The Prevalence and Demographics of Pathological Gamblers: Implications for Public Health

Rachel A. Volberg, PhD

ABSTRACT

Objectives. A study of pathological gambling in five states provides information needed to address the public health threat that the expanding availability of legalized gambling poses to at-risk groups in the general population.

Methods. Over the course of this project, epidemiological data were collected to determine the prevalence of probable pathological gambling in the general population in each study state and demographic data were collected from pathological gamblers entering treatment programs in each state.

Results. Among the states surveyed, the availability of and involvement in gambling differ significantly, as does the prevalence of pathological gambling. Despite these differences, the demographics of pathological gamblers in these states are similar. Like those in the general population, pathological gamblers entering treatment in each state are similar. However, pathological gamblers entering treatment do not represent the full spectrum of individuals in the general population who experience gambling-related problems.

Conclusions. These findings raise a number of issues, including the potential impacts of continued gambling legalization on the overall rate of gambling problems in the general population and on specific at-risk groups, including women, minorities, and children. They thus have implications for policy and program decisions now being made throughout the United States. (*Am J Public Health.* 1994;84:237–241)

Introduction

In the 1970s, as states experienced increasingly serious financial problems, state legislatures around the country began to legalize many types of gambling. Initially, states legalized lotteries with daily and weekly drawings and, later, instant scratch-off games. Beginning in the 1980s, states legalized pull-tab games and card rooms. Toward the end of the decade, increasing numbers of states legalized riverboats, low-stakes casinos, and video lottery terminals. With the passage of the federal Indian Gaming Regulatory Act in 1988, states around the country have seen the establishment of casino gambling on Native American lands. In 1991, Americans legally wagered $304 billion on all types of gambling, including parimutuels, lotteries, casinos, bookmaking, cards, bingo, and charitable gaming.[1]

The field of public health encompasses a myriad of environmental and behavioral threats to physical and mental health. In addressing such threats, the development of effective preventive, therapeutic, and rehabilitative interventions requires the accurate identification of the risks associated with these threats.[3,4] The proliferation of legalized gambling in the United States constitutes a public health issue because of the adverse effects that new forms of gambling can have on overall prevalence rates as well as on at-risk groups in the general population. At one end of a continuum of problematic gambling involvement is pathological gambling, characterized by a loss of control over gambling, the chasing of losses, lies and deception, family and job disruption, financial bailouts, and illegal acts.[2] In spite of recent increases in public awareness of pathological gambling as a treatable disorder and the increased availability of treatment services for individuals with gambling-related problems, this issue has yet to be conceptualized in meaningful public health terms.

Until recently, little empirical data have been available to address these issues. However, a recently completed study of the prevalence and treatment of pathological gambling in five states provides a foundation on which to begin addressing essential public health issues related to the expanding availability of legalized gambling. During this project, prevalence surveys of gambling involvement and pathological gambling were carried out in each state. In addition, information was collected on the demographic characteristics of clients in each state's gambling treatment programs. The results of those prevalence surveys are outlined below, the demographics of pathological gamblers in the general population and in treatment are reviewed, and the public health implications of these data are addressed.

Methods

Two major types of data were collected over the course of this project: (1) epidemiological data to determine the prevalence of probable pathological gambling in the general population in each study state, and (2) demographic data from pathological gamblers entering treatment programs in each state.

Prevalence Surveys

Like an earlier survey conducted in New York, the surveys funded by the Na-

Rachel A. Volberg is with Gemini Research, Northampton, Mass.

Requests for reprints should be sent to Rachel A. Volberg, PhD, Gemini Research, 80 Barrett St, No. 2, Northampton, MA 01060.

