

Internet Poker: A Public Health Perspective

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INTERNET POKER: A PUBLIC HEALTH PERSPECTIVE

(Briefing Document)

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The purpose of this paper is to provide an overview of potential public health issues related to legalizing Internet poker in Iowa. The paper does not advocate in support of or in opposition to Internet poker legislation. Regardless of whether or not there are legislative changes affecting the legality of Internet poker, some Iowans currently are, and likely will continue to be, engaging in real-money poker games online. Therefore, IDPH should continue education efforts designed to discourage Iowans from engaging in illegal gambling and to reduce problem gambling in Iowa. In addition, IDPH should continue to provide treatment services so individuals with gambling problems can receive the counseling and support services to assist them in quitting, reducing, or controlling their gambling.

Internet gambling was one of the least reported gambling activities engaged in by adult Iowans in 2011 (5% ever in lifetime, 2% in past 12 months) (Lutz & Gonnerman, 2011). About 3% of gamblers admitted for problem gambling treatment reported gambling online during the past 30 days (Lutz & Gonnerman, 2011). Some of the cited concerns about Internet gambling included the trustworthiness and fairness of websites, illegality, and security of financial transactions (Wood & Griffiths, 2008). However, **certain characteristics of online gambling may be particularly attractive to novice gamblers** who want to experiment with new games in an anonymous and private manner (Corney & Davis, 2010). If a legal, regulated Internet poker option becomes available, one can *speculate* that some Iowans who had not previously gambled online would start wagering on Internet poker games, at least on a trial basis. **People who gamble online tend to also gamble offline** (Wood & Williams, 2009); therefore, **more Internet gamblers would not necessarily mean an increase in the number of Iowans who gamble.**

People with gambling problems are disproportionately represented among Internet gamblers (Griffiths, Wardle, Orford, Sproston, & Erens, 2009). Internet gambling has the *potential* to lead to increased problem gambling for some individuals (Griffiths et al., 2009; Ladd & Petry, 2002), but the scientific literature has *not* clearly established a causal relationship between gambling online and developing a gambling problem (Shaffer & Martin, 2011). The prevalence of problem gambling for gambling of all kinds during the past 12 months is less than 1% in Iowa. Approximately 13% of adult Iowans have experienced one or more symptoms of problem gambling during the past 12 months (Lutz & Gonnerman, 2011). **Given the ease, convenience, and constant availability of online gambling, it is *speculated* that legal Internet gambling could exacerbate problems for an unknown number of Iowans with, or at-risk of developing, gambling problems.**

Adverse consequences associated with problem gambling affect people other than the gambler. For instance, 22% of adult Iowans said they have been negatively affected by the gambling behavior of a family member, friend, or someone else they know (Lutz & Gonnerman, 2011). Because of the **high level of comorbidity of problem gambling with other mental health problems** (Lorains, Cowlishaw, & Thomas, 2011), it is difficult to disentangle the social costs directly attributable to problem gambling from costs that could be attributed to other problems. It is even more difficult to quantify social costs that can be directly and solely attributed to a single form of gambling activity (e.g., Internet poker).

Internet gambling is relatively new. Although the scientific literature on this topic is growing, the number of empirical studies is small and the number of studies assessing the social impacts of Internet gambling is limited. Currently, there is very little data about the gambling behaviors of Internet poker players in Iowa. **In conclusion, making an exact determination about the size and scope of potential social and public health impacts exclusively attributable to Internet poker in Iowa is not currently possible.**

Internet Poker: A Public Health Perspective

Introduction

The purpose of this paper is to provide a concise overview of several issues and considerations related to legalizing Internet poker in Iowa. Specifically, the emphasis of this paper is on describing the potential personal and public health impacts of Internet poker. The content of this paper is based on a summary of empirical research and expert commentary from the scholarly and scientific literature organized by the following topic areas: (a) a public health perspective on gambling, (b) trends in online gambling including Internet poker, (c) relationship of Internet gambling and problem or pathological gambling, and (d) potential societal impacts of Internet gambling including poker. This paper was prepared in consultation with, and at the request of, the Office of Problem Gambling Treatment and Prevention at the Iowa Department of Public Health as part of a contract with the University of Northern Iowa, Center for Social and Behavioral Research.

Before proceeding, it is also important to clarify that the purpose of this paper is not to (a) be an academic treatise or exhaustive review of literature on the societal impacts of gambling (see Williams, Rehm, & Stevens, 2011, for an annotated bibliography on the social and economic impacts of gambling), (b) interpret the legal issues related to Internet gambling (see Rose & Owens, 2009, and Casino City Press, 2010, for commentary on laws and regulations pertaining to Internet gambling; see also Grohman, 2006, for a discussion of regulations surrounding Internet poker), (c) provide a cost-benefits or economic analysis (see Holliday, Kelleher, Bradbury, and Keeble, 2010, for a summary of potential economic impact of legalized online gambling), (d) suggest

legislative policy considerations (see Stewart, Ropes, & Gray, 2006, 2011, for a discussion of pragmatic policy issues related to Internet gambling including poker; see also Casino City Press, 2010), or (e) advance a particular agenda or legislative position either in support or opposition to legalized gambling or the expansion of legalized gambling to include Internet poker. In this paper, the terms “Internet gambling” and “online gambling” are used interchangeably.

