



An Industrywide Response: Promoting Responsible Gaming And Problem Gambling Research, Education and Treatment

Overview and Methodology

As the 20th century entered its last decade the American commercial casino industry experienced an incredible increase in popularity. Expansion of commercial and Native American-owned casinos into jurisdictions beyond Nevada and Atlantic City played a dominant role in the growth of the industry as did newer, bigger and more spectacular casino resorts in the more mature jurisdictions. Casinos became “big business” at the close of the 20th century as hotels, retail shops and entertainment venues began to play a larger role in the modern gaming entertainment industry. With that expansion into new communities and the “corporatization” of the industry came an increased appreciation for the importance of promoting responsible gaming and supporting efforts to help problem gamblers.

Any series of papers on the gaming industry would be incomplete without a discussion of the challenge presented by the small percentage of men and women who cannot gamble responsibly.

Rather than having a single author, this paper is the amalgam of a series of interviews with the men and women most directly involved with the industry’s efforts in this area. These interviews reveal that the responsible gaming programs developed and supported by the AGA have enhanced public awareness of the issue of responsible gaming and improved our understanding of the root causes of gambling problems.

Interviews show that while responsible gaming education was a priority within the industry and several companies had taken significant steps to address the issue by the mid-1990s, the lack of a consistent industrywide approach led to varying degrees of success and a somewhat muted overall impact. The programs developed by the AGA standardized responsible gaming practices — and set the bar high — and provided direction and heft to the industry’s outreach efforts. The collaborative nature of the AGA’s efforts has given the industry a single voice on the issue of responsible gaming, while still allowing companies to make their own mark through individual programs. The result has been a responsible gaming approach that has had significantly more impact than efforts preceding the involvement of the AGA.

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The interviewees also credit the AGA with advancing scientific inquiry into disordered gambling through its creation of the National Center for Responsible Gaming (NCRG). Before the NCRG, there was a distinct lack of credible research on disordered gambling and a great deal of confusion and disagreement among the scientific community about several key elements of the disorder. According to the sources for this paper, the NCRG has helped to legitimize the scientific study of disordered gambling, and provided grants that have resulted in significant advances in the field.

The first section of the paper describes the creation of an industrywide response to promote responsible gaming. Among the first actions of the AGA board of directors was the creation of a Responsible Gaming Task Force responsible for developing creative ways of raising awareness of responsible gaming among gaming companies' employees and patrons. The efforts of the Task Force have led to the extensive list of programs and initiatives that follow.

The second section covers the codification of the industry's commitment to both responsible gaming and supporting problem gambling research efforts. It provides an outline of the Code of Conduct for Responsible Gaming (the full Code can be found in Appendix B) to which every AGA member company has committed. Finally, the third section of the paper deals with the industry's decision to create the NCRG and the resulting impact of that organization.

Those interviewed include: Bill Boyd, chairman and chief executive officer of Boyd Gaming Corporation; Thomas Brosig, co-founder and former president of Grand Casinos and currently associate professor, Tulane University; Sue Cox, founder of the Texas Council on Problem Gambling; Frank J. Fahrenkopf, Jr., president and chief executive officer of the American Gaming Association; Connie Jones, director of responsible gaming for International Gaming Technology; Kevin Mullally, executive director of the Missouri Gaming Commission; Peter Nathan, Ph.D., professor at the Department of Psychology, College of Liberal Arts and Sciences and the Department of Community and Behavioral Health, College of Public Health, University of Iowa; Lesley Pittman, vice president of corporate and government relations for Station Casinos, Inc.; Christine Reilly, executive director of the Institute for Research on Pathological Gambling and Related Disorders, Division on Addictions, Cambridge Health Alliance, Harvard Medical School; Phil Satre, former chairman of Harrah's Entertainment, Inc.; and Ken Winters, Ph.D., professor at the Department of Psychiatry, University of Minnesota and director, Center for Adolescent Substance Abuse Research.

Creating an Industrywide Response

Many gaming companies had been working closely with treatment professionals and community organizations for many years to help those with gambling problems and to promote responsible gaming among their patrons, but as the industry grew and expanded it became clear the issues of promoting responsible gaming and helping problem gamblers required an industrywide response.

The challenges the industry faced were to develop programs that would promote responsible gaming and support strategies that would prevent and reduce disordered gambling, while still respecting the rights of the overwhelming majority of the men and women who gamble responsibly.

Meeting these challenges were among the AGA’s first priorities when it was created in the spring of 1995.

“From the beginning, we acknowledged that there are problem gamblers,” recalls Frank J. Fahrenkopf, Jr., president and CEO of the AGA, “and we were convinced that one of the great opportunities the creation of the association presented was the ability to work together to promote responsible gaming and address the issue of disordered gambling.”

The AGA board agreed and embraced Fahrenkopf’s philosophy that “one problem gambler is one too many.” From day one, the AGA staff worked with member companies to proactively develop responsible gaming programs and to address the issue of disordered gambling.

According to Fahrenkopf, it has neither been the intent nor the role of the AGA and its member companies to provide treatment for disordered gamblers. Instead, the industry agreed to focus its efforts on responsible gaming while financially supporting research on disordered gambling.

The industry lacked a broad base of medical and scientific knowledge about disordered gambling when it began to consider developing its efforts, so the AGA sought advice from leading researchers and public health professionals to determine the best approach for the industry. Bill Boyd, chairman and CEO of Boyd Gaming Corporation, recalls the advice those experts gave the industry.

“We were told the best way we could help, in addition to the programs our companies were already undertaking, was to lead industrywide public education efforts on the issues,” Boyd says. Following that advice, Boyd and his fellow AGA board members began to work with Fahrenkopf and the AGA staff to increase awareness and enhance responsible gaming programs, particularly among industry employees and patrons.

The first challenge was to develop an industrywide approach that a diverse array of companies could embrace. The existing company-specific programs resulted in inconsistencies across the industry, creating

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a scattered response that did not address the issues in the most effective manner. Among the first actions of the AGA board was the creation of a Responsible Gaming Task Force, which was given the responsibility of identifying, developing and implementing responsible gaming programs and policies that could be coordinated throughout the entire gaming entertainment industry. Since its inception, the Task Force has assisted the AGA in developing and supporting the most cutting-edge programming and educational material available about responsible gaming.

AGA Responsible Gaming Task Force

“The Task Force immediately embarked on a mission to acquire and review the approaches, programs, resources and ideas being used by individual casino entertainment companies to promote responsible gaming within their organizations,” said Tom Brosig, then president of Grand Casinos and one of the first Task Force members appointed from among AGA’s member companies.

In addition to top executives like Brosig, the task force included vice presidents of administration, human resources, operations and communications, and general counsels. From outside the industry, the Task Force included professionals from universities and state problem gambling councils with expertise in the fields of problem and underage gambling.