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TABLE 1—Gambling Involvement and Prevalence of Pathological Gambling in the General Population

State	Lifetime Gambling Participation, % (n = 4500)	Mean No. of Gambling Activities (n = 4500)	Prevalence Rate, % (n = 4500)	1987 Per Capita Lottery Sales, $[a]
Massachusetts	90	3.51	2.3	216
Maryland	89	3.66	1.5	168
New Jersey	92	4.05	1.4	146
California	89	3.86	1.2	50
Iowa	84	3.05	0.1	35

[a]Adapted from Clotfelter and Cook.[18]

tional Institute of Mental Health were based on the South Oaks Gambling Screen (SOGS),[5,6] a 20-item scale derived from the psychiatric criteria for pathological gambling.[2] In developing the SOGS, a large pool of variables was subjected to discriminant analysis, the results of which were cross-tabulated with assessments of independent counselors. This instrument has been found valid and reliable in distinguishing probable pathological gamblers among hospital workers, university students, high school students, prison inmates, and inpatients in alcohol and substance abuse treatment programs.[7-9] The term "probable" is used to distinguish between this method of assessment and a diagnosis based on clinical evaluation.

The questionnaire for the surveys assessed respondents' (1) experience with 10 types of gambling (lotteries, casino table games, gaming machines, bingo, card games, dice games, parimutuel wagering, stockmarket activities, games of skill, and sports), (2) gambling-related problems, and (3) demographic characteristics. The surveys were carried out by telephone between April 1988 and April 1990. The number of interviews completed in each state was determined by balancing available resources, confidence intervals, and the size of each state's population. In California, 1250 interviews were completed; 1000 interviews were completed in New Jersey; and 750 were completed in Maryland, Massachusetts, and Iowa.

The sampling design in all the surveys was constructed to ensure that inferences could be drawn between the samples and the population aged 18 and over in these states. The samples from each state were stratified to proportionally represent county populations on the basis of 1980 census figures. Random-digit dialing and random selection of respondents within households were used. The refusal rate was 24% in Iowa, 27% in California, 31% in Massachusetts, 34% in Maryland, and 36% in New Jersey.

Client Demographics

In developing this project, one of the criteria used for selecting the study states was whether these states provided public funding for the treatment of pathological gambling. In 1987, New Jersey operated three outpatient treatment programs, Iowa provided outpatient services at 11 existing alcohol and substance abuse treatment centers, Maryland provided services at a psychiatric hospital and three associated community treatment programs, and Massachusetts had two hospital-based outpatient programs for pathological gamblers. California did not have treatment services for pathological gamblers but was included because of pending legislation to establish funding for such services. This legislation was subsequently defeated.

Treatment programs in all the study states based their diagnosis of pathological gambling on the psychiatric criteria that were also used in developing the SOGS.[2] Aggregate data for all clients entering publicly funded treatment programs in New Jersey and Iowa were provided by the New Jersey Division of Alcoholism and by the Iowa Department of Human Services.[10,11] In Maryland, demographic data were abstracted from client records by staff of the psychiatric hospital overseeing treatment for the state's pathological gamblers.[12] The Harvard Center for Addiction Studies provided demographic data on all clients entering treatment in Massachusetts.[13] In California, demographic data on pathological gamblers in treatment were abstracted by the author from the case records of clients treated by private practitioners. Comparison of these data with demographic information from Gamblers Anonymous[14,15] and from treatment programs in other states[16,17] indicate that the pathological gamblers entering treatment in this study are representative of pathological gamblers entering self-help and professional treatment programs throughout the United States.

Results

The study states differ in gambling involvement and in pathological gambling prevalence rates. Individuals entering treatment for gambling-related problems, as well as those in the general population, differ in gambling involvement and demographic characteristics.

Gambling Availability, Involvement, and Prevalence of Pathological Gambling

Lotteries in Massachusetts, Maryland, and New Jersey were started between 1971 and 1973 while lotteries in California and Iowa were started in 1985. Casinos were legalized in New Jersey in 1976 but have been available to California residents since the 1930s. Horse and dog racing have been available for at least 30 years in all the states, and off-track wagering has been available in the East Coast states and in California for nearly 20 years. Charitable gaming such as bingo is widely available in all the study states.

Table 1 shows differences in lifetime participation in gambling and in mean number of lifetime gambling activities for all respondents across the study states. Lifetime participation and mean number of gambling activities are highest in New Jersey and lowest in Iowa. Differences between Iowa and the other study states in these measures are statistically significant ($P < .01$, as determined by chi-square analysis). In addition, per capita lottery sales are highest in Massachusetts and lowest in Iowa.

