

# THE IOWA GAMBLING TREATMENT PROGRAM

EVALUATION SERVICES PROJECT: FOLLOW-UP STUDY FINAL  
REPORT

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## TABLE OF CONTENTS

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TABLE OF CONTENTS .....	2
INTRODUCTION .....	3
Longitudinal Studies: Casino Employees .....	4
Longitudinal Studies: A Community Sample .....	4
Longitudinal Studies: Adolescents .....	5
Longitudinal Studies: Young Adults .....	5
Longitudinal Studies: Gambling Treatment in Minnesota .....	6
Longitudinal Studies: Gambling Treatment in Iowa .....	7
Longitudinal Studies: Representative Sample of IGTP Gamblers .....	7
STUDY DESIGN .....	8
METHODS .....	8
Sample Recruitment .....	8
Data Collection .....	9
Data Analysis .....	9
RESULTS .....	10
Completed Interviews .....	10
Characteristics of Clients who Completed Interviews .....	13
Demographics .....	13
Treatment .....	14
Satisfaction with Treatment .....	15
Gambling and Other Behaviors and Experiences .....	16
Changes in Gambling Expenditures and Financial Status .....	16
Changes in Relationships and Health .....	17
Index of Gambling Problems .....	17
DISCUSSION .....	19
Cooperation Rate Difficulties: What We Cannot Know About the IGTP .....	19
Interviewed Gamblers: What We Do Know About the IGTP .....	21
REFERENCES .....	23
APPENDIX A .....	25

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## INTRODUCTION

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For more than 20 years, the Diagnostic and Statistical Manual (DSM) of the American Psychiatric Association has characterized the disorder of pathological gambling as persistent and progressive over time (American Psychiatric Association, 1973, 1980, 1987, 1994, 2000). The most recent edition, DSM-IV TR, described the course of pathological gambling as follows: “The gambling pattern may be regular or episodic, and the course of the disorder is typically chronic”(American Psychiatric Association, 2000, p. 673). In addition to DSM, the conventional and clinical wisdom of pathological gambling as an inexorably progressive disease was supported by the nomenclature of diagnostic screening instruments. The widely used South Oaks Gambling Screen (SOGS) (Lesieur & Blume, 1987) labeled the successive levels of gambling problems by the increased confidence (i.e., potential and probable) of a diagnosis of pathological gambling. Though widespread, this view of a gambling disorder is not universal. In part the differences of view reflect the misleading idea that gambling problems are *always* progressive. To help correct this perception, we labeled the intermediate score on the Massachusetts Gambling Screen (MAGS) (Shaffer, LaBrie, Scanlan, & Cummings, 1994) as “transitional.” This classification calls attention to a bi-directional course of people with similar gambling related problems at any particular moment: some people with problems are improving while others are getting worse.

Prospective studies that obtain information from individuals over time provide the most accurate and insightful view of the course of gambling disorders. However, because the field of gambling studies is relatively new and the recognition of gambling as a potential public health problem is perhaps even more recent, research has been focused on studies that can provide more immediate and perhaps basic contributions to pressing concerns. The extended time necessary to conduct longitudinal studies is an additional constraint on the development of an evidence base that might provide more accurate models of the course of disordered gambling than do popular and conventional conceptions of the disorder. For example, the St. Louis Epidemiologic Catchment Area study collected information on problem gambling in 1980 and at follow-up 11 years later. But it was not until 1998 that the information suggesting an episodic rather than a chronic course on a small number of problem gamblers was published (Cunningham-Williams, Cottler, Compton, & Spitznagel, 1998). The few studies that followed individuals forward through time found that the patterning of gambling progression is more varied and less unidirectional than had been expected previously.

The same prospective methodology can be applied to answer important and controversial questions about the process of recovery from gambling disorders. Prospective studies measure individual change and capture the patterning of individual behaviors; this information is crucial to a better understanding of the efficacy of treatment programs and the course of recovery. The National Academy of Sciences and the National Gambling Impact Study Commission both recognized the utility of prospective longitudinal design and have encouraged its use in the study of gambling related problems (National Gambling Impact Study Commission, 1999; National Research Council, 1999).

### **Longitudinal Studies: Casino Employees**

Only recently has the natural history of gambling been studied prospectively. In one of the first empirical investigations on the topic, Shaffer and Hall (2002) used a prospective research design to monitor the movement of gamblers through the various transitional stages associated with gambling disorders. They chose this design over others because, “Only a longitudinal analysis can reveal the proper and more accurate sequence of events and symptom patterns... Cross-sectional research might be misleading about which variables serve as cause and which as effect.” (Shaffer & Hall, 2002, p. 420).