The culmination of their early efforts came with the AGA’s August 1996 release of the *Responsible Gaming Resource Guide*, the first comprehensive compilation of responsible gaming practices, procedures, ideas and programs. The *Resource Guide* was created as a tool for AGA member companies to use when creating or updating responsible gaming programs within their organizations. Specifically, the *Resource Guide* offered step-by-step instructions for establishing new responsible gaming programs, organizing training programs for supervisors, assembling educational material for non-supervisors, creating employee assistance programs for employees affected by problem gambling and providing educational programs for casino patrons and the public. “Another unique aspect of the *Resource Guide*,” says Brosig, “is that it provided the first all-inclusive directory of contact information for organizations involved with addressing problem gambling nationwide.” Updated with a second edition in 1998, the *Resource Guide* continues to be used by AGA’s member companies and other industry stakeholders as a primary resource for the ongoing improvement of responsible gaming practices and programs.

The Task Force continued to spearhead the AGA’s responsible gaming efforts by making recommendations for the creation of new

resources and programming that the AGA could provide to help broaden awareness of gambling issues and promote responsible gaming.

Three years after the initial release of the *Resource Guide*, the AGA launched the **PROGRESS (Promoting Responsible Gaming Resources and Education Standards) Kit**, a multimedia package providing all the elements individual properties need to implement customer and employee education programs on responsible gambling. Developed in conjunction with the North American Training Institute, a division of the Minnesota Council on Compulsive Gambling, the PROGRESS Kit includes voluntary guidelines for responsible gaming and casino marketing and advertising practices; sample employee and customer brochures and posters addressing responsible gambling; employee training curricula; and issue overviews on policy initiatives, public awareness and research in the field of disordered gambling.

“The *Responsible Gaming Resource Guide* may be the best and most comprehensive material available today for anyone who is attempting to develop a responsible gaming program or elements thereof. I have recommended it and the PROGRESS Kit to numerous individuals, organizations and government entities over the years,” says Connie Jones, director of responsible gaming at International Gaming Technology.

Launching a National Education Campaign

Another Task Force initiative was the AGA’s **Responsible Gaming National Education Campaign (RGNEC)**, a long-term, comprehensive program encompassing the myriad ongoing efforts of the AGA to promote responsible gaming and provide education about disordered and problem gambling. RGNEC was launched at the 1997 World Gaming Congress & Expo, at that time the association’s official trade show and conference. During the three-day event, the AGA held multiple responsible gaming seminars and conducted its first **Responsible Gaming Certification Course**. The one-day course, led by members of the Task Force, provided information on problem gambling and used interactive forums to assist attendees with establishing and improving responsible gaming programs within their organizations.

The flagship event of RGNEC debuted in 1998 when the AGA and its member companies sponsored the first **Responsible Gaming Education Week (RGEW)**. Held annually during the first week of August, RGEW is a cohesive industrywide education effort during which a variety of industry, regulatory and research representatives reach out to gaming employees, customers and the general public to increase awareness of problem gambling, and provide information and tips for practicing responsible gaming.

“While the AGA and the industry conduct responsible gaming efforts year-round, RGEW offers a unique opportunity for all gaming stakeholders to join together under a common theme and organize local efforts for public education and awareness,” says Boyd. Over the years, RGEW has been the platform for the debut of the live, one-hour broadcast, “**Responsible Gaming: Keeping it Fun**,” the “**Understanding the Odds: A Key to Responsible Gaming**” educational video geared toward employees and the interactive online quiz for gaming stakeholders called “**Log On and Learn**,” which allows quiz takers to test their knowledge of responsible gaming and disordered gambling.

To support the local efforts of its members, the AGA has developed a library of information resources and collateral material to be used in the education of employees, customers and the public. Pooling the expertise of leading researchers and industry responsible gaming professionals, the AGA has produced a number of educational videos, public service announcements, booklets, resource guides, brochures and more addressing the issue of disordered gambling in ways that are accessible to the broader public.

Among the most widely used of these informational materials are the “**Keeping it Fun**” brochure, now in its eighth year of production, which provides important tips for patrons on maintaining a personal view of gaming as entertainment rather than a way to “earn” money, and the “**House Advantage: A Guide to Understanding the Odds**” brochure, released in 2004, which is designed to educate patrons about the probabilities of winning or losing at the various games offered by casinos.

Additionally, the AGA has designed and produced collateral materials for casino properties to use when promoting RGEW. Buttons, posters, stickers and other materials are worn by employees or posted around the property to invoke the curiosity of gaming customers and encourage them to ask questions and request more information about gambling responsibly. Among the most popular of these awareness tools has been the “**Keep it Fun**” wristbands that debuted as the centerpiece of RGEW 2005, themed, “**We’re Banding Together to Keep it Fun**.” The “Banding Together” theme highlights a renewed focus by the AGA and the industry to link all gaming stakeholders — operators, manufacturers, gaming customers, employees, regulators, legislators, treatment professionals and others — in a common and ongoing effort to promote responsible gaming. Both the wristbands and the “Banding Together” theme will continue to be used to promote responsible gaming awareness in the future.

Phil Satre, former chairman of Harrah’s Entertainment, Inc. and former AGA chairman, says the variety of educational and resource material is important because “casino entertainment companies come in all shapes and sizes, which means there are significant differences in the

resources each company has available to develop and maintain responsible gaming programs. The extensive, high-quality resources developed by honing industry best practices over time and made available through the AGA ensure that our entire industry can commit to providing top-notch responsible gaming programs.”

RGEW also frequently serves as the backdrop for a variety of responsible gaming outreach activities that occur year-round as part of RGNEC. In addition to certification courses and educational workshops, the AGA in 2001 created the **Responsible Gaming Lecture Series**. Bringing together experts from many different fields to shed light upon the most recent breakthroughs and developments in responsible gaming and disordered gambling, the periodic series of lectures serves as a forum for the exchange of information among gaming stakeholders nationwide. The lectures are organized to enable employees, regulators, mental health officials and problem gambling treatment providers to learn how new breakthroughs in disordered gambling research can be practically applied in their day-to-day operations.

The AGA launched its first-ever television **public service announcement (PSA)** focused on responsible gaming during RGEW 2005. Featuring a series of individuals delivering tips on how they gamble responsibly, the 30-second PSA explains the importance of responsible gaming and identifies some key characteristics of responsible gaming activity, concluding with a call to action for viewers to contact the AGA for a free guide to responsible gaming. The PSA was developed by the AGA under the guidance of a responsible gaming committee comprised of representatives from AGA member companies, Harvard Medical School’s Division on Addictions and other organizations familiar with the issue of disordered gambling. The Travel Channel network, which airs the weekly World Poker Tour series and other gaming-related programming, nationally debuted the PSA in the weeks before RGEW 2005 and continues to air the spots in conjunction with all of its gaming-related programming. Television stations in several casino jurisdictions across the country ran the ads during RGEW, and a number of AGA member companies incorporated the PSA into their individual advertising efforts and are airing it on their in-house television networks. Print PSAs featuring the same characters and messages also were developed for placement in hotel magazines, industry publications and other venues.

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The Code of Conduct for Responsible Gaming

“Coupled with the industry’s understanding that it must be proactive in teaching its customers and employees about responsible gambling was the AGA’s recognition that the most successful way to be proactive industrywide would be for the Association to provide its member companies with guidelines and standards concerning responsible gaming,” says Satre.