Gambling and Public Health

Approaching the issue of gambling from a public health perspective provides a framework for examining the potential health impacts of gambling for individuals, social groups, and systems. According to Korn and Shaffer (1999), “A public health perspective allows for a comprehensive analysis of the biological, behavioral, social and economic determinants of health and illness” (p. 306). There are a number of articles related to various negative consequences for individuals and social groups (e.g., families, communities) that may either directly or indirectly be attributed to gambling. These negative consequences include such things as emotional or other mental health problems, family and relationship dysfunctionality, substance use and abuse, criminal behaviors, and financial problems (see Korn & Shaffer, 1999; see also Shaffer & Korn, 2002; see Lorains, Cowlishaw, & Thomas, 2011, for discussion of common comorbid disorders with problem or pathological gambling).

Shaffer and Korn (2002) put forth a public health perspective on gambling that considers both the potential positive and negative effects of gambling for individuals and systems. In addition, they described the need for prevention, harm reduction, and treatment efforts targeted to three groups: (a) individuals who do not gamble currently,

(b) individuals who gamble without exhibiting problems, and (c) individuals who gamble in an unhealthy manner. A public health approach is focused both on promoting positive health and well-being through the prevention of gambling problems and on providing treatment services to those people personally experiencing problem gambling symptoms or who are indirectly harmed by another's problem gambling behaviors. In other words, the focus is on physical, emotional, relational, and financial consequences that may be experienced by gamblers, their families, and social systems as a direct or indirect result of gambling behaviors.

Therefore, the clinical distinction of "pathological gambler" versus non-pathological gambler is less central to the public health discussion of the social and health impacts of problem gambling. The term "pathological gambler" is used specifically in reference to clinical-related classifications as measured by screening instruments used to assess probable or possible pathological gamblers based on self-reported responses to questionnaire items (typically from survey research studies). In contrast, the term "problem gambler" may be used to refer to a particular classification for certain problem gambling screening instruments, or it may be used more generally to refer to individuals experiencing any moderate to severe negative consequences because of their gambling behaviors.

Trends in Online Gambling

Internet Access and Availability. Since the early 1990s, there has been a rapid increase in the percentage of households that have Internet access. Broadband services were *available* for 99.37% of households in Iowa as of April 2010, and 2 of 3 households (66%) had broadband connections in their homes (Connect Iowa, 2010). In addition to

home-based broadband connections, business and government entities are increasingly providing free Wi-Fi connections or “hot spots,” thus allowing people even greater access the Internet. This increased availability has coincided with technological developments such as smaller and lighter laptop computers, tablets (e.g., iPad), and smartphones. These devices have made it more convenient for people to access the Internet from virtually any location at any time of day.

The Internet is interwoven into the everyday routines of many people in the United States. The Internet is commonly used and relied on extensively for information gathering (e.g., Google searches), communication (e.g., email), personal relationships (e.g., Facebook), shopping (e.g., Amazon.com), and entertainment (e.g., streaming music, videos, movies). Therefore, it is not surprising that gambling opportunities are available online (see Wood & Williams, 2007 for a synopsis on the history of Internet gambling). Although some of these sites provide easy access to gambling-related entertainment that allow people to play online without wagering money, other sites provide actual gambling opportunities involving real-money wagering.

Availability of Internet Gambling. In a paper reviewing the status of online gambling five years after the 2006 Unlawful Internet Gambling Enforcement Act (UIGEA), Stewart, Ropes, and Gray (2011) characterized online gambling as follows: “In little more than a decade, online gambling has exploded from a minor sideshow on the Internet to a substantial global industry” (p. 2). An indicator of the expanding presence of Internet gambling and poker is the amount of content related to these topics available online. Several Google searches were conducted on September 1, 2011; the number of “hits” or “results” yielded were as follows: (a) “internet gambling” 12.7 million, (b)

“online gambling” 24.2 million, (c) “online poker” 63.4 million, (d) “internet poker” 204 million, and (e) “poker” 520 million. A more direct measure of the availability of online gambling is captured in *Casino City’s iGaming Business Directory*. This directory is published each year and provides data about online gaming sites and traffic patterns. The 2011-2012 edition of the directory includes 2,500 Internet gaming sites and 5,700 Internet gaming related or affiliate sites (Casino City Press, 2011). A study in 2010 estimated that there were 616 online poker rooms as of June 30, 2010 (H2 Gambling Capital, as cited in Spectrum Gaming Group, 2010). This estimate is similar to that found on www.pokerscout.com where over 600 real-money poker websites were available for players; however, not all sites were accessible for players in the United States (Poker Scout, 2011). Iowans seeking to gamble online could visit www.casinocity.com. This site is one of the most comprehensive portals dedicated to Internet gambling. It appears as though someone in Iowa could possibly access more than 250 online casinos and poker rooms through this portal.

Empirical Studies on Internet Gambling

Limited Scientific Knowledge Base. Although the popularity of Internet gambling is increasing, the published scientific literature on this topic is relatively limited. Much of the early research on Internet gambling was based on self-report and retrospective data about online gambling behaviors (National Center for Responsible Gaming, 2011). A systematic search of the PubMed and PsychINFO databases for articles published through March 7, 2008, yielded only 30 peer-reviewed research articles about Internet gambling of which 20 were commentaries, 10 relied on self-reported data, and none

relied on actual observed Internet gambling behaviors (Shaffer, Peller, LaPlante, Nelson, & LaBrie, 2010).

Current Research and Directions. The knowledge base about Internet gambling is growing within the research community. Questions about Internet gambling are now more common in gambling prevalence studies at the state, national, and international levels. In addition, researchers are discussing the methodological issues related to collecting data about Internet gamblers and their gambling behaviors (e.g., Wood & Griffiths, 2007). During the past few years, there has been an increase in published research relying on actual behaviors of those gambling on the Internet (e.g., LaPlante, Kleschinsky, LaBrie, Nelson, & Shaffer, 2009; Xuan & Shaffer, 2009). Emerging topics of study are the demographic characteristics of Internet gamblers, their actual online wagering patterns, and the relationship between Internet gambling and problem or pathological gambling.