Shaffer and Hall asked casino employees to complete a survey instrument about their gambling behavior at baseline, at a 1-year follow-up and again at a 2-year follow-up. The researchers anticipated a high rate of attrition because casino employees are relatively mobile—these employees experience an annual job turnover rate of about 40%—and took steps to encourage retention. First, the researchers worked only with casinos where site managers would cooperate with study protocols. Second, they provided incentives for participating in the study. In addition, their original sample size (6,067) was large enough to ensure there was still adequate power given the projected attrition. Using these strategies, they were able to retain enough participants for longitudinal analyses. Shaffer and Hall found that at risk gamblers did not show the conventionally anticipated progression to more disordered states. Instead, many participants who demonstrated disordered levels of gambling at an earlier time transitioned to healthier levels of gambling.

### **Longitudinal Studies: A Community Sample**

Abbott, Williams and Volberg (2004) followed gamblers for seven years to investigate the life course of gambling problems. In 1991, the authors contacted 320 participants randomly selected from the New Zealand National Prevalence Survey (N=4,053) who had previously agreed to participate in a more in-depth survey. They were able to contact and assess 217 gamblers (68%) at baseline. To increase the likelihood of successful follow-up, the researchers made attempts to keep in touch with the baseline participants on six occasions between 1991 and 1998. During 1998, the researchers were able to contact and reassess 143 gamblers (66% of baseline participants) by conducting interviews at the participants’ homes. The follow-up included information on 77 participants who were classified as problem gamblers at baseline and 66 participants classified as non-problem gamblers at baseline.

Like Shaffer and Hall, the results from the Abbott et al. study challenged the conventional assumption that problem gambling was a chronic and progressive problem. They found that the majority of participants who were problem or pathological gamblers in 1991 no longer reported significant problems in 1998. Only a quarter of the pathological gamblers remained classified as such. Participants with less serious gambling problems demonstrated even greater improvement. While problem and pathological gamblers decreased their gambling significantly throughout the study period, this reduction was not evident in non-problem gamblers. The majority of gamblers who were not experiencing problems in 1991 continued to gamble without developing problems.

### **Longitudinal Studies: Adolescents**

Winters & Anderson (2000) used a prospective design to study the long-term consequences and outcomes of gambling beginning in adolescence. Prior cross-sectional studies had found that youth are particularly vulnerable to disordered gambling and demonstrate higher rates than adults (Allen, 1995; Buchta, 1995; Derevensky & Gupta, 1998; Fisher, 1993; Griffiths, 1995; Jacobs, 2000; Lesieur & Klein, 1987; Shaffer & Hall, 1996; Shaffer, Hall, & Vander Bilt, 1997). Winters & Anderson followed 305 young adults across three time periods: at baseline, a 2-year follow-up and a 7-year follow-up. They originally targeted 910 adolescents, 702 of whom agreed to participate in the baseline telephone interview (a cooperation rate of 77%). Two years later, 532 of the baseline adolescents completed the survey (76% completion rate). Due to funding constraints, the researchers targeted only a sub-sample of 350 adolescents for follow-up at time three and achieved an 87% follow-up rate.

Winters et al. found that the rate of problem gambling among adolescents remained stable over time, however, the rate of at-risk gambling increased. The prospective study design enabled the researchers to track the order in which specific behaviors emerged during adolescence, thereby permitting the investigators to identify risk factors. Many of the same risk factors associated with a problem behavior syndrome during adolescence (e.g., early onset of behavior, delinquency) were implicated in the development of young adult gambling problems. The authors suggested that prevention strategies should focus on the reduction of these risk factors prior to the teenage years.

In a second paper, Winters et al. (2002) used the dataset described above to examine the developmental pathways of gambling involvement in more detail. Their findings were similar to those of Shaffer et al. (1994), who also showed that adolescents frequently transitioned between different levels of gambling problems, with many problems resolving naturally. A large proportion of adolescents (40%) reported gambling problems at one of the three time points, however only 4% remained at-risk or problem gamblers throughout the entire study. Most adolescents who reported problem at one time point demonstrated movement between healthy and unhealthy states: 21% developed at-risk or gambling problems over the course of the study, whereas 13% improved, moving from at-risk or problem gambling to no problems.

### **Longitudinal Studies: Young Adults**

Slutske, Jackson and Sher (2003) investigated the natural history of gambling among a population of young adults. They interviewed 468 first-year college students, 18 and 19 years of age, who were part of a longitudinal study of alcohol use patterns and problems. Participants were re-interviewed three more times at three or four year intervals; interviews were conducted in person when possible and by telephone otherwise. The study retention rates were 97% at year 4, 94% at year 7 and 84% at year 11. Problems due to gambling were rare in this study population. Only four participants met DSM criteria for pathological gambling, one each at years 4, 7, and 11 and one participant met criteria during both years 4 and 7 observations.

Slutske et al. (2003) found a stable cross-sectional prevalence rate for experiencing a problem due to gambling during the last year. However, an examination of the repeated interviews revealed that different individuals contributed to the stable prevalence rate at

each time point. For example, for people followed over all waves, the number of people reporting at least one problem due to gambling during the previous year was 11, 12, and 8 for the study years 4, 7, and 11, respectively. However, there were only four people who had a problem at both years 4 and 7, and only two at years 7 and 11. The authors indicated that the stability of prevalence rates over time did not result from persistence of problems within individuals.