The first step in providing these guidelines and standards was the development by the AGA board and staff of comprehensive voluntary guidelines to address all aspects of disordered gambling and responsible gaming, ensuring customers and employees would have the necessary information to be able to seek help for the condition if needed.

According to Satre, by 2003 the evolution of diverse and substantial responsible gaming programs throughout the casino entertainment industry had created an environment where a consistent, formalized approach to responsible gaming standards and programming could be implemented. The voluntary guidelines already in place became the foundation for one of the most significant efforts undertaken by the AGA, the creation of the **AGA Code of Conduct for Responsible Gaming** (the full Code can be found in Appendix B).

Lesley Pittman, vice president of corporate and government relations for Station Casinos, recalls that after nearly a year of meetings, drafts and deliberations, the AGA Board of Directors approved the final AGA Code of Conduct for Responsible Gaming on Sept. 15, 2003. The Code is the first comprehensive, industrywide approach to responsible gaming, and it addresses nearly every aspect of the gaming industry from employee assistance and training to research, alcohol service, and advertising and marketing practices.

According to Pittman, “The industry recognized that, though affecting a relatively small percentage of the population, disordered gambling is an issue. The AGA provided the opportunity for the industry to unite its individual labors into a significant, cohesive effort, of which one important aspect is the Code of Conduct, in order to affect positive change in the area of disordered gambling.”

At the time of the Code’s adoption, most AGA member companies and properties were conducting successful responsible gaming programs, but without a single unifying set of standards. Satre explains that the Code serves a dual purpose.

“First, it details standards that all AGA member companies abide by in their efforts to address problem gambling and promote responsible gaming,” he says, “and it also provides employees, patrons, regulators, the

public and others with the specific characteristics they can expect from companies and properties adhering to the AGA Code of Conduct.”

The Code pledges industrywide support in three areas:

1. To employees, AGA member companies pledge, among other things, to provide education, training and informational materials on responsible gaming issues, as well as supply contact information, including help-line numbers, for organizations where employees can find assistance.
2. To patrons, members pledge to promote responsible gaming, prevent underage gambling and keep minors out of casinos, serve alcoholic beverages responsibly and advertise responsibly. Among the most significant provisions of this section of the Code is the provision allowing patrons to self-exclude themselves from casinos by requesting, in writing, that a casino not knowingly give the patron access to the casino property.
3. To the public, AGA members pledge to continue to fund research on gambling and health, and to use the results of that research to develop practical ways to improve responsible gaming programs. Additionally, members commit to conducting annual reviews of their companies and/or properties to ensure continuing compliance.

“To support its members in their efforts to implement the many provisions of the Code, the AGA has developed and produced informational materials to be used in educating employees and patrons,” says Satre. Among these materials was the previously mentioned “House Advantage” brochure, which, for the first time, gave members an easy-to-understand guide to the odds of casino games to distribute to employees and patrons. The AGA also created the **Code of Conduct Online Resource Guide**, available only to AGA members, which provides various resources to implement specific Code provisions through the association’s Web site. These resources include educational videos and literature, best practices and other materials for members to use in educating their employees, patrons and the public about responsible gaming.

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The National Center for Responsible Gaming

Over the years, the AGA and its member companies have developed a broad range of tools and initiatives to promote responsible gaming that are informed by a solid body of scientific research. However, the body of knowledge and research on disordered gambling was virtually non-existent when the AGA was founded. Knowing that effective educational and informational programming on responsible gaming required a better understanding of the disorder, the AGA sought a way to improve the state and volume of scientific research on disordered gambling.

The State of Research in the Early 1990s

Although pathological gambling was determined to be a psychiatric disorder in 1980, research and treatment of the condition lacked a comprehensive approach.

“Fifteen years ago, the field of gambling research was largely undeveloped,” notes Ken Winters, Ph.D., professor in the department of psychiatry at the University of Minnesota and a gambling researcher since 1990. He says there was too little scientific research and, therefore, “understanding was extremely limited.”

Winters makes the point that serious scientific research requires funding, and there were very few funding sources dedicated to research on gambling disorders in the mid-1990s. Consequently, according to Christine Reilly, executive director of the Institute for Research on Pathological Gambling and Related Disorders, “the field of gambling research lacked consistent terminology, had no treatment standard, included a diagnostic code not based on empirical research and was viewed in isolation from other addictions.”

Reilly and Winters also point out that, due to methodological inconsistencies and a lack of peer-reviewed studies, there was a lot of published work in the earlier years that was less than ideal from a scientific standpoint. As just one example of the confusion in the field, estimates of the prevalence of pathological gambling showed great inconsistencies, with numbers ranging as high as 50 percent of the population.

Creation of the NCRG

The industry recognized that without a clear understanding of the disorder, effective solutions to problem gambling were not possible. Keeping in mind the guidance offered to them by medical experts and leading researchers, the AGA and industry leaders determined the best way to promote advances in problem gambling research would be to create

an independent, not-for-profit organization called the National Center for Responsible Gaming (NCRG) to fund research in the field and conduct education and awareness activities.

Brosig, who was directly involved with the creation of the organization, recalls that several conditions facilitated the formation of the NCRG. First, he says the geographic expansion of casinos into new communities created a need for an organization like the NCRG. While new gaming communities were “enthusiastic” about the jobs, economic growth and taxes the casinos provided, he said, “the leaders of those communities also wanted to make certain problem gambling was being addressed.”

Communities were searching for programs and tactics they could implement to address the issue, he said, but information on developing and maintaining awareness and treatment programs was scarce. This dearth of resources exposed a need for significant, peer-reviewed scientific research that would increase the amount and level of knowledge about problem gambling, investigate effective treatment methods and inform the development of awareness programs.

In light of this need for reliable scientific data, Brosig says the creation of the AGA provided a mechanism to put substantial resources behind the effort. He and Boyd agree the AGA played a valuable role in identifying the needs revealed by industry expansion and most importantly, harnessing the industry’s funding strength to create an organization that would address those needs.

“The creation of the AGA in 1995 gave the industry a vehicle to act as one to make a significant impact in the areas of problem gambling research and awareness, not only within the industry, but on a national scale,” says Boyd, who became the NCRG’s first chairman.

With these factors already in place, the ultimate catalyst for the creation of the NCRG came about in early 1996 in the form of a law in the new gaming jurisdiction of Kansas City, Mo., which required applicants to make a financial commitment to addiction prevention programs as a condition of receiving a gaming license.

Boyd Gaming Corporation and Station Casinos, Inc. were two companies with licenses in that market, and the companies’ executives were acutely concerned that the funds they were required to contribute be spent to good purpose. As occurred during AGA’s work to develop its industrywide approach to responsible gaming, a group of industry executives, researchers and regulators was brought together to discuss how best to address the Missouri requirements. Sue Cox, founder of the Texas Council on Problem Gambling and later a member of the NCRG board, was one of the participants in these early discussions, and she remembers that “from the outset, all participants agreed on the need for solid scientific

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information on disordered gambling and understood that the only way to increase study into the disorder would be to provide a steady funding stream to interested researchers.”