Prevalence of Internet Gambling. The prevalence of Internet gambling varies by country (Wood & Williams, 2009). For instance, the prevalence rates of Internet gambling in the 2007 International Online Survey ranged from 6.9% in the United Kingdom (UK) to 1.0% in Singapore (Wood & Williams, 2009). The 2007 British Gambling Prevalence Survey showed that 6% of those surveyed had gambled on the Internet (Griffiths, Wardle, Orford, Sproston, and Erens, 2009). In a study of gambling in Canada, approximately 2% of adult Canadians reported having gambled on the Internet during the past year, thus making it the least common form of gambling assessed in that survey (Wood & Williams, 2009). In 2006, an estimated 4% of adults in the United States had gambled online (American Gaming Association, 2006), and an estimate of 1% was

reported in a large scale national study (Kessler et al., 2008). A recent state-level prevalence study estimated that 3.6% of Maryland residents had ever gambled on the Internet (Shinogle et al., 2011).

Prevalence of Internet Gambling in Iowa. The findings of a 2011 statewide study of adult Iowans showed 5% of adult Iowans said they had ever gambled on the Internet, with 2% reporting having done so within the past 12 months and about 1.5% during the past 30 days (Lutz & Gonnerman, 2011). By way of comparison, the prevalence of video poker, video keno, or video blackjack among adult Iowans was 24% lifetime, 7% past 12 months, and 2% past 30 days. In summary, only a small percentage of adult Iowans self-reported that they have ever or recently used the Internet to gamble.

Characteristics of Internet Gamblers. Research on the demographic characteristics of those who gamble on the Internet has shown that Internet gambling is:

- More common among men than women (Griffiths et al., 2009; Parke, Rigbye, Parke, Wood, Sjenitzer, & Vaughn Williams, 2007; Wood & Williams, 2009). For instance, the prevalence of Internet gambling in the 2007 British Prevalence Study was 9% of men and 3% of women; hence, of those who had gambled on the Internet, 74% were men and 26% were women (Griffiths et al., 2009).
- More common among younger adults (Griffiths et al., 2009; Ladd & Petry, 2002; Parke et al., 2007; Wood & Williams, 2009) and single persons (Wood & Williams, 2009). For example, a slight majority (55%) of those in the 2007 British Prevalence Survey who said they had gambled on the Internet were between the ages of 16 and 34 (Griffiths et al., 2009).

- Positively associated with higher levels of education (Griffiths et al., 2009; Wood & Williams, 2009), higher incomes (Wood & Williams, 2009), employed status (Wood & Williams, 2009), and professional/managerial occupations (Griffiths et al., 2009).
- More common among regular Internet users (Wood & Williams, 2009).

The relationship of Internet gambling with other health behaviors and conditions varies between studies and across populations. For instance, Wood and Williams (2009) found that Internet gamblers in Canada had lower rates of physical disabilities or chronic health problems than non-Internet gamblers, but this difference was not statistically significant when using an international sample of Internet gamblers. This same pattern was observed with mental health problems. Internet gamblers showed higher rates of tobacco and illicit drug use during the past month than did non-Internet gamblers (Wood & Williams, 2009).

Internet Gambling: Motivational and Psychological Aspects

Perceived Advantages of the Internet Gambling Experience. Internet gambling provides people with an easy and convenient way to gamble. It offers the chance to do so in a potentially anonymous manner and without the time and expense associated with traveling to traditional gambling venues such as casinos. Among those who gamble using the Internet, they commonly mention that the convenience (Parke et al. , 2007), ease of use, and 24-hour availability of the online gambling experience appeals to them or is something they find advantageous compared to offline gambling (Allen Consulting Group, 2003; Derevensky & Gupta, 2007; Williams & Wood, 2009). “Competition” was

the most common reason cited by adolescents and young adults for why they gambled online; this reason was followed by convenience, 24-hour access, privacy, high speed of play, good odds, and fair or reliable payouts (Derevensky & Gupta, 2007). Internet gamblers also commonly mentioned they like the fun and excitement of online gambling (Parke et al., 2007).

Perceived Disadvantages of the Internet Gambling Experience. The perceived disadvantages of online gambling compared to offline gambling varied some by country. This is likely due, at least in part, to differences in the legality of the activity among the jurisdictions and the cultural norms related to gambling. Among Canadians, the most commonly mentioned disadvantage of Internet gambling was the poorer social atmosphere because Internet gambling lacks the crowds and social interactions of offline gambling (Wood & Williams, 2009). Other disadvantages commonly mentioned by Canadian gamblers were: (a) easier to spend more money, (b) concerns about the safety of money deposited and of winnings being paid out, (c) absence of face-to-face contact makes it more difficult to bet, and (d) it was too convenient.

A common concern reported by Internet gamblers in the United States is related to the integrity of online gambling sites. Specifically, about one-half of Internet gamblers said they believe that online casinos or other players find ways to cheat during online gambling (American Gaming Association, 2006). This concern was echoed in a study of Internet gamblers representing a variety of countries (Wood & Williams, 2009) that found the most mentioned disadvantage of Internet gambling was the difficulty in verifying the fairness of the games or activity. Other disadvantages commonly mentioned by an international sample of Internet gamblers were: (a) concerns about the safety of

money deposited and of winnings being paid out, (b) absence of face-to-face contact makes it more difficult to bet, (c) illegality, (d) poorer social atmosphere, and (e) it being easier to spend more money. In addition, the results of a qualitative study of Internet poker players in Sweden further confirms the perceived trustworthiness of websites is an important factor people use when deciding where to gamble on the Internet (Wood & Griffiths, 2008).