Taken together, the longitudinal studies described above reveal a very different course of gambling involvement than the one obtained from either clinical observation or cross-sectional studies alone. Understanding the development and progression of problem gambling provides a crucial foundation for the evaluation of treatment programs. A more episodic and less chronic pattern of gambling problems suggests a substantial proportion of gambling problems might resolve naturally, regardless of whether the individual with gambling problems receives treatment. It also calls into question the stability of recovery from gambling problems and suggests the need for a long period of follow-up to capture both transient and lasting treatment effects.

### **Longitudinal Studies: Gambling Treatment in Minnesota**

While the studies mentioned thus far have illuminated the natural history of gambling, they paid little specific attention to the role of treatment during recovery. The first and only published study to prospectively examine the effectiveness of treatment was conducted by Stinchfield and Winters (2001). Like the Iowa Gambling Treatment Program (IGTP), the treatment approach they evaluated included multiple modes of treatment (i.e., individual counseling, group counseling, educational activities, and other modalities). The project workers informed clients about the outcome study at intake to the treatment program and invited the new treatment seekers to participate in the research. Hence, baseline data included only those who gave their consent (568).

At follow-up, researchers mailed participants a survey and a return envelope. Researchers called all participants who did not return the survey and administered the survey over the phone. The researchers used additional strategies to increase their completion rates including: for example, they used data collected from a significant other to fill in missing information for non-responders. For non-responders who had relapsed and re-entered the treatment program, the researchers substituted their newest intake information for their follow-up information. The combination of these methods yielded a 6 month follow-up rate of 78% and a 12 month follow-up rate of 63%. Of 131 clients not interviewed at 6 months, 92 could not be contacted by mail or phone and 36 were contacted but refused to participate. Of 220 clients not followed at 12 months, 161 could not be contacted by mail or phone, 53 were contacted but refused, 2 had died and 4 were incarcerated.

Most of the gamblers that were followed showed reductions in gambling frequency and problem severity following treatment: only 10-20% were still gambling significantly at follow-up. These results are subject to follow-up bias. To illustrate, clients who could not be contacted for follow-up or declined involvement might have had worse outcomes as a group and so the reported outcomes might be skewed. In addition, ascribing the improvement to the treatment intervention might be misleading, since other studies have shown a high proportion of problem gamblers recover naturally. Further longitudinal

studies using control groups are needed to tease apart natural and treatment-induced recovery.

### **Longitudinal Studies: Gambling Treatment in Iowa**

The Division on Addictions (DOA) at Harvard Medical School worked with representatives of the Iowa Department of Public Health (IDPH) to review, classify and analyze the data obtained by the Gambling Treatment Reporting System (GTRS) during the first four years of operation (FY1998-FY2001). The analysis and development of the first dataset represents a major effort and accomplishment (Shaffer, LaBrie, LaPlante, & Kidman, 2002). The dataset contained participant data for gamblers and concerned others of gamblers (e.g., family members, significant others, or close friends of problem gamblers) and provided information about IGTP participants' background and demographic characteristics, financial status, gambling habits, mental health, and treatment services. The IGTP recognized the need for longitudinal studies to evaluate the efficacy of their gambling treatment program and required a follow-up interview no sooner than six months after discharge with clients who had completed all or nearly all of their treatment programs.

Our analyses of the follow-up information (Shaffer et al., 2002) indicated that follow-up interviews were conducted with 42% of the follow-up target group (165 of 397). At follow-up, 61% of the gamblers had abstained from gambling since discharge. Gambling expenditures were 86% lower than at entry into the treatment program. Nearly half (46%) the gamblers attended meetings of Gamblers Anonymous (GA) since discharge compared to only 3% who were attending GA at discharge. In addition to turning to GA, gamblers also sought help for substance abuse problems; 19% received treatment for substance-related problems between discharge and follow-up. Because the original IGTP follow-up effort targeted only participants who completed their therapy program, this subset of gamblers likely was not representative of all program participants and we could not generate conclusive statements about the efficacy of the treatment program.

The above studies indicate that although clinicians, researchers and public health professionals promote the efficacy of specific treatment regimes, there is little empirical evidence to confirm theoretical expectations. To date, the lack of prospective studies has limited our knowledge about the course of recovery from gambling problems and the role of treatment in this process.

### **Longitudinal Studies: Representative Sample of IGTP Gamblers**

Since Iowa has invested heavily in its Gambling Treatment Program, and many people depend upon this program to help them recover from problem gambling, it is critical that the clinical efficacy of the program be evaluated through a sound prospective study. The IGTP therefore collaborated with the Division on Addictions at Harvard Medical School (DOA) to create a methodology that would permit detailed feedback about the clinical efficacy and impact of the existing IGTP program.