Per capita wagering, apart from lottery sales, is difficult to correlate with prevalence rates of pathological gambling. One reason is that information on per capita wagering is not easily available on a state-by-state basis. Additionally, differences in gambling expenditures may be the result of educational and income differences that affect participation in gambling, of sociocultural differences that lead to differential participation in many types of gambling, and of the increasingly regional nature of many types of gambling.

Consistent with prior uses of the SOGS,[5,6,19] respondents in the general population surveys scoring 5 or more points were classified as "probable pathological gamblers." The prevalence rate of

probable pathological gambling in each state is also shown in Table 1.

One striking difference that emerges from these data is that the prevalence rate of probable pathological gambling in the Eastern states and California is significantly higher than that in Iowa ($P < .01$, as determined by chi-square analysis). As noted above, legalized gambling, particularly state lotteries and casinos, has been available to the residents of the East Coast states and California for many more years than it has been in the Midwest. Gambling participation and per capita lottery sales are also significantly higher in the East Coast states and California than in Iowa.

Comparing Pathological Gamblers in the General Population and in Treatment

There are significant differences, again as determined by chi-square analysis, between the overall survey sample and those respondents who scored as probable pathological gamblers along several demographic dimensions. However, the only significant difference between probable pathological gamblers from different states is that those from the East Coast states and California are significantly more likely to be non-White than those from Iowa.

Differences between the overall sample and those respondents who scored as probable pathological gamblers are detailed in Table 2. As this table makes clear, probable pathological gamblers are significantly more likely than the general population to be male and non-White, to have lower education, and to be unmarried. Probable pathological gamblers also differ from the general population in their lifetime participation in many types of gambling, particularly wagering on cards, horse and dog races, games of skill, dice games, and sports, as well as in the frequency of their wagering. Involvement in gambling was not a basis for categorizing respondents as probable pathological gamblers.

Like the characteristics of probable pathological gamblers in the general population, those of pathological gamblers entering treatment in New Jersey, Maryland, Massachusetts, Iowa, and California are strikingly homogeneous. Table 2 shows the demographic profile of pathological gamblers entering professional treatment programs in each study state as well as of those in the general population.

As this table shows, the great majority of pathological gamblers entering treatment are White, middle-aged men. By contrast, those scoring as probable pathological gamblers in the general population are more likely to be women and minorities, as well as less likely to have graduated from high school than pathological gamblers entering treatment in every state. Additionally, they are less likely to be married than those entering treatment in every state except California. It is worth noting that none of the probable pathological gamblers in the general population had ever sought treatment for a gambling problem.

TABLE 2—Characteristics of Pathological Gamblers in Professional Treatment Programs and in the General Population

	Total Survey Sample (n = 4442)	Probable Pathological Gamblers in Survey Sample (n = 58)	New Jersey (n = 155)	Maryland (n = 276)	Massachusetts (n = 137)	Iowa (n = 135)	California (n = 71)
Male, %	43	76*	93	91	93	86	93
White, %	80	64*	90	89	93	92	94
High school graduate, %	90	79*	89	84	93	87	98
Not married, %	46	62*	41	60	29	49	69
Median age, y	. . .	34	38	38	37	35	33

*Statistically significant difference between overall sample and probable pathological gamblers ($P < .01$) tested by chi-square analysis.

Discussion

These findings have implications for policy and program decisions now being made throughout the United States. The data raise a number of issues, including the potential impacts of continued gambling legalization on the overall rate of gambling problems in the general population and on specific at-risk groups, including women, minorities, and children.

Gambling Legalization and Prevalence Rates

In states where legal gambling has been available for less than 10 years, less than 0.5% of the adult population were classified as probable pathological gamblers. In states where legal gambling has been available for more than 20 years, approximately 1.5% of the adult population were classified as probable pathological gamblers. Together, these data support the long-standing contention of treatment professionals and researchers that increasing the availability of gambling will contribute to an increase in the prevalence of gambling-related problems in the general population.[20,21]

Research from Australia and Canada[22,23] suggests that weekly gambling and regular heavy losses are correlated with the development of gambling-related problems. We have shown that there are significant differences in lifetime gambling participation, mean numbers of gambling activities, and per capita lottery sales across the study states. While the relationship between gambling involvement, gambling expenditures, and pathological gambling across these states is not completely linear, the strong association between these variables deserves continued investigation.