Gambling Initiation via Internet Gambling. Some characteristics of online gambling may be particularly attractive for novice gamblers who want to experiment with new games in an anonymous and private manner. Because of the private nature of gambling online, there is less risk of public embarrassment when one plays poorly or demonstrates a lack of knowledge about the game (Corney & Davis, 2010). Also, as noted by Griffiths (2003), online gambling sites sometimes provide free practice gambling to attract and retain users. In addition, they may even provide financial incentives or special promotions for new users.

In one report, among those Australians who did not gamble on the Internet in the past 12 months, 5% said they thought they might start using the Internet for gambling (ACG, 2003). This low self-reported potential increase in Internet gambling should be interpreted within the context that the respondents likely answered. That is, one could plausibly infer that respondents would most likely be basing their future likelihood of gambling online on the assumption that there were no changes in the legality or regulatory nature of Internet gambling. This study was conducted several years ago, so people's intentions to begin gambling on the Internet may have changed since then.

Relationship Between Online and Offline Gambling. A study of Australian adults, however, suggests that those who gamble on the Internet gambling tend to already be engaging in offline gambling activities (ACG, 2003). Likewise, nearly everyone who said they had gambled on the Internet said they also gambled offline or at land-based venues (Wood & Williams, 2009). Moreover, they found that the more types of gambling activities engaged in was predictive of a higher likelihood of participating in Internet gambling. In other words, very few people are likely to be exclusively Internet gamblers.

Internet Gambling and Problem Gamblers. Certain characteristics of online gambling may also be particularly attractive for problem gamblers who want easy and ready access to gambling activities, the convenience and variety of experiences available online, and the excitement that can accompany the online experience. Griffiths and colleagues (2009) speculated that, “The medium of the Internet may be more likely to contribute to problem gambling than gambling in offline environments” (p. 199). Ladd and Petry (2002) also asserted that the expansion of gambling opportunities, including Internet gambling, could potentially result in increased problem gambling and have adverse effects for individuals and social groups. However, at present, the scientific literature cannot substantiate with causal data that any increases in the prevalence of problem gambling among the general population could be directly attributable to increases in Internet gambling (see Shaffer & Martin, 2011).

Development vs. Maintenance Factors. A biopsychosocial approach to gambling research is useful in demonstrating that the factors for why people report they currently gamble (i.e., factors maintaining gambling behavior) are not necessarily the same factors that contributed to the development of their gambling behaviors (Griffiths & Delfabbro,

2001). An implication of this finding is that the factors that initially contributed to a person gambling online or playing online poker specifically (e.g., less intimidating) may not be the same factors that contribute to the persistence of this gambling behavior (e.g., 24-hour access).

Internet Gambling: Adolescents and Young Adults

Free-Play “Gambling.” In a study of adolescent gambling in Oregon, the most commonly mentioned type of Internet “gambling activity” reported was using the Internet to “gamble for free,” with only a small percentage of adolescents in the survey reporting that they had actually placed real-money wagers on Internet gambling sites (Volberg, Hedberg, & Moore, 2008). This finding is similar to results showing that about 1 in 10 Ontario youth (ages 9 through 16) said they had gambled on the Internet; however, almost all of these activities were “free play” games where no real-money was wagered (Weibe & Falkowski-Ham, 2003, as cited in Abbott, Volberg, Bellringer, & Reith, 2004).

Gambling by Youth in Iowa. Based on findings from the Iowa Youth Survey (IYS), an estimated 4% of Iowa’s youth in 6th, 8th, and 11th grades reported that they had “bet or gambled for money or possessions” on the Internet in 2010 (Iowa Consortium for Substance Abuse Research and Evaluation, 2011) and 7% in 2008 (Iowa Consortium for Substance Abuse Research and Evaluation, 2009). The 2010 IYS included data from more than 78,000 students in Iowa public and private schools yielding the following prevalence estimates for non-Internet gambling activities: card games with friends or family (18%); sports (14%); personal skill games such as pool, bowling, or dominoes (11%); video or arcade games (10%); lottery scratch off tickets or numbers (8%); and dice games (6%). When asked about how much money they have won or lost in any

single day when gambling, 76% said they had not gambled during the past 12 months (Iowa Consortium for Substance Abuse Research and Evaluation, 2011).

Problem Gambling Among Youth. The results of a longitudinal study of gambling among adolescents and young adults in Minnesota showed that the majority said they had gambled, with between 2.9% and 9.5% showing symptoms of problem gambling using SOGS-RA (South Oaks Gambling Screen – Revised for Adolescent; Winters, Stinchfield, & Fulkerson, 1993) with a “narrow criteria” or “broad criteria,” respectively (Winters, Stinchfield, & Kim, 1995). According to Winters and colleagues (1995), “Gambling appears to be a common and fairly benign characteristics of the youth experience, not unlike experimentation with sex, alcohol, and other “acting-out” behaviors. The study’s findings are also reassuring to public health officials who were concerned that the onset of the State’s high-stakes and heavily promoted lottery would trigger a significant increase in the rate of problem gambling among youth” (p. 178). Later in their discussion, Winters and colleagues (1995) elaborated by saying, “Regardless of how benign gambling may be for the majority of adolescents, it is cause for concern as a generation of youths are exposed to gambling at such an early age with the spector [sic] that future gambling problems may lie ahead” (p. 179). Among adolescents, Internet gambling has been associated with higher levels of heavy alcohol use and poorer academic performance compared to non-Internet gambling (Potenza et al., 2011). Furthermore, at-risk or problem gambling rates were higher among adolescents who gambled on the Internet than among those who only gambled offline (Potenza et al., 2011).