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## STUDY DESIGN

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In response to the need for more comprehensive outcome data, the DOA initiated a second phase of research during which we conducted a prospective follow-up study that included all gamblers treated during a single fiscal year, regardless of the length of their treatment or reason for discharge. The specific goal of the follow-up study was to obtain information that accurately and comprehensively describes how IGTP clients fare after leaving treatment. In addition, this study linked these outcomes to individual characteristics and IGTP experience.

The DOA developed the instrumentation, materials and procedures necessary to conduct a follow-up study of the FY 2000-2001 IGTP participants. The DOA worked in collaboration with the IGTP service providers to recruit participants who were admitted to the IGTP between July 1, 2000 and June 30, 2001. Consenting participants were contacted to complete a structured telephone interview specifically designed for this study. Data from the follow-up interviews was merged with the IGTP dataset provided in the previous study of the IGTP program records. This information is critically important to the field of gambling studies because it furthers our understanding of the process of recovery. In addition, it evaluates current IGTP practices and provides information necessary to optimize program management.

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## METHODS

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### **Sample Recruitment**

The DOA worked with the IGTP service providers to recruit gamblers for follow-up analyses. Current IGTP providers who also provided services in FY 2000-2001 were asked to recruit gamblers into the study using procedures and materials developed by the DOA and approved by the Institutional Review Board at Harvard Medical School. The DOA disseminated these procedural materials to the IGTP providers. In addition, DOA provided the list of the client numbers that each provider would be responsible for recruiting. Specifically, all gamblers who (1) were admitted to treatment between July 1, 2000 and June 30, 2001 (the IGTP's most recent fiscal year in the original database examined), (2) had information on file from an admission/placement interview, and (3) were served by IGTP providers still in existence, were eligible for follow-up regardless of the extent of treatment services received (i.e., whether they completed their treatment program). A total of 476 IGTP clients met these requirements.

The DPH established an incentive program for providers to encourage recruitment efforts. The DPH reimbursed providers for every successful client contact, whether or not the client agreed to participate in the study. Reimbursement rates were highest at the beginning of the study period (\$20 per successful contact in month one) and decreased throughout the period as follows: \$18 in month two, \$16 in month three, and \$15 thereafter. Providers also were reimbursed \$5 for each client they attempted to contact but were not ultimately able to reach.



IGTP providers were given the choice to begin recruitment by either calling the eligible gambler directly or by mailing eligible gamblers a recruitment letter and reply card. If the IGTP providers did not receive a reply card within two weeks of the initial mailing, the IGTP recruiter attempted to contact the gambler by telephone using a telephone script provided by the DOA. The IGTP providers archived all written consents (i.e., reply cards) and documentation of all verbal consents obtained during telephone calls. Clients who agreed to be contacted for the survey were identified by name, client ID number and telephone number to the survey contractor, the Center for Social and Behavioral Research at the University of Northern Iowa.

### **Data Collection**

Directed by Gene Lutz, Northern Iowa University's Center for Social and Behavioral Research (CSBR) conducted the interviews and collected the follow-up information. The follow-up study was conducted using computer assisted telephone interviewing (CATI). The DOA developed a custom-designed interview instrument to meet the unique needs of this research. Using this instrument and protocols supplied by the DOA, the CSBR programmed the final survey instrument. The CSBR trained its staff in the use of this program and developed specific procedures for its employment. Previously, the DOA had created a code book for use in training the CSBR staff that provided detailed instructions for the interviewers as well as definitions of various items that needed clarification according to the results from a pilot test of the interview. During the data collection phase, the CSBR staff called each of the consenting participants identified by the IGTP, arranged a time to conduct the interview, and at that arranged time, conducted the interview according to defined procedures supported by the code book. At all times, the DOA staff was a resource for answering questions from the IGTP providers and CSBR interviewers in the field.

Completed interviews were transferred electronically to the DOA for processing. Clients were identified to the DOA only by their IGTP client number to preserve confidentiality. DOA staff conducted further quality checks, monitored the study progress, and converted the information to a statistical database. Once translated into the database, data were screened for inconsistencies (i.e., numbers outside the possible range of choices and contradictory responses to questions). Surveys with such inconsistencies were eliminated from the dataset. Cases with missing data were included in the dataset but excluded from analyses involving variables for which they have no data. Using identification numbers to match participants to their previous IGTP data, the DOA merged those data into the study dataset.

### **Data Analysis**

The DOA performed data analysis on the full dataset consisting of information from the follow-up interview and archived information collected during the participants' IGTP admission and treatment. The composite data includes information obtained just prior to treatment, during treatment, at discharge, and at follow-up. To examine the longitudinal course of gambling behavior and attitudes we compared the participants' characteristics at admission to those at follow-up using paired t-tests for parametric variables and chi-square for non-parametric variables.