At the same time, Cox says, everyone involved insisted on the creation of a strong firewall between the funding from the casino industry and the people who would make the decisions about which research projects would receive grants. The result was the creation of the NCRG, a separate charitable organization with a board consisting of an equal number of industry and non-industry representatives charged with raising funds for disordered gambling research. The NCRG also created a separate research review board that would make research funding recommendations, demonstrating more clearly that industry funding would not influence research decisions. The task of this review board was to review grant applications and choose grant recipients.

The University of Missouri, Kansas City (UMKC) offered to host the new organization. Boyd Gaming Corporation provided the start-up funds for the NCRG in 1996 and made a 10-year pledge of \$875,000. Other leading gaming companies, including Harrah’s Entertainment, Inc., International Game Technology, Mandalay Resort Group, MGM MIRAGE and Caesars World, Inc., were early and generous supporters. Boyd says his company made the commitment because “I was raised understanding that the industry has a duty to do what it can to help those people who cannot gamble responsibly, so for me, the creation of the NCRG was an occasion for the industry to provide leadership on this issue, and I was proud to step up to the plate to initiate this important project.”

These initial funds were instrumental in creating a stable organization with the primary mission of aiding individuals and families affected by pathological gambling through support of rigorous science-based research and educational programs on gambling and health.

Less than a year later, in January of 1997, commitments to contribute \$100,000 for each of the following three years were made by: Hilton Hotels Corporation; Grand Casinos, Inc.; International Game Technology; Circus Circus Enterprises, Inc.; Caesars World, Inc.; and Mirage Resorts, Inc. Other organizations also pledging significant contributions at that time included: Aztar Corporation; Empress Casino Joliet Corporation; Empress Casino Hammond Corporation; ShuffleMaster Gaming; Casino Data Systems; Boomtown, Inc.; Harrah’s Entertainment, Inc.; Hollywood Casino Corporation; Rio Suites Hotel & Casino; and The Lincy Foundation.

So, just one year after its creation, total commitments made to the NCRG stood at \$4.41 million to be allocated over a 10-year period. To date, commercial casinos and related businesses have raised an unprecedented \$15 million for research on gambling disorders through donations to the NCRG (For a full list of contributors since 1996, see Appendix C).

With this support from the industry, the NCRG became the first serious funding source in the problem gambling research field and represented a commitment to rigorous scientific standards, including an insistence that all research be peer-reviewed.

Almost immediately, the NCRG set out to fund research that would accurately identify the prevalence rate of pathological gambling. As previously noted, prior to this funding, basic information about prevalence was not only lacking, but a variety of estimates were circulating that placed the problem at anywhere from 5 percent to 50 percent of the population, depending on which organization was asked for the information.

Thus, the first project funded by the NCRG was a meta-analysis, begun in 1996 and published in 1999, by Harvard Medical School's Division on Addictions, which placed the national prevalence rate of pathological gambling at 1.29 percent, a number confirmed by numerous studies since, including the one conducted by the National Research Council of the National Academy of Sciences for the National Gambling Impact Study Commission.

In 2000, the NCRG embarked on an historic collaboration with Harvard Medical School, which resulted in shifting evaluation and funding of gambling research grants to Harvard. The NCRG awarded a multi-million dollar contract to Harvard Medical School's Division on Addictions to establish the Institute for Research on Pathological Gambling and Related Disorders to carry out the academic and scientific functions previously performed by the NCRG.

The Institute supports both internal core gambling research and competitively funded external research at educational, medical and research institutions worldwide. Its internal research program is led by Dr. Howard Shaffer, the director of the Division on Addictions, whose research in gambling addictions has pioneered the field. Yet, fully one-third of the Institute's funds for research are distributed to non-Harvard institutions, and it employs scientific peer-review panels to evaluate all research proposals.

Establishing the Institute was an opportunity to provide even further separation of research decisions from the funding companies — a safeguard to protect the integrity of the science — as well as allowing one of the leading academic institutions in the world to take over the grant-making responsibilities.

From the beginning, the NCRG has committed to soliciting research proposals from the most respected institutions in the country, remarks Reilly, who adds that “the independent review board making the grant decisions consists of established scientists who use the standards and procedures of the National Institutes of Health (NIH), including peer-review panels comprised of distinguished, independent scientists, to

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determine the scientific merit of the results. This process has been extremely successful, resulting in significant research advances.”

With these responsibilities now performed by the Institute, the NCRG has been able to renew its focus on developing and supporting public education programs and developing research-based, practical applications to be used in the casino setting. This shift from a research-centered focus to a public outreach-centered focus is evidenced by a renewed mission of the NCRG to be the leading source of science-based research and information on gambling and health, advancing education, prevention, treatment and public policy.

Impact of the NCRG

Winters notes that significant progress toward the understanding of gambling disorders has been made since the creation of the NCRG in 1996, and that the field of research is more robust and respected than ever before.

In support of this position, Winters points out that in academia, the scientific community decides the quality and importance of a particular work through the peer-reviewed process. Thus, publication in a peer-reviewed scientific journal provides independent confirmation of the scientific merit of a study. NCRG-funded studies have been published in more than 130 highly competitive, peer-reviewed scientific journals, clearly indicating that other scientists believe the organization is supporting rigorous scientific contributions to the field.

Peter Nathan, Ph.D., a leading researcher on alcohol use disorders and a professor in both the Department of Psychology in the College of Liberal Arts and Sciences and the Department of Community and Behavioral Health in the College of Public Health at the University of Iowa, points out that, since the NCRG was established in 1996, the amount of research conducted on gambling disorders has exponentially increased. Fully one-third of the total amount of research on gambling disorders was published between 1999 and 2003, meaning much of what is known about the disorder has been learned only in the past few years, a fact due, in part, to the availability of funding from the NCRG and other sources, including the federal government.

In fact, many researchers in the field agree that for several investigators, NCRG support has provided crucial seed money, leading to major grants from the highly competitive NIH, which began offering grants in the field of gambling research two years after the creation of the NCRG.

As just one example, Suck Won Kim, M.D., the director of the Impulse Control Disorders Clinic in the Department of Psychiatry at the University of Minnesota Medical School, parlayed a \$54,000 grant from the NCRG

into an NIH grant of more than \$464,000. Kim’s study will determine whether the drug naltrexone is effective in treating pathological gambling, which could have profound implications because currently there is no treatment standard for this disorder. Winters identified the integrity of the work funded by the NCRG as the reason it is able to leverage important federal support.

According to Nathan, the NCRG has allowed for the development of the following three important lines of research:

- Development of more reliable and valuable assessment tools, which enable a more precise diagnosis of the severity of the disorder.
- Funding of methodologically superior outcome studies assisting behavioral scientists to be able to develop and evaluate treatment programs.
- Neurobiological research has given the field great insights into the impact of the disorder on the central nervous system and highlighted similarities between pathological gambling and other addictions.

Nathan further highlights that research funded by the NCRG not only has “enabled researchers to gather pilot data allowing them to qualify for substantial federal grants,” but also has “demonstrated to the federal government and other organizations that pathological gambling is treatable, and results are often positive.”