Because the availability of many types of gambling is expected to increase throughout the 1990s, the public health issue is to find ways to minimize the harm that some groups will experience in relation to the expansion of gambling. Increased and reliable funding for prevention, treatment, and rehabilitation of pathological gamblers is an important first step. State legislatures may want to consider additional measures, such as establishing hotline and crisis intervention services; training mental health and substance abuse treatment professionals to recognize and address gambling-related problems among their clients; training criminal justice and prison officials to recognize the illegal activities and suicidal tendencies of some pathological gamblers; and funding research on gambling and gambling-related problems among women, minorities, and youth.

Gambling and Women

While pathological gambling affects men more often than it does women, female pathological gamblers are much less likely to enter treatment for a gambling-related problem. This is analogous to the treatment of alcoholism, in which the stigma of being a female alcoholic was

once so great that women were unlikely to seek treatment and, if they did, likely to be misdiagnosed.[24] To reach women experiencing problems related to their gambling, it will be important to focus public education and outreach efforts on venues where women are more likely to gamble, such as lottery retail outlets and bingo halls. It will also be essential to train mental health and substance abuse treatment professionals to recognize gambling problems among their women clients.

Gambling and Minorities

The data presented here show that ethnic minorities are seriously underrepresented among pathological gamblers entering treatment. An especially important issue in this regard is the potential impact of increased legal gambling on Native Americans. The Indian Gaming Regulatory Act of 1988 has led to the establishment of casino gambling on numerous reservations throughout the United States. Given the history and experience of Native Americans with alcoholism,[25–27] we must wonder whether gambling will prove equally devastating.

Preliminary information on gambling involvement and gambling-related problems among Native Americans in one state[28] shows that the prevalence rate of probable pathological gambling is significantly higher in this specific population than it is in the general population of the same state. Native American tribal governments as well as the Indian Health Service will want to develop initiatives to address the issue of pathological gambling on reservations, particularly in those states where compacts permitting casino gambling have been established.

Gambling and Youth

In Iowa and Massachusetts, we added to the survey instrument several questions that were intended to improve our understanding of how gambling problems develop. The questions focused on the respondents' age and preferred types of gambling at different points in time. Analysis shows that 8% of the Iowa respondents and 7% of the Massachusetts respondents who gambled began wagering before the age of 15. In contrast, 23% of the problem and pathological gamblers in Iowa and 36% of such gamblers in Massachusetts began wagering before the age of 15.

These data confirm clinical evidence that extensive childhood involvement in gambling is predictive of later gambling problems. Access to gaming venues by young people is difficult to control, as evidenced by the numbers of high school students and underage college students who gamble in casinos, buy lottery tickets, and place bets on horse and dog races.[18,29,30] Regulating access to new gaming venues by children and teenagers may be a critical factor in minimizing the prevalence of gambling-related problems in later life. It will also be important to increase awareness of the risks of early gambling involvement among teachers, parents, and children themselves.

Conclusion

Until well into the 20th century, excessive gambling losses were regarded as an individual failing rather than as a social or public health problem. However, data from surveys of gambling involvement in the general population and from treatment programs for pathological gambling raise serious public health concerns in relation to the proliferation of legalized gambling. As legalized gambling spreads, pressures will increase on the gaming industries, state governments, and mental health and substance abuse treatment professionals to develop effective responses to problems related to the expanding availability of gambling.

Researchers, treatment professionals, gaming industry representatives, and policymakers must work together to address these issues and to develop innovative approaches for helping individuals who experience severe problems when they gamble. It is incumbent on all these parties to consider how best to prevent the probable increases in pathological gambling that loom in the future and to ensure that services are available to those individuals whose lives are disrupted by gambling. □

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