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## RESULTS

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### Completed Interviews

A two stage process was required to complete interviews with identified eligible gamblers. The first stage of the project was client recruitment: the IGTP providers obtained written consent from only 44 of the 476 identified eligible gamblers, yielding a 9% cooperation rate. The second stage of the project was contacting and interviewing consenting clients. The interview completion rate was 86%; 38 of the 44 consenting clients from stage one completed the interview. The overall project completion rate, a product of the cooperation rate and the interview completion rate, was 8%; 38 of 476 eligible clients completed both stages of the project.

The low cooperation rate, which ultimately drove the low project completion rate, was attributable to several factors including incomplete contact information in the IGTP files, a cohort of clients considered eligible but recognized later as prisoners treated as part of a special initiative, a high rate of change of residence and the limited number of eligible clients contacted by the IGTP providers.

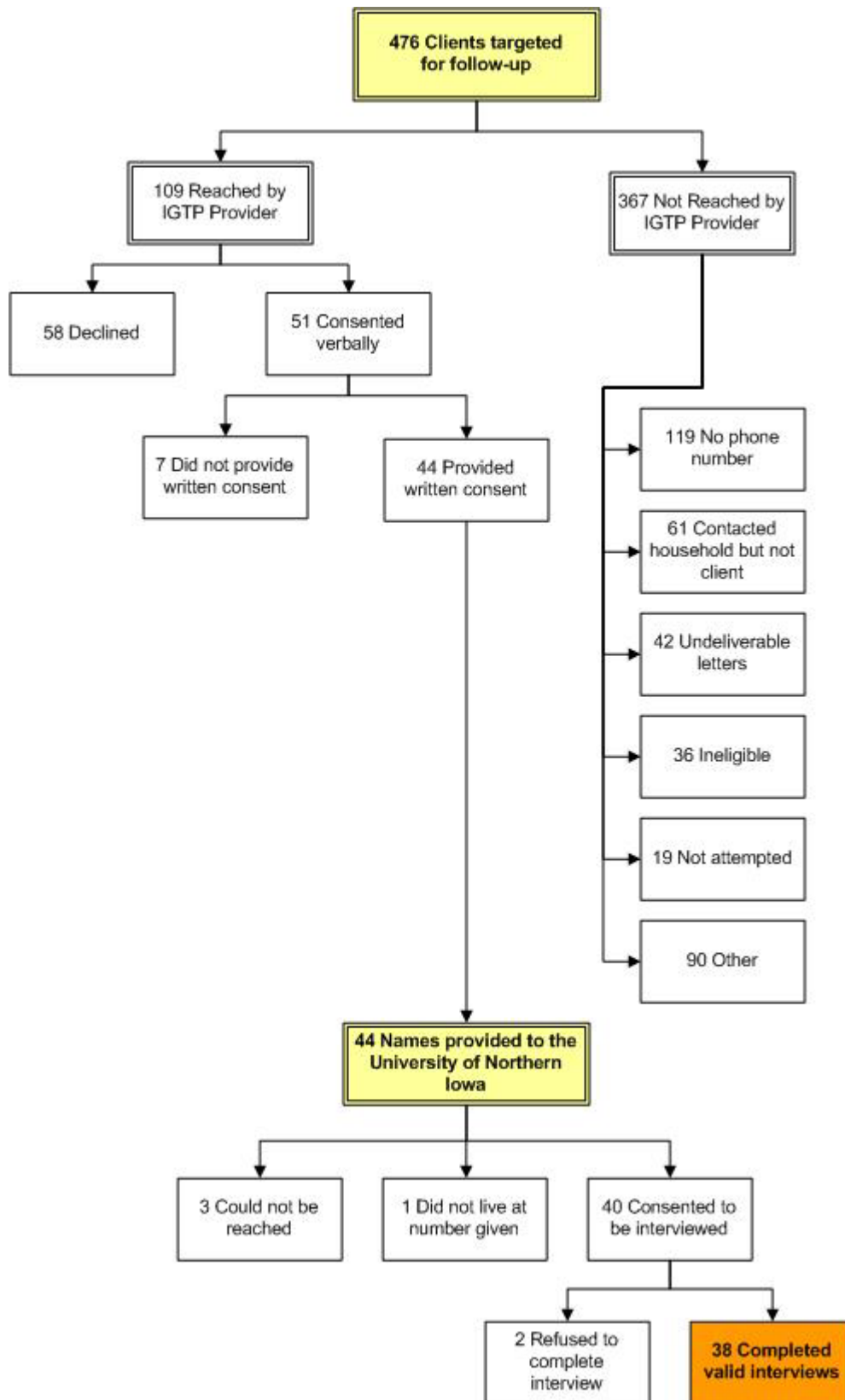
Materials including the list of presumed eligible clients and instructions for recruitment were sent to the nine IGTP providers in September, 2003, however most IGTP providers did not initiate recruitment or delegate responsibility for recruitment until the end of January, 2004. The DOA was in constant contact with the providers throughout the recruitment phase, placing over one hundred phone calls directly to the providers to answer questions and check progress.