Winters agrees with Nathan on the positive impact of the organization, saying, “Thanks to the NCRG, the field has gone from just counting how many people have the disorder to creating treatment trials and sophisticated behavioral, genetics and neurological studies.”

NCRG grants have funded research leading to promising treatment options for gambling disorders, a greater understanding of youth gambling and new instruments for accurately measuring, screening and diagnosing pathological gambling. NCRG-funded research also has led to important developments in how all addictions are studied and how the gaming industry approaches responsible gaming issues.

Cox credits the NCRG with “putting validated research into the hands of those who can use it, thus creating practical applications and promising treatments.”

The research now available has allowed the industry to better understand and deal with health risks among its employees. It also has helped evaluate the effectiveness of the industry’s intervention programs, including self-exclusion, and has made significant strides in the development of treatment options based on science rather than conjecture.

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“Perhaps most importantly,” says Winters, “the NCRG has encouraged new ways of thinking about disordered gambling, leading to an important paradigm shift.” Clinicians, researchers and public policy-makers have started to consider gambling from a public health perspective, which promotes the examination of health-related phenomena through a population-base lens and not just an individual lens. This perspective not only takes into consideration the impact on the community — both positive and negative — but also includes how government, industry and the health care sector all respond to people struggling with a gambling problem.

“The NCRG was founded, in part, because too often decisions about industry programs and public policy had not been grounded in sound science, leading to regulation and education programs based on political pressure or anecdotal information,” states Brosig. “The NCRG aims to reverse this trend so public health policy and proactive industry efforts will effectively address problem gambling.”

One major outreach program of the NCRG focused on this concern is its annual **Conference on Gambling and Addiction**, jointly sponsored by the Institute, which brings together researchers, clinicians, gaming industry executives, policy-makers and regulators to learn about the newest research results, discuss the effectiveness of common practices, and address regulatory and public health concerns related to disordered gambling. Exhibiting significant growth every year since its inception in 2000, the conference now draws more than 400 attendees from around the world. Winters specifically complimented the NCRG on this unique effort, seeing it as one of the most important outreach efforts within the industry.

Each year the conference has successfully focused discussion by adopting a general theme relevant to both research and public policy interests, allowing leading scientists, industry executives, regulators and others from around the world to find common ground and determine strategies for working together to address disordered gambling within the public health context. Past conferences have highlighted groundbreaking research suggesting that all addictions are part of one underlying addiction syndrome, as well as an innovative discussion framework that uses scientific research as the foundation for policy and programmatic discussions related to problem gambling.

“I have long been a proponent of the need for our industry to understand the science underlying addiction, and increased industry participation in this conference is the logical next step in our efforts to raise awareness of responsible gaming and develop more effective programs. The NCRG continually strives to find new ways for scientific research to have practical applications within gaming companies and communities, and the conference offers a unique forum for a diverse array

of representatives to come together, openly discuss what’s working and what’s not, and develop positive, real-world solutions,” says Fahrenkopf.

According to Winters, Cox and Nathan, the NCRG has legitimized the field of disordered gambling research, broadened its scope and impact, and attracted the top minds and most promising young talent from some of the most prestigious academic and scientific institutions around the world.

The NCRG Today

The \$15 million in financial support from the industry has enabled the NCRG to attract top-flight researchers to conduct research in the relatively new field of problem gambling, supporting more than 30 research projects at more than 20 institutions including Boston University Medical School, Harvard University, Johns Hopkins University, McGill University, University of Colorado, University of Illinois, Champaign-Urbana, University of Michigan, University of New Mexico, VA Medical Center Cleveland, Washington University School of Medicine and Yale University School of Medicine.

Since its creation, NCRG-funded research has included clinical trials of treatment strategies, prevalence studies, the genetics of gambling disorders, youth gambling, the development of prevention strategies, the relationship between gambling and other psychiatric disorders, the nature of addiction and the natural history of the disorder.

With the creation of the Institute for Research on Pathological Gambling and Related Disorders, the NCRG now is able to focus more attention on its public outreach efforts. Thanks to new funding sources such as “Keep It Fun” wristband sales and private industry fundraising events, NCRG is beginning to directly reach out to gaming communities across the nation to offer science-based public education, training and program support.

In addition, although they are distinct entities with separate missions, the AGA and the NCRG also partner in efforts to broaden awareness of responsible gaming and provide education about disordered gambling. Since 2001, the AGA and NCRG have jointly produced *Responsible Gaming Quarterly (RGQ)*, one of the leading international resources for news and analysis of disordered gambling issues. Counting industry representatives, government officials, academics and treatment community representatives among its subscribers, *RGQ* highlights initiatives from each of these populations to address disordered gambling. “*RGQ*’s purpose is to provide a forum for information exchange in pursuit of a common goal — better prevention and treatment of gambling disorders,” says Reilly.

Now located in Washington, D.C., where there is better access to public health policy-makers and regulators, the NCRG remains the only national organization exclusively devoted to the funding of peer-reviewed research

Thanks to new funding sources such as “Keep It Fun” wristband sales and private industry fundraising events, NCRG is beginning to directly reach out to gaming communities across the nation to offer science-based public education, training and program support.

“The commercial casino industry has set itself apart by leading the way and succeeding in the important task of focusing on the issue of problem gambling in its day-to-day activities.”

Kevin Mullally, executive director of the Missouri Gaming Commission.

on disordered gambling and to public education about responsible gaming. The organization continues to evolve, with a renewed commitment to developing locally targeted public outreach programs focused on responsible gaming issues, as well as continuing to fund the top research projects on disordered gambling issues in the country.

(Editors note: Please see Appendix D for a full listing of the research funded by the NCRG since 1996.)

The Lasting Impact of Industry Involvement

Commercial casino executives were determined from the outset to lead not only in acknowledging the seriousness of disordered gambling, but also in educating and raising awareness of the condition and promoting responsible gaming practices to help prevent employees and customers from being affected by disordered gambling.

“The commercial casino industry has set itself apart by leading the way and succeeding in the important task of focusing on the issue of problem gambling in its day-to-day activities,” says Kevin Mullally, executive director of the Missouri Gaming Commission. “Problem gambling awareness and the promotion of responsible gaming now are part of the business of operating a casino.”

The AGA and NCRG are committed to working with all stakeholders to increase responsible gaming. A successful approach to treating disordered gambling lies in working together with public health officials, policy-makers, clinicians and researchers to develop responsive and effective public policies and industry programs to prevent and reduce gambling-related harms while, at the same time, respecting the rights of those individuals who gamble without problems.

Through its efforts to promote responsible gaming both within and outside of the industry, and to facilitate funding for further research into disordered gambling, the AGA has acted as a catalyst for the unification of the industry in a focused, long-term effort to address this important issue.