Internet Gambling as an “Escape” for Youth. In a study of adolescents between the ages of 12 and 17, the two most commonly mentioned reasons for gambling were for

the enjoyment and for the excitement (Gupta & Derevensky, 1998). However, the reasons for gambling differed between those who were problem or pathological gamblers versus those without gambling problems; specifically, gambling “to escape, to alleviate depression, to promote relaxation, and to cope with loneliness” were more commonly mentioned reasons by those with gambling problems (Gupta & Derevensky, 1998). Gupta and Derevensky (1998) concluded that, “For problem and pathological gamblers, gambling is viewed as a medium for stimulation, enjoyment, and a way of coping with difficulties rather than a means of monetary gain” (p. 339). Adolescents with gambling problems reported that, when they gamble, they “enter a ‘different world,’ a world without problems and stresses” (Gupta & Derevensky, 2004, p. 177). Therefore, the characteristics of Internet gambling and Internet poker *may* be particularly attractive to adolescents with gambling problems to find escape from the problems in their “offline” reality (see Griffiths & Wood, 2004, for a discussion on the relationship of youth, technology, and Internet gambling).

Internet Poker: Popular Culture and Television

Poker in Popular Culture. The popularity of poker playing and its inclusion as part of our shared culture is evident in the popularity of live events and television programming. A key event in poker’s rise in popularity occurred at the 2003 World Series of Poker (WSOP) (Caldwell, 2008; Haney, 2009; Singer-Vine, 2011). This event was won by an amateur player named Chris Moneymaker who qualified for the tournament by winning at an online card room (Poker Stars, n.d). The “Moneymaker Effect” is part of the vernacular of the poker playing community (Cadwell, 2008). The

WSOP has continued to gain popularity as seen in the increasing number of players at the Main Event Championship (World Series of Poker, n.d.a). For example, there were 512 entrants in 2000. By 2004, there were 2,576 entrants. Most recently, in 2011, there were 6,865 entrants. More generally, the number of Americans who are estimated to have played poker online for money varies widely. In *Casinos, Gaming, and Wagering 2011* (Miller & Washington, 2011), estimates are reported that range from 2.5 million (based on 2010 article in *Forbes*) to 10 million (based on information from the Poker Players Alliance). The Poker Player Alliance, a nonprofit advocacy group for both online and offline poker, reported that its membership had reached 1 million members in 2008.

Poker on Television. One factor in the public's increased exposure to poker, especially high-stakes poker, seems to be televised coverage of poker games and tournaments. A search for "poker" on the *TV Guide* website (TV Guide, n.d.a) yielded several poker-related shows (e.g., "Poker After Dark," "High Stakes Poker,") carried on a variety of networks (e.g., ESPN, ESPN2, NBC, GSN). In July 2011, the WSOP started its 10th season of television coverage (TV Guide, n.d.b) with 32 episodes scheduled during a season that lasts less than 5 months (World Series of Poker, n.d.b). In July 2011, prime time coverage of the WSOP Main Event (finale) had a viewing audience of 650,000 (ESPN, 2011). Two years earlier, the WSOP finale had 2.1 million viewers (ESPN, 2009).

Factors Affecting Internet Poker Initiation. Peer influence and television exposure were the two most commonly mentioned reasons for playing Internet poker in a study of university students in the United Kingdom (Wood, Griffiths, & Park, 2007). Slightly less than two-thirds (62%) of those students who played Internet poker said they started

playing it because their friends were doing so. Nearly one-fourth (23%) said they started playing online poker after watching poker on television.

Internet Poker: Empirical Studies

Gambling Online for Money. The most common venue for playing poker is private locations with family and friends, with about three-fourths of poker players reporting they had played with family and friends during the past 12 months, as compared to about one-fourth having played at casinos or in tournaments and one-tenth having played online for money (American Gaming Association, 2006). Aside from playing for money, 29% of poker players said they had played online poker during the past 12 months “just for fun” (American Gaming Association, 2006). The majority of Internet gamblers said they played skill games online (60% among Internet gamblers in Canada, 64% among Internet gamblers worldwide) and these games were predominately poker (Wood & Williams, 2009). Thus, online poker was the most frequently played form of Internet gambling in this study of Internet gamblers in Canada and around the world (Wood & Williams, 2009).

Wagering Patterns. A large scale, longitudinal study of Internet poker players was conducted by LaPlante and her colleagues (2009). The study was based on data of actual Internet poker behaviors of about 3,500 gamblers during a two year time period. About 95% of the poker players in the study were men, but the gambling patterns between men and women were highly similar. LaPlante and her colleagues stated that most of those observed in the study could be described as “exhibiting ‘rational’ betting behavior” (p. 715). However, they noted there was a subset of the sample (about 5%) who could be characterized as the “most involved poker players.” This subset of Internet

poker players stayed enrolled with the betting service for a longer duration, played games more frequently, and wagered significantly larger amounts of money than the majority of players. The study did not include the necessary information to provide estimates of gambling pathology. In another study based on a longitudinal analysis of actual Internet sporting and live-action bets, “The findings reported here do not support the speculation that Internet gambling has an inherent propensity to encourage excessive gambling among a large proportion of players” (LaBrie, LaPlante, Nelson, Schumann, & Shaffer, 2007, p. 358).