As Figure 1 illustrates, the IGTP was not able to contact 77% of the target sample (n = 367). Telephone recruitment was not possible for 119 clients because provider records did not include their phone numbers. Recruitment by mail failed in 42 cases because the recruitment letters were returned as undeliverable. The providers identified the 36 clients who were prisoners at the time of treatment and had no permanent resident information on file. At their discretion, IGTP providers did not attempt to contact 19 potential participants. Finally, incomplete recording of the dispositions or incomplete recruitment efforts precluded further classification of 151 clients. The forms provided to IGTP providers by the DOA were not completed by the majority of providers, making a more detailed analysis of the recruitment stage and dispositions difficult.

Figure 1 presents the disposition on the 109 potential participants that IGTP providers did contact. More than half (53%) of the contacted clients refused to participate in the study. Of the 51 participants who verbally agreed to participate, there were seven who did not also provide a written consent and could not be interviewed according to the study's subject protection procedures. According to the IGTP admission records, information obtained during the interview phase identified six participants that originally were considered to be problem gamblers but were not; instead, they were the concerned others of problem gamblers. These participants were not eligible for the interview and are not represented in Figure 1. During the interview, two participants exercised their option to discontinue participation before the interview was completed. In summary, the IGTP providers contacted 109 problem gamblers. Most (60%) did not consent to the interview. Of the consenting eligible participants, four (9%) did not make themselves available for

the interview and two (5%) elected not to complete the interview. In the second stage of the project, completed interviews were obtained from 38 treated problem gamblers (86%). Table 1 provides the number of clients in the original target sample and the number of clients who completed interviews by IGTP provider.

**Figure 1. Flowchart of Recruitment into Follow-up Study**



**Table 1. Client Recruitment by IGTP Provider**

<b>IGTP Provider</b>	<b>Clients Targeted</b>	<b>Interview Completed with Eligible Gambler</b>
Eastern Iowa Center For Problem Gambling, Inc.	110	5
Allen Memorial Hospital Gambling Treatment Program	60	9
Gordon Recovery Services	76	7
Family Service	49	.
Substance Abuse Services Center	56	6
Alcohol & Drug Dependency Services of SE IA	33	8
Jennie Edmundson Hospital Gambling Treatment Program	73	.
Community and Family Resources	14	3
NW Iowa Alcoholism & Drug Treatment Unit, Inc.	5	.
<b>Total</b>	<b>476</b>	<b>38</b>

### **Characteristics of Clients who Completed Interviews**

#### **Demographics**

The 38 gamblers who participated in the follow-up study did not differ significantly on baseline characteristics obtained at admission to the IGTP from gamblers who were not interviewed for the study (see Table 2) except for the number of arrests prior to admission. Gamblers who were not interviewed reported an average of 2.43 arrests compared to .61 for those who were interviewed for the follow-up study. This result is consistent with the later discovery that the original target sample included prisoners who could not be followed.

**Table 2. Baseline Demographic Characteristics of Targeted Gamblers by Follow-up Status**

<b>Variable</b>	<b>Interviewed (N=38)</b>	<b>Not Interviewed (N=436)</b>	<b>Statistical Significance</b>
	<b>Percent</b>	<b>Percent</b>	
Female gender	47.4	43.1	ns
	<b>Mean (SD)</b>	<b>Mean (SD)</b>	
Age	45.71 (9.244)	42.71 (11.945)	ns
Number of Children	2.21 (1.527)	1.89 (1.703)	ns
Highest Grade Completed	12.42 (1.621)	12.99 (1.911)	ns
Days missed due to gambling problem	.32 (1.226)	2.08 (9.194)	ns
Current monthly gross personal taxable income	\$1598 (1060)	\$1603 (2303)	ns
Current monthly gross household taxable income	\$2206 (1300)	\$2230 (3544)	ns
Jobs lost to gambling problem	.19 (.462)	.28 (1.101)	ns
Times arrested	.61 (1.079)	2.43 (9.185)	<.001
Total Debt	\$52,279 (89,024)	\$34,399 (72,552)	ns
Total lost weekly	\$341 (349)	\$566 (1392)	ns
Most lost in one week in last 6 months	\$1305 (2611)	\$1783 (3759)	ns

## Treatment

The interviewed gamblers were significantly different on the treatment services they received while at the IGTP (see Table 3). With the exception of family counseling, proportionately more interviewed gamblers received the treatment modalities shown in Table 3 than did those not interviewed. The proportion of interviewed gamblers who received continued care is very high. Among the 2,356 gamblers who received treatment in the four years of IGTP implementation that we studied (Shaffer et al., 2002) only 6% received individual continued care and 5% received group continued care. This type of long-term treatment was four to five times more likely among the interviewed participants. The corollary is that a longer period of contact contributes to the ease of recruiting study participants through several mechanisms including more up-to-date locator information and possibly, better treatment outcomes. Clients with better outcomes might be less likely to refuse to participate. Conversely, less extensive contact might increase recruitment difficulties because of out-of-date contact information, less willingness to discuss failed treatment, and also correlates of continued problems due to gambling (e.g., relocation because of divorce or job loss). Thus, readers should not extrapolate the findings from the analyses presented below to all IGTP participants.