“The guidelines for responsible gaming developed by the industry with the help of the AGA, which over time have evolved to become the Code of Conduct, have not only introduced high standards for business practices, they also have let the general public know that we, as an industry, are willing to be held to a high standard,” says Satre. “The efforts of the AGA have brought the public’s perception of the industry, which may not have been very positive in the mid-1990s, closer to reality, helping the public to recognize our industry as a group dedicated to operating our businesses responsibly and exerting our best efforts to address the important and challenging social issues we face.”

Appendix A – Interviewees

Bill Boyd, Chairman and Chief Executive Officer, Boyd Gaming Corporation

Consistently at the forefront of responsible gaming activities, Boyd was a founding member of the American Gaming Association’s Board of Directors, as well as the first donor and Board Member of the National Center for Responsible Gaming.

Thomas Brosig, Associate Professor, Tulane University

Co-founder and former president of Grand Casinos, Brosig was instrumental in both the creation of the American Gaming Association and the National Center for Responsible Gaming. He has served on both Boards of Directors and developed the casino management curriculum at the University.

Sue Cox, Founder, Texas Council on Problem Gambling

A dedicated advocate, Cox was an instrumental player in the creation of the National Center for Responsible Gaming and is a current member of the Board of Directors.

Frank J. Fahrenkopf, Jr., President and CEO, American Gaming Association

Chief executive of the American Gaming Association since its inception in 1995, Fahrenkopf has played an active role in every industrywide initiative promoting responsible gaming and addressing problem gambling over the last decade.

Connie Jones, Director of Responsible Gaming, International Gaming Technology

One of the first executives to ever hold the title of director of responsible gaming, Jones has been directly involved in responsible gaming training and initiatives for over a decade. She serves on the Board of the National Center for Responsible Gaming and the Advisory Board of the Nevada Council on Problem Gambling.

Kevin Mullally, Executive Director, Missouri Gaming Commission

An active regulator, Mullally developed the first state-wide self-exclusion program to assist at-risk individuals living in gaming communities. He is currently a member of the Board of the National Center for Responsible Gaming as well as the Missouri Council on Problem Gambling Concerns, Inc. and the Missouri Alliance to Curb Problem Gambling.

Peter Nathan, Ph.D., Professor, Department of Psychology, College of Liberal Arts and Sciences and the Department of Community and Behavioral Health, College of Public Health, University of Iowa

A member of the Advisory Board of the Institute for Research on Pathological Gambling and Related Disorders, Nathan is a well-respected addictions researcher specializing in behavioral treatments, syndromal diagnosis, and tolerance and dependence processes.

Lesley Pittman, Vice President, Corporate and Government Relations, Station Casinos, Inc.

Pittman was a member of the subcommittee appointed by the AGA Board of Directors to draft and develop the AGA Code of Conduct.

Christine Reilly, Executive Director, Institute for Research on Pathological Gambling and Related Disorders, Division on Addictions, Cambridge Health Alliance, Harvard Medical School

Reilly served as the first executive director of the National Center for Responsible Gaming until taking over as the first executive director of the Institute in 2001.

Phil Satre, Former Chairman, Harrah’s Entertainment

An active leader in the casino industry, Satre has served as chairman of the American Gaming Association and is a long-time board member of the National Center for Responsible Gaming. As chairman of Harrah’s he instituted company-wide responsible gaming initiatives and created a legacy of leadership on the issue that continues today.

Ken Winters, Ph.D., Professor, Department of Psychiatry, University of Minnesota and Director, Center for Adolescent Substance Abuse Research

A researcher in the field of pathological gambling since 1990, Winters’ research into the root causes of addiction and problem gambling has been published in several peer-reviewed journals. Winters serves on the Advisory Board of the Institute for Research on Pathological Gambling and Related Disorders.

Appendix B – AGA Code of Conduct for Responsible Gaming

Pledge to Our Employees

- AGA members will educate new employees on responsible gaming.
- AGA casino companies will train gaming floor employees on responsible gaming and provide periodic refresher training.
- AGA members will implement communications programs for employees to improve understanding of responsible gaming and related policies and procedures.
- AGA members will distribute to new employees brochures describing responsible gaming and where to find assistance. Companies will make copies of these brochures available to employees.
- AGA members will post responsible gaming awareness signage bearing a toll-free help-line number at various locations where employees congregate.

Pledge to Our Patrons

... To Promote Responsible Gaming

- AGA members will make available brochures describing responsible gaming and where to find assistance. These will be available and visible in gaming areas and at ATMs.
- AGA members will make available on their Web sites information describing responsible gaming and where to find assistance.
- AGA members will display in gaming areas and at ATMs signage that can be easily read bearing a toll-free help-line number.
- AGA members will make available to patrons and employees information generally explaining the probabilities of winning or losing at the various games offered by the casino.
- Each AGA casino company will provide opportunities for patrons to request in writing that they not be sent promotional mailings and for revocation of their privileges for specific casino services such as:
 - Casino-issued markers
 - Player club/card privileges
 - On-site check-cashing

- In addition, each AGA casino company shall make reasonable efforts to honor a written request from any person that it not knowingly grant that person access to gaming activities at one or more of its facilities.

- AGA casino companies reserve the right to exclude a patron from gaming, without a request from the patron.

... To Prevent Underage Gambling and Unattended Minors in Casinos

- AGA casino companies will make diligent efforts to prevent underage individuals from loitering in the gaming area of a casino.
- AGA casino companies will communicate the legal age to gamble through appropriate signage and/or brochures.
- Employees working in relevant areas will receive training in appropriate procedures for dealing with unattended children, underage gambling, and the purchase and consumption of alcohol and tobacco by minors.
- If a child appears to be unsupervised or in violation of local curfews and other laws, security or appropriate personnel will be contacted and remain with the child while reasonable steps are taken to locate the parent or responsible adult on property or by telephone. If efforts are unsuccessful, security personnel will contact an appropriate third party, such as the police department or department of youth services, and release the unattended child to their care.

... To Serve Alcoholic Beverages Responsibly

- AGA casino companies will observe a responsible beverage service policy including the following elements:
 - Casinos will not knowingly serve alcoholic beverages to a minor.
 - Casinos will not knowingly serve alcoholic beverages to a visibly intoxicated patron.
 - Casinos will make a diligent effort not to permit gaming by a visibly intoxicated patron.
 - AGA casino companies will train appropriate casino employees in the company's responsible alcoholic beverage service policy, and will provide periodic refresher training to those employees.

... To Advertise Responsibly

This code applies to the advertising and marketing of casino gaming by AGA member companies. It does not pertain to advertising and marketing that is primarily of hotels, restaurants and entertainment that are often associated with or operated or promoted by casinos. For the purposes of this code, advertising and marketing include radio and television ads broadcast off the premises, print, direct mail, billboard and Internet promotions.