Gambling Pathology and Internet Poker. A study of Internet poker playing among 400 university students in the United Kingdom (UK) used self-report data including pathological gambling screening questions (Wood, Griffiths, & Parke, 2007). Using a DSM-based screening instrument, 18% of this non-random sample of university students who played Internet poker was classified as probable pathological gamblers. Regardless of whether or not they had a problem with gambling, the most common reasons given for playing Internet poker were for the excitement and to win money. However, those who were classified as probable pathological gamblers were more likely than other Internet gamblers to say they gambled to escape problems or because they were feeling “lucky” (Wood, Griffiths, & Parke, 2007).

Perceived Advantages and Disadvantages of Internet Poker. It is uncertain to what extent legally available Internet poker might (a) facilitate or act as a catalyst for increased gambling among social gamblers who currently gamble without any problem gambling symptomology, or (b) serve as an entry point into playing poker for money among those who do not currently play poker offline. In one study of poker players in

the United States, the two most commonly mentioned reasons for why these poker players did not gamble online were security concerns and legitimacy (Ipsos Reid, 2005, as cited in Wood & Williams, 2007). A qualitative study by Corney and Davis (2010) suggests that some women do not feel “comfortable” playing live poker, but they find gambling on the Internet to be “less intimidating.”

Self-Exclusion Participants. If Internet poker were to become a legal and regulated gambling opportunity for adult Iowans, it is unclear what effect (if any) this might have on individuals currently participating in a lifetime voluntary self-exclusion program. In Iowa, this type of program restricts access on many casino properties and prohibits gambling at state-regulated casinos.

Studies of the Societal Impacts of Gambling

Challenges to Estimating Social Impacts. Many policymakers would like to have estimates of the social costs that would be incurred in the future from a policy change made in the present. However, such estimates are heavily influenced by the assumptions and models researchers use in extrapolating figures. These figures are affected by the criteria used for selecting historical data and by the analytic approaches used to isolate or predict individual effects within a multivariate context. Walker (2007) discussed several of the challenges researchers face when attempting to quantify the social costs of gambling. One of the issues is how to (a) approach the question or define social costs (e.g., cost of illness, economic, or public health perspectives), (b) best estimate these costs within the context of the limitations of the data available, and (c) make decisions about the assumptions of the counterfactual scenario (i.e., what would the social costs be

if the status quo had been maintained) (Walker, 2007). “Given that many pathological gamblers exhibit other disorders, it is difficult if not impossible to accurately estimate the social costs attributable specifically to pathological gambling” (Walker, 2007, p. 3). Because of the high level of comorbidity of pathological gambling with other mental health problems and disorders (Lorains, Cowlshaw, & Thomas, 2011), it is difficult to disentangle the social costs directly attributable to the pathological gambling behaviors separate from those costs that could be attributed to gamblers’ other complicating life experiences. The task is even more difficult to accurately quantify the social costs that can be directly and solely attributable to any single form of gambling activity (e.g., Internet poker) in a manner where one can be sufficiently confident in the veracity of the conclusions.

Limited Research on Social Impacts of Internet Gambling. As previously mentioned, Internet gambling is an emerging topic of scholarly study, but the size of the scientific knowledge base is still quite limited in comparison to the amount of literature on gambling in general. Put plainly, the literature about the societal impacts of Internet gambling is very small. For instance, of the hundreds of studies on the societal and economic impacts of gambling that Williams, Rehm, and Stevens (2011) examined, they identified only four articles specifically pertaining to the impacts of Internet gambling. These four studies are summarized hereafter.

In the first of these four studies of the social impacts of Internet gambling, the Allen Consulting Group (ACG; 2003) conducted the Internet Gambling Survey of Australian adults for the Department of Communications, Information Technology and the Arts. The sample size was about 2,000 respondents, of which approximately 100 were

Internet gamblers. The data were collected in the spring of 2003. Only 1% of adult Australians were estimated to have participated in “interactive gambling” during the past 12 months and most of these were gambling activities related to races or sports betting. Among those who gambled on the Internet, about 8% said they were using “poker machines” (ACG, 2003). Overall, the 2003 survey showed a decrease in the prevalence of online poker from the 1999 study. As part of the telephone interview using the South Oaks Gambling Screen (SOGS; Stinchfield, 2002) the proportion of Internet gamblers who were at risk of being problem gamblers was estimated to be 9.6% (ACG, 2003). Their analysis, however, did not suggest that those who gambled online were significantly more likely to be at risk for gambling problems than offline gamblers. Due to the small number of Internet gamblers in the sample, ACG warns that these findings should be considered with some caution when generalizing the results.

In the second study, LaPlante and colleagues (2008) followed the Internet gambling behaviors of more than 42,000 people who subscribed to an Internet betting service in 2005, and who made at least one wager on sports during an 18 month field period. The betting service involved making real-money wagers with the gamblers’ money. The results of this study of actual sports gambling behavior showed that there was a short-term increase in wagering activity within the first eight days of joining the service followed by a rapid decrease in activity (LaPlante et al., 2008). However, the most involved bettors or the top 1% of the sample did not show the same general pattern of decreased activity following the initial enrollment period. LaPlante and colleagues (2008) concluded that those engaging in Internet sports gambling did not evidence

“excessive patterns of gambling,” but “there might still be cause for concern” for the most involved bettors participating in Internet gambling (p. 2412).

In the third study, higher rates of problem gambling were observed among those who engaged in Internet gambling compared to those who gambled offline (Griffiths et al., 2009). They contended that some aspects of the Internet gambling experience may contribute to an increased likelihood of experiencing problem gambling behaviors. Griffiths and colleagues concluded, “The rise of Internet gambling and its consequent challenges cannot be seen in isolation, particularly because there is ever-increasing multimedia integration between the Internet, mobile phones, and interactive television. Furthermore, young people appear to be very proficient in using and accessing these media and are likely to be increasingly exposed to remote gambling opportunities. These young people will therefore require targeted education and guidance to enable them to cope with the challenges of convenience gambling in all its guises” (p. 201).