**Table 3. IGTP Treatment Participation of Targeted Gamblers by Follow-up Status**

Variable	Percent of Interviewed (N=38)	Percent of Not Interviewed (N=436)	Statistical Significance
Received any treatment beyond admission	89.5	69.3	.008
Crisis intervention received	63.2	39.0	.004
Individual counseling received	89.5	60.3	.000
Group counseling received	71.1	43.3	.001
Family counseling received	7.9	11.0	ns
Individual continued care received	23.7	3.4	.000
Group continued care received	26.3	4.4	.000

### Satisfaction with Treatment

Gamblers who completed the follow-up interview were asked to report on how beneficial they found each of four specific IGTP services and the IGTP overall. Table 4 summarizes their responses to these questions. Overall, 79% of these gamblers felt the IGTP services were very or mostly beneficial; the highest rates of satisfaction were reported for family counseling (84%), with individual (77%) and group counseling (76%) not far behind. Sixty three percent of gamblers reported finding the educational classes very or mostly beneficial. Five percent of the gamblers felt that in the aggregate IGTP services were not beneficial.

**Table 4. Interviewed Identified Gamblers' Assessment of IGTP services**

Rating	Individual counseling	Family counseling	Group counseling	Educational classes	IGTP overall
Very beneficial	65.7% (23)	63.6% (7)	68.0% (17)	50.0% (4)	55.3% (21)
Mostly beneficial	11.4% (4)	18.2% (2)	8.0% (2)	12.5% (2)	23.7% (9)
Beneficial	2.9% (1)	9.1% (1)	4.0% (1)	12.5% (2)	5.3% (2)
Somewhat beneficial	14.3% (5)		16.0% (4)	12.5% (2)	10.5% (4)
Not beneficial	5.7% (2)	9.1% (1)	4.0% (1)	12.5% (2)	5.3% (2)

Table 5 presents the reasons that gamblers reported for stopping their attendance at each of the IGTP services. For each clinical service, the majority of gamblers reported stopping because they completed their treatment program. For individual and group counseling, 10% and 17% of gamblers respectively reported that they stopped because counseling was not helpful. An approximately equal numbers of gamblers (13.3% and 20.8% respectively) reported that they stopped attending these sessions because they felt they were better. Fewer individuals reported attending family counseling and educational sessions.

**Table 5. Reasons Interviewed Gamblers Reported Ending IGTP services**

Reason stopped attending	Individual counseling	Family counseling	Group counseling	Educational classes
Finished program	73.3% (22)	80% (8)	58.3% (14)	87.5% (7)
Did not find it helpful	10.0% (3)	20% (2)	16.7% (4)	12.5% (1)
Felt I was better	13.3% (4)	.	20.8% (5)	.
I was asked to leave	3.3% (1)	.	4.2% (1)	.

## Gambling and Other Behaviors and Experiences

At the follow-up interview, respondents reported their behaviors and experiences since discharge from the IGTP. Only 13% of the respondents reported placing a bet since discharge from the IGTP (Table 6). Three people (8%) had declared bankruptcy and none had lost a job or been arrested because of their gambling. During the period between leaving the IGTP and follow-up, over 60% attended a Gamblers Anonymous meeting and 29% were readmitted to the IGTP. Interviewed gamblers also reported seeking treatment for problems other than gambling: 13% had attended Alcoholics Anonymous meetings, 3% had received other treatment for a substance abuse problem, and 13% had received mental health counseling. Forty percent of the gamblers reported current alcohol and tobacco use, 20% reported compulsive work and 11% reported compulsive spending.

**Table 6. The Prevalence of Activities Since IGTP Discharge (reported at follow-up) for Interviewed Identified Gamblers**

Variable	Percent (N)
Bet since Discharge	13.2% (5)
Lost Job	0
Declared Bankruptcy	7.9% (3)
Gambling Arrest	0
Attended GA meetings	63.2% (24)
Readmitted to the IGTP	28.9% (11)
Attended AA meetings	13.2% (5)
Received other substance abuse counseling	2.6% (1)
Received mental health Counseling	13.2% (5)
Received domestic abuse Counseling	0
Received sexual addiction Counseling	0
Received other gambling Addiction counseling	0
Use Tobacco	39.5% (15)
Use Alcohol	39.5% (15)
Use illicit drugs	0
Abuse Food	0
Compulsive Work	21.1% (8)
Compulsive Sex	0
Compulsive Spending /Shopping	10.5% (4)

## Changes in Gambling Expenditures and Financial Status

Table 7 presents the differences from baseline to follow-up in adverse gambling outcomes and monthly household and personal income. Respondents experienced an overall reduction in gambling debt and an increase in income. At follow-up, mean gambling debt had dropped to almost half of what it had been at baseline. This is likely a result of increased income in combination with the high rates of gambling cessation reported before in Table 6. On average, both mean personal income and household income almost doubled from baseline to follow-up. Although clinically meaningful, these changes failed to reach statistical significance because of the increased demands for confident inference required by small samples. The average of the most money lost in a week actually increased because, despite fewer active gamblers, those who were still betting reported weekly losses that exceeded what they reported losing at baseline. In other words, the total of the large wagers made by the few current gamblers was more than the total of the many smaller wagers reported by the whole group at baseline. Similarly, the mean number of days of work missed during the last 6 months due to



gambling increased as well. Only two individuals reported missing work at follow-up compared to four at baseline, however they missed a substantially greater number of work days (10 and 30 days).