- Casino advertising and marketing will:
 - Contain a responsible gaming message and/or a toll-free help-line number where practical.
 - Reflect generally accepted contemporary standards of good taste.
 - Strictly comply with all state and federal standards to make no false or misleading claims.
- Casino advertising and marketing materials will not:
 - Contain cartoon figures, symbols, celebrity/entertainer endorsements and/or language designed to appeal specifically to children and minors.
 - Feature current collegiate athletes.
 - Feature anyone who is or appears to be below the legal age to participate in gaming activity.
 - Contain claims or representations that gaming activity will guarantee an individual's social, financial or personal success.
 - Be placed in media where most of the audience is reasonably expected to be below the legal age to participate in gaming activity.
 - Imply or suggest any illegal activity of any kind.
 - Be placed in media specifically oriented to children and/or minors.
 - Appear adjacent to, or in close proximity to, comics or other youth features, to the extent controlled by the AGA member.
 - Be placed at any venue where most of the audience is normally expected to be below the legal age to participate in gaming activity.

Pledge to the Public

... To Continue Funding Research

- AGA members will continue to provide funding for the National Center for Responsible Gaming, which is the leading source of science-based research and information on gambling and health.
- AGA members will use this research to identify the best practices for casinos to follow to promote responsible gaming.
- AGA members will continue to develop a dialogue surrounding scientific research on gambling and health to communicate to and educate patrons, employees and policy-makers.

... To Provide Oversight and Review

One year following the adoption of this Code of Conduct each AGA member company will implement the code and begin conducting annual reviews of its compliance with this code.

****All aspects of AGA's Code of Conduct are subject to local, state and federal laws.****

Enacted Sept. 15, 2003, by the AGA board of directors

Appendix C – NCRG Contributors Since 1996

Alliance Gaming Corporation
Argosy Gaming Company
Aztar Corporation
Bank of America
Boyd Gaming Corporation
William Boyd
Roland Burris
Caesars Entertainment, Inc.
Caesars World, Inc.
Andre Carrier
Casino Data Systems
Glenn Christensen
Coast Resorts, Inc.
Community Foundation of Western Nevada
Empress Riverboat Casinos, Inc.
Foxwoods Resort Casino
Grand Casinos, Inc.
Hard Rock Hotel and Casino Las Vegas
Harrah's Entertainment, Inc.
Harveys Casino Resorts
Hilton Hotels Corporation
Hollywood Casino Corporation
Horseshoe Gaming, Inc.
Hotel Employees and Restaurant Employees
International Union
International Game Technology
Isle of Capri Casinos, Inc.
JCM American Corporation
David Korn
The Lincy Foundation
Mandalay Resort Group
MGM MIRAGE
Mikohn Gaming Corporation
Mille Lacs Band of Ojibwe Indians
Mission Industries
Mississippi Band of Choctaw Indians
Mohegan Sun
The Palms Casino Resort
Park Place Entertainment Corporation
Pinnacle Entertainment, Inc.
Pioneer Behavioral Health
Rio All-Suites Hotel and Casino
The Riviera Hotel & Casino
Stan Roth
Sandia Casino
Sky City Casino, Pueblo of Acoma
Showboat, Inc.
Shuffle Master Gaming
Southern Wine and Spirits of Nevada
Station Casinos, Inc.
WMS Industries, Inc.
Tim Wilmott

Appendix D – Grants Awarded by the NCRG 1996-2004

Awarded 1996

Estimating the Prevalence of Disordered Gambling Behavior in the United States and Canada: A Meta-Analysis

Principal Investigator: Howard J. Shaffer, Ph.D.

Harvard Medical School

Findings published in *American Journal of Public Health and Canadian Journal of Public Health* and praised by the National Academy of Sciences/National Research Council Committee on the Social and Economic Impact of Pathological Gambling as most reliable estimates (*Pathological Gambling: A Critical Review*, 1999).

Awarded 1997

Cognitive Biases in Problem Gambling

Principal Investigator: Nigel E. Turner, Ph.D.

Centre for Addiction and Mental Health, Toronto

Critical Dimensions of Relapse in Pathological Gambling

Principal Investigator: David C. Hodgins, Ph.D.

University of Calgary

Findings published in *Addictive Behaviors; Journal of Consulting & Clinical Psychology; Psychology of Addictive Behaviors; Addiction Research and Therapy; Electronic Journal of Gambling Studies; Alcoholism: Clinical and Experimental Research*.

Cognitive Treatment of Pathological Gambling Among Adults and Adolescents

Principal Investigator: Robert Ladouceur, Ph.D.

Université Laval

Findings published in *Addictive Behaviors: An International Journal; Understanding and Treating Pathological Gamblers (book); Journal of Nervous and Mental Disease; Comprehensive Clinical Psychology (book chapter); Journal of Consulting and Clinical Psychology; Journal of Gambling Studies; Behaviour Research and Therapy; Psychology of Addictive Behaviors*.

Psychosocial and Behavioral Factors Associated with Problem Gambling by Youth

Principal Investigator: Randy Stinchfield, Ph.D.

Minnesota Institute on Public Health

Findings published in *Journal of Gambling Studies; Psychiatric Annals; Annals of the American Academy of Political and Social Science; Pathological Gambling: A Clinical Guide to Treatment (book chapter); Gambling Problems in Youth: Theoretical and Applied Perspectives (book chapter); The Downside: Problem and pathological gambling (book chapter)*.

Youth Gambling: Transition from Adolescence to Young Adulthood

Principal Investigator: Ken C. Winters, Ph.D.

University of Minnesota

Findings published in *Journal of Gambling Studies; Psychology of Addictive Behaviors; Pathological Gambling: A Clinical Guide to Treatment (book chapter); The Downside: Problem and pathological gambling (book chapter); Annals of the American Academy of Political and Social Science*.

The Molecular Genetics of Pathological Gambling

Principal Investigator: David E. Comings, M.D.

The City of Hope National Medical Center

Findings published in *Molecular Psychiatry; CNS Spectrums; American Journal of Medical Genetics; Neuroreport; Journal of Psychoactive Drugs; Prevention of Antisocial Behavior (book chapter); Cognition, Emotion and Autonomic Responses (book chapter); American Journal of Medical Genetics; Neuropsychiatric Genetics; Clinical Genetics*.

Double-Blind Study of Naltrexone and Placebo in the Treatment of Pathological Gambling Disorder

Principal Investigator: Suck Won Kim, M.D.

University of Minnesota Medical School

Findings published in *Biological Psychiatry*; *Journal of Clinical Psychiatry*; *Journal of Gambling Studies*; *International Clinical Psychopharmacology*; *Seminars in Clinical Neuropsychiatry*.

In 2002, awarded \$464,463 by the National Institute of Mental Health to expand study.

A Combined EEG, MEG, MRI, and SPECT Imaging Study of Pathological Gamblers

Principal Investigator: Robert J. Sutherland, Ph.D.

University of New Mexico

Relation of Cognitive Status to Brain Blood Flow and Dopamine Receptors in Pathological Gamblers

Principal Investigator: Peter F. Goyer, M.D.

VA Medical Center-Cleveland

Awarded 1998

The Harvard Project on Gambling and Health

Principal Investigator: Howard Shaffer, Ph.D.

Harvard Medical School

Findings published in *Journal of Gambling Studies*; *Addiction*; *American Journal of Industrial Medicine*; *The Behavioral Measurement Letter*; *Addictive Behaviors*; *American Journal of Orthopsychiatry*; *American Journal of Nursing*; *Encyclopedia of Psychology*; *For Fun or Profit? The Controversies of the Expansion of Commercial Gambling* (book chapter).

