.Ladouceur@psy.ulaval.ca

*Expertise: treatment and recovery, cognitive-behavioral therapy, proximity and exposure to gambling, responsible gaming and self-exclusion programs*

**Marc N. Potenza, M.D., Ph.D.**

Professor of Psychiatry  
and Child Study Center  
Yale University School of Medicine  
t: 203-974-7356  
marc.potenza@yale.edu

*Expertise: treatment strategies and neurobiology of pathological gambling*

**Wendy Slutske, Ph.D.**

Professor of Psychology  
Department of Psychological Sciences  
University of Missouri  
t: 573-882-4043  
slutskew@missouri.edu

*Expertise: behavioral genetics of gambling disorders, personality and gambling disorders, natural recovery and course of gambling disorders*

## YOUTH AND COLLEGE GAMBLING

### **Richard LaBrie, Ed.D.**

Associate Director for Research and Data Analysis  
Division on Addiction, Cambridge Health Alliance

*Expertise: pathological and gambling disorders, youth and college gambling, Internet gambling and self-exclusion programs*

For information requests or interviews contact  
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### **Howard J. Shaffer, Ph.D., C.A.S.**

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*Expertise: noted addiction researcher and clinician, especially on youth gambling, epidemiology of gambling and related disorders, the natural history of addictive disorders, and general public health issues (e.g., prevention and treatment)*

For information requests or interviews contact:  
Media Relations at Cambridge Health Alliance  
t: 617-503-8428

### **Ken Winters, Ph.D.**

Professor of Psychiatry  
University of Minnesota Medical School  
Director, Center for Adolescent Substance  
Abuse Research

t: 612-273-9815

winte001@umn.edu

*Expertise: youth gambling and the course of gambling disorders, and assessment of problem gambling*

## Publications and Online Resources

### Increasing the Odds: A Series Dedicated to Understanding Gambling Disorders

An ongoing monograph series spotlighting specific topics in the field of research on gambling disorders.

- *Volume 1: Youth and College Gambling*
- *Volume 2: Roads to Recovery from Gambling Addiction*
- *Volume 3: Gambling and the Public Health - Part 1*
- *Volume 4: Gambling and the Public Health - Part 2*
- *Volume 5: Evaluating Self-Exclusion as an Intervention for Disordered Gambling*
- *Volume 6: Gambling and the Brain: Neuroscience Research on Gambling Disorders*

To download the monographs, visit [www.ncrg.org/resources/publications/monographs](http://www.ncrg.org/resources/publications/monographs).

### PubMed

A free service of the National Library of Medicine and the National Institutes of Health, PubMed provides access to more than 19 million MEDLINE journal citations. For more information, visit [www.ncbi.nlm.nih.gov/PubMed](http://www.ncbi.nlm.nih.gov/PubMed).

### Responsible Gaming Quarterly

An AGA and NCRG joint publication that serves as a resource for news and analysis of issues on gambling disorders and provides a broad range of coverage on recent research results, regulatory initiatives, studies and developments in the treatment field and model citizen programs in responsible gaming. To download the current issue of *Responsible Gaming Quarterly*, visit <http://www.americangaming.org/newsroom/newsletters/responsible-gaming-quarterly>.

### Gambling Disorders 360°

The NCRG's blog that explores the latest news, issues and research relating to gambling disorders and responsible gaming. To view Gambling Disorders 360°, visit <http://blog.ncrg.org>.

### The AGA's Responsible Gaming Initiatives

To learn more about responsible gaming initiatives supported by the AGA, visit [www.americangaming.org/social-responsibility/responsible-gaming](http://www.americangaming.org/social-responsibility/responsible-gaming).

### The BASIS (Brief Addiction Science Information Source)

Developed by the Division on Addictions, Cambridge Health Alliance, a Harvard Medical School teaching affiliate, the BASIS provides a forum for the free exchange of information related to addiction, and public access to the latest scientific developments and resources in the field. The aim is to strengthen worldwide understanding of addiction and minimize its harmful effects. Visit [www.basionline.org](http://www.basionline.org).

## ONLINE SCREENING INSTRUMENTS

### **Your First Step to Change**

Your First Step to Change is a self-help guide for individuals thinking about changing their gambling behavior. Originally developed as a booklet in 2002 for callers to the Massachusetts Council on Compulsive Gambling's helpline, the guide is now available online (go to [www.basionline.org](http://www.basionline.org) and click on self-help tools) and has been translated into Spanish, Chinese, Khmer and Vietnamese.

Your First Step to Change was developed by the Division on Addictions and the Massachusetts Council on Compulsive Gambling with support from the Massachusetts Department of Public Health and the NCRG.

### **The Brief Biosocial Gambling Screen (BBGS)**

The Division of Addictions at Cambridge Health Alliance, a teaching affiliate of Harvard Medical School, released the Brief Biosocial Gambling Screen (BBGS) to help people decide on their own whether to seek a formal evaluation of their gambling behavior. Released in 2011, this 3-item survey is based on the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* criteria for pathological gambling. The researchers' objective was to develop a concise screening instrument that would correctly identify the largest proportion of current pathological gamblers and exclude non-pathological gamblers (i.e., reduce the number of false positives). The development of this screen was funded by the NCRG and it is available online on the Division of Addictions website ([www.divisiononaddictions.org/bbgs\\_new/](http://www.divisiononaddictions.org/bbgs_new/)).

## RESOURCES FOR RECOVERY

### **Bettors Anonymous (12-step program)**

[www.bettorsanonymous.org](http://www.bettorsanonymous.org)  
978-988-1777 or 781-662-5199

**Gam-Anon** (a self-help organization for spouse, family or close friends of people with gambling disorders)

[www.gam-anon.org](http://www.gam-anon.org)  
718-352-1671

### **Gamblers Anonymous**

[www.gamblersanonymous.org](http://www.gamblersanonymous.org)  
National Hotline: 888-GA-HELPS (888-424-3577)

### **National Council on Problem Gambling**

[www.ncpgambling.org](http://www.ncpgambling.org)  
National Helpline: 800-522-4700

### **SMART Recovery**

[www.smartrecovery.org](http://www.smartrecovery.org)  
866-951-5357

### **Your First Step to Change**

[www.basionline.org](http://www.basionline.org)

*Note: The names of licensed treatment professionals can be obtained from health insurance providers, state public health departments and mental health and gambling helplines.*

## National Center for Responsible Gaming

### Leadership

#### OFFICERS

**Glenn Christenson**

*Chairman of the NCRG  
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NATIONAL CENTER FOR RESPONSIBLE GAMING

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