In the fourth study, Wood and Williams (2009) found that the prevalence of problem gambling, as measured with the Canadian Problem Gambling Index (CPGI; Ferris & Wynne, 2001), was four times higher among those who had used the Internet to gamble than among those who did not gamble using the Internet (17.1% vs. 4.1%, respectively). The majority of moderate and severe problem gamblers in this Canadian sample identified a single type of gambling activity that caused them the most problems. Among Internet problem gamblers, poker was the gambling activity they thought contributed the most to their problems (Wood & Williams, 2009). Among non-Internet problem gamblers, slot machines was the gambling activity respondents thought contributed the most to their problems. It is important to note, however, that the survey

question did not differentiate between online and offline poker playing. Therefore, one cannot state with certainty that it was Internet poker, per se, that these problem gamblers believed was contributing the most to their gambling problem. Yet, Wood and Williams noted that Internet poker playing likely contributed to their gambling problems, to some extent, given that about one-half of their online gambling was on games of skill (mostly poker). In their section on policy implications and options, Wood and Williams (2009) stated “Although the present study suggests that Internet gambling is an exacerbating rather than a causal factor for most problem gamblers who gamble on the Internet, the nature of online gambling still makes it inherently more problematic than most other forms of gambling” (p. 95)

Prevalence and Consequences of Pathological and Problem Gambling

Lifetime Prevalence. The most recent prevalence estimate of lifetime probable pathological gambling among adult Iowans was 0.6% (95% confidence interval of 0.22% to 1.42%) (Lutz & Gonnerman, 2011). This recent finding for Iowa is consistent with other national studies wherein the lifetime prevalence of pathological gambling is often approximately 1%, with two large scale studies finding lifetime prevalence rates of pathological gambling of 0.4% using data from the National Epidemiological Survey on Alcohol and Related Conditions (NESARC; Petry, Stinson, and Grant, 2005) and 0.6% using data from the US National Comorbidity Survey Replication (NCS-R; Kessler et al., 2008).

Past 12 Months Prevalence. The most recent prevalence estimate of probable pathological gambling when limited to symptoms experienced during the past 12 months

was 0.3% among adult Iowans (95% confidence interval of 0.04% to 1.59%) (Lutz & Gonnerman, 2011). Iowa's rate is within the range of the 12-month prevalence rate reported nationally 0.3% (with confidence intervals between 0.2% and 0.4%) (Kessler et al., 2008).

Experiencing Symptoms of Problem Gambling. Although the rates of probable pathological gamblers is low and represents a small percentage of adult Iowans, the number of Iowans who are experiencing at least some symptoms of problem gambling is considerably higher. About 13% of adult Iowans reported that they have experienced one or more symptoms of problem or pathological gambling at least sometime during the past 12 months (Lutz & Gonnerman, 2011). The most commonly mentioned symptoms they experienced were (a) feeling guilty about the way they gambled or what happened when they gambled and (b) betting more money than they could afford to lose.

Causes and Consequences of Problem Gambling. Shaffer and Martin (2011) provide a summary of research on problem gambling and a discussion of clinical implications and explanatory models. Some earlier research by Shaffer, LaBrie, LaPlante, and Kidman (2002) examined fluctuations in crisis calls to the Iowa Gambling Treatment Program and possible relationships to exposure to gambling opportunities and casino revenues. The development of gambling problems and the decision to seek help are both complexly determined and influence by internal and external factors.

Numerous studies have shown associations between problem gambling and a variety of adverse consequences or comorbid conditions including substance use and abuse, emotional and mental health problems, physical health problems, relationship difficulties, criminal behavior, financial problems, and loss of productivity (see Shaffer &

Korn, 2002, for a discussion on the public health implications and interpretation of these findings). As with many other conditions, the adverse consequences associated with problem gambling behaviors affect not only the gambler but also the gamblers' social groups such as family, friends, coworkers, and community members. In a recent survey, 22% of adult Iowans said they have been negatively affected by the gambling behavior of a family member, friend, or someone else they know (Lutz & Gonnerman, 2011).

Studies Related to Internet Gambling and Problem Gambling

Although there is some evidence of higher rates of problem gambling among Internet gamblers, there is a general lack of research showing a direct causal relationship between gambling online and the development of a problem gambling condition. In Iowa, approximately 3% of gamblers admitted for problem gambling treatment services report having gambled on the Internet during the past 30 days and approximately 9% report having gambled using video poker, video keno, and video blackjack during the past 6 months (Lutz, Gonnerman, Park, & Muilenburg, 2011). A study based on data from the 2007 British Gambling Prevalence Survey yielded a problem gambling prevalence of 5% among Internet gamblers. This was significantly higher than the problem gambling prevalence among non-Internet gamblers (Griffiths, Wardle, Orford, Sproston, & Erens, 2009; McBride & Derevensky, 2009). In a study of nearly 400 patients receiving reduced-cost or free health or dental care at university clinics in the US, 8.1% of respondents said they had ever gambled on the Internet (Ladd & Petry, 2002). Those who engaged in Internet gambling had significantly higher SOGS scores than those who had never gambled on the Internet; however, this does not necessarily mean that Internet

gambling caused their gambling problems. In another study of 1,400 patients at medical and dental clinics, 6.9% of the respondents said they had ever gambled on the Internet (Petry, 2006). Internet gambling was associated with lower self-reported physical and mental health status. In addition, approximately one-half of these Internet gamblers were classified as probable pathological gamblers using the SOGS. “These data may suggest that either Internet gambling leads to problem gambling behaviors or individuals who gamble problematically are prone to gamble on the Internet” (Petry, 2006, p. 4). In summary, the higher proportions of problem gambling among Internet gamblers may indicate that persons with gambling problems are disproportionately drawn to this type of gambling activity and medium (Derevensky & Gupta, 2007; McBride & Derevensky, 2009).