Awarded 1999

Affective, Cognitive and Perceptual Processes in Gambling: Differences Between Pathological and Recreational Gamblers

Principal Investigator: Lawrence E. Jones, Ph.D.

University of Illinois at Urbana-Champaign

Adolescent Understanding of the Emotional and Cognitive Aspects of Gambling:

The Development of a Prevention Strategy

Principal Investigator: Nigel E. Turner, Ph.D.

Centre for Addiction and Mental Health, Toronto

Adolescent Gambling Behavior as a Function of Individual Differences in Risk-Taking and Potentially Life-Diminishing Behaviors, Gender, Peer and Family Context, and Community Norms for Legalized Gambling

Principal Investigator: Jennifer Langhinrichsen-Rohling, Ph.D.

University of South Alabama

Findings published in *Journal of Gambling Studies*; *Suicide and Life-threatening Behavior*; *Gambling Problems in Youth: Theoretical and Applied Perspectives* (book chapter)

The Development of a Diagnostic Gambling Assessment – The GAM-IV

Principal Investigator: Renee Cunningham-Williams, Ph.D.

Washington University-St. Louis

Findings published in *Seminars in Clinical Neuropsychiatry*; *Journal of Gambling Studies*, *Pathological Gambling: A Clinical Guide to Treatment* (book chapter); *Journal of Psychiatric Research*.

As a result of this grant support, received grants from the National Institute on Drug Abuse (Issues in Gambling and Comorbid Drug Abuse) and National Institute of Mental Health (Validity and Measurement Issues in Pathological Gambling).

Pharmacological Priming of Gambling-Related Cognitions by Amphetamine

Principal Investigator: Martin Zack, Ph.D.

Centre for Addiction and Mental Health, Toronto

Findings published in *Neuropsychopharmacology*.

Molecular Genetic Analysis of a Personality Trait Associated with Pathological Gambling

Principal Investigator: Michael B. Miller, MS, Ph.D., MPE

University of Missouri, Columbia

Functional MRI of Neural Responses to Monetary Gains, Losses and Prospects in Pathological Gamblers and Normal Subjects

Principal Investigator: Hans Breiter, M.D.

Massachusetts General Hospital and Harvard Medical School

Findings published in *Neuron* (2); chapter in *The Cognitive Neurosciences* (3rd ed.). As a result of this grant support, received grants from National Institutes of Health and the Office of National Drug Control Policy.

Reward Deficiency ERPS: Effects of D2a1, Gambling Pathology and ADHD

Principal Investigator: Charles A. Warren, Ph.D.

University of Illinois at Chicago

Awarded 2000

Institute for Research on Pathological Gambling and Related Disorders

Principal Investigator: Howard J. Shaffer, Ph.D.

Division on Addictions, Harvard Medical School

Support for both research conducted by the Division and through competitive grants to non-Harvard institutions. Grants funded after 2000 were awarded through the Institute from the annual \$1.1 million budget.

Findings published in *Addiction Counseling Review: Preparing for Comprehensive, Certification and Licensing Exams*; *Journal of Gambling Studies* (+); *Assessment of Addictive Behaviors* (book chapter); *Psychiatric Services*; *Canadian Journal of Public Health*; *Journal of Social Psychology*; *Annual Review of Public Health*; *Psychology of Addictive Behaviors* (+); *Relapse Prevention* (book chapter); *Journal of American College Health*; *Canadian Journal of Psychiatry*; *Pathological Gambling: A Clinical Guide to Treatment* (book chapter); *Journal of American College Health*; *Harvard Review of Psychiatry*.

Naltrexone and Citalopram Treatment of Pathological Gambling and Co-Morbid Alcohol Abuse or Dependence

Principal Investigator: Marc N. Potenza, M.D., Ph.D.

Yale School of Medicine

Findings published in *Encyclopedia of the Neurological Sciences*; *Journal of Gambling Studies*; *American Journal of Psychiatry*; *Seminars in Clinical Neuropsychiatry*; *Psychiatric Times*; *Psychiatric Annals*; *Medical Handbook of Psychiatry* (book chapter); *Journal of General Internal Medicine*; *Neuropsychopharmacology: The 5th Generation of Progress* (book chapter); *JAMA*; *Archives of General Psychiatry*; *Pathological Gambling: A Clinical Guide to Treatment* (book chapter and editor).

Functional MRI of Prefrontal Cortex Function in Pathological Gamblers

Principal Investigator: Vincent P. Clark, Ph.D.

University of Connecticut School of Medicine

A Family-Genetic Study of Pathological Gambling

Principal Investigator: Donald W. Black, M.D.

University of Iowa

Findings published in *Journal of Nervous & Mental Disease*.

Awarded 2001

Gambling Among Elderly Individuals: Prevalence and Risk Factors

Principal Investigator: Edward Federman, Ph.D.

Boston University

Reliability and Validity of an Integrated Gambling Assessment and Treatment Outcome Monitoring System (GAMTOMS)

Principal Investigator: Randy Stinchfield, Ph.D.

University of Minnesota Medical School

Findings published in *Addictive Behaviors*; *American Journal of Psychiatry*; *Journal of Gambling Studies*.

A Cross-Sectional Study of the Impact of Gambling on Patients with Schizophrenia

Principal Investigator: Rani Desai, Ph.D.

Yale School of Medicine

A Population-Based Twin Study of Pathological Gambling

Principal Investigator: Kenneth Kendler, Ph.D.

Virginia Commonwealth University

Awarded 2002

Modularization of the Composite International Diagnostic Interview (CIDI)

The Survey Research Center (SRC) of the Institute for Social Research (ISR),

University of Michigan

Awarded 2003

Functional MRI of Decision-Making in Substance Abuse and Pathological Gambling

Principal Investigator: Jody Tanabe, M.D.

University of Colorado Health Sciences Center

Rules, Rewards, and Decisions in the Orbital Prefrontal Cortex

Principal Investigator: Charan Ranganath, Ph.D.

University of California-Davis

Dopamine Release in Response to Monetary Reward Measured with Positron Emission Tomography

Principal Investigator: Alain Dagher, M.D.

McGill University

Awarded 2004

Prevalence of Gambling Disorders: Association with Drug Use and Psychiatric Comorbidity in Adolescents Living in Baltimore

Principal Investigator: Silvia Martins, M.D., Ph.D.

Johns Hopkins Bloomberg School of Public Health

Awarded 2005

Laboratory-based Assessment of Impulsivity in Pathological Gamblers Entering Treatment

Principal Investigator: David Ledgerwood, Ph.D.

University of Connecticut Health Center

Guided Self-Change for Treating Problematic Co-morbid Gambling and Alcohol Problems Among College Students

Principal Investigator: James Whelan, Ph.D.

University of Memphis

Behavioral Couples Therapy for Pathological Gambling

Principal Investigator: Robert G. Rychtarik, Ph.D.

Research Addiction Foundation at SUNY on behalf of the University of Buffalo and the Research Institute on Addictions

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