Summary

The purpose of this paper is to provide a concise overview of several issues and considerations related to legalizing Internet poker in Iowa. Specifically, the emphasis of this paper on describing the potential personal and public health impacts of Internet poker. The purpose of this paper is not to advocate in support of or in opposition to any particular legislative proposals related to Internet poker in Iowa. Regardless of whether or not there are legislative changes affecting the legality of placing and receiving wagers for Internet poker games, the fact remains that some Iowans currently are, and likely will continue to be, engaging in real-money poker games online. Therefore, the public health community should continue its education and intervention efforts designed to discourage young people from engaging in illegal gambling activities and to reduce the prevalence of problem gambling among all Iowans. Griffiths (2003) noted that restricting access to

Internet gambling is much more difficult than restricting access to regulated offline gambling activities. This reality underscores the importance of having proper regulatory measures in place to protect the health and well-being of members of social groups that are particularly vulnerable (e.g., adolescents) or susceptible (e.g., problem gamblers) to experiencing adverse consequences associated with online gambling in general or Internet poker specifically.

The public health community should also continue to provide gambling treatment services so that individuals with gambling problems can receive the counseling and support services to assist them in quitting, reducing, or controlling their gambling. Because of the high comorbidity of problem gambling with other mental health conditions, people experiencing symptoms of problem gambling are also likely to receive or be in need of other types of health care services within the public health system. From a public health perspective, a systematic means of collecting data to monitor observed changes in health conditions and behaviors (including the prevalence of gambling and Internet gambling) over time is an important component to be able to determine the potential effects of policy changes on the public's health and well-being (see Gambino, 2009, for a discussion on this topic).

Internet gambling is one of the least commonly reported types of gambling activities engaged in by adult Iowans. About 5% of adult Iowans report having ever gambled online and 2% said they have done so during the past 12 months (Lutz & Gonnerman, 2011). In terms of Internet gambling among Iowa's youth, an estimated 4% of Iowa's youth in 6th, 8th, and 11th grade said they have "bet or gambled for money or possessions" on the Internet during the past 12 months (Iowa Consortium for Substance

Abuse Research and Evaluation, 2011). Data from other studies reviewed in this paper suggested that Internet poker is the most common form of Internet gambling among those who use the Internet to gamble.

Several studies reviewed in this paper found higher levels of problem and pathological gambling among those who engage in Internet gambling compared to non-Internet gamblers. However, the general conclusion from these researchers and the experts in the field is that presently there is not sufficient data to substantiate a *causal relationship* between engaging in Internet gambling and developing a gambling problem. Internet gamblers have been shown to engage in more types of gambling activities than non-Internet gamblers. There is a plausible alternative hypothesis that persons with gambling problems are disproportionately drawn to participating in Internet gambling. In reality, both contentions may be true to varying degrees.

Internet gamblers tend to participate in multiple gambling activities. Moreover, people with gambling problems generally participate in multiple gambling activities. As Shaffer and Martin (2011) noted, the scientific literature has not demonstrated that Internet gambling leads to increases in gambling intensity or excessive wagering (e.g., LaBrie, LaPlante, Nelson, Schumann, & Shaffer, 2007). Although people with gambling problems are disproportionately represented among Internet gamblers, the scientific literature has not clearly established a causal relationship between gambling online and developing a gambling problem. In fact, Shaffer and Martin (2011) asserted that during the past 35 years while the availability of gambling opportunities has increased dramatically, the prevalence of problem gambling has been largely unchanged.

Within the context of the available literature, some logical speculations can be made about the potential impact of making Internet poker a legal and regulated gambling activity in Iowa. First, if Internet poker were to become legally available in Iowa, the number of Iowans who play Internet poker might increase, at least for a short period of time when the new gambling opportunity is novel. Some of the more commonly cited concerns about Internet gambling are about the trustworthiness and fairness of the websites, illegality, and security of financial transactions. To the extent that a legal and regulated Internet poker option became available, one can logically speculate that some Iowans who had never gambled online previously would start wagering on Internet poker games (at least on a trial basis). Because those who gamble on the Internet also tend to gamble offline, more Internet gamblers would not necessarily mean an increase in the number of Iowans who gamble.

Second, if Internet poker were to become legally available in Iowa, an unknown number of Iowans who currently have gambling problems would likely make use of the Internet poker gambling opportunity. Given the ease, convenience, and constant availability of online gambling opportunities, a logical speculation is that legal Internet gambling could exacerbate problems for at least some people who are currently (a) considered problem or pathological gamblers and (b) at risk for becoming problem or pathological gamblers. It is unclear how many of these people would be new initiates to Internet poker versus shifting their wagering from current websites to those sites legally operated within Iowa. At present, the literature cannot support a claim that Internet poker *will cause* people to become problem or pathological gamblers; however, researchers have asserted that Internet gambling has the potential to contribute to problem gambling.

Internet gambling is a relatively new phenomenon. Although the scientific literature base on this topic is growing, the number of empirical studies is still relatively small. The number of empirical studies assessing the social impacts of Internet gambling is even more limited. Currently, there is very little data available that are specifically about the gambling behaviors of Internet poker players in Iowa. In conclusion, making an exact determination about the size and scope of potential social and public health impacts exclusively attributable to Internet poker in Iowa is not currently possible.

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