**Table 7. Differences in Gambling Expenditure and Financial Status From Baseline to Follow-up for Interviewed Identified Gamblers**

Variable	At Baseline Mean (SD)	At Follow-up Mean (SD)	Mean Change (SD)	Significance
Most lost in a week during last 6 months	\$1,356.3 (1,436.6)	\$1,832.5 (3,075.9)	\$476.3 (2539.7)	ns
Gambling debt	\$28,979.7 (88,561.4)	\$15,459.5 (57,800.3)	-\$13,520.3 (39,809.0)	.046
Days missed work during last 6 months	.36 (1.30)	1.39 (5.51)	1.03 (4.47)	ns
Personal Income	\$1,659.0 (1,049.0)	\$3,229.7 (8,095.3)	\$1,570.7 (7,944.9)	ns
Household income	\$2,159.3 (1,279.1)	\$4,495.0 (8,191.5)	\$2,335.7 (7,712.2)	ns

### Changes in Relationships and Health

The majority of gamblers interviewed reported that their relationships, health and functioning improved since they began treatment at the IGTP. Eighty percent of gamblers reported that they now get along better with their spouses and 82% reported they have better relations with their immediate family. Physical and mental health improved for 53% and 77% of gamblers respectively. Gamblers also reported better financial health (81%) and job performance (70%) and said they handled problems better than before they entered treatment (81%). A few respondents reported changes for the worse, The proportion of respondents who were not better off ranged from a low of 3% for spousal relations, family relations, job performance and ability to handle problems to a high of 11% for physical health.

**Table 7. Self-reported Changes in Relationships and Health From Baseline to Follow-up for Interviewed Identified Gamblers**

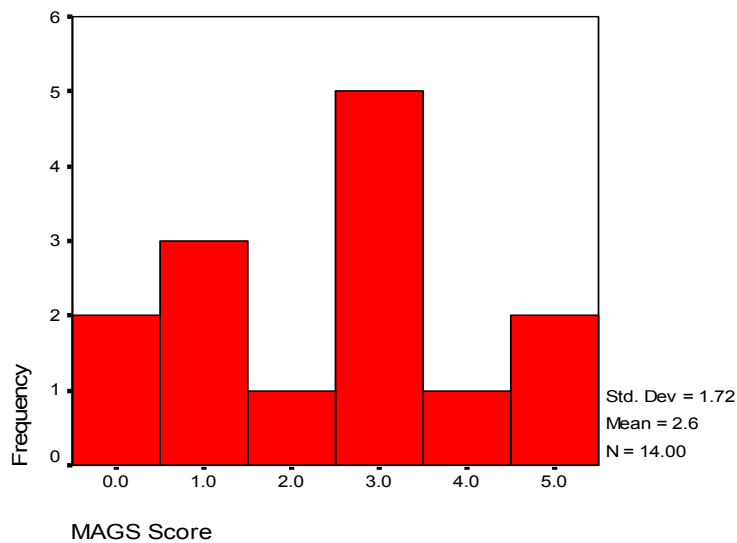
Compared to before you started IGTP treatment:	Much Better	Better	Same	Worse	Much Worse
How do you get along with your spouse or significant other now?	63.3% (19)	16.7% (5)	16.7% (5)	3.3% (1)	.
How do you get along with your immediate family now?	57.9% (22)	23.7% (9)	15.8% (6)		2.6% (1)
How is your physical health now?	21.1% (8)	31.6% (12)	36.8% (14)	7.9% (3)	2.6% (1)
How is your mental health now?	47.4% (18)	28.9% (11)	18.4% (7)	5.3% (2)	.
How is your financial health now?	34.2% (13)	47.4% (18)	13.2% (5)	5.3% (2)	.
How do you handle problems now?	52.6% (20)	28.6% (11)	15.8% (6)	2.6% (1)	.
How is your job performance?	45.9% (17)	24.3% (9)	27.0% (10)	2.7% (1)	.

### Index of Gambling Problems

The follow-up interview administered the Massachusetts Gambling Screen, a brief clinical screening instrument that yields an index of pathological gambling (Shaffer et al., 1994). The MAGS was modified to assess current gambling behavior (i.e., in the past six months). The scoring procedure yields a potential total score between -.62 and 7 points and suggests the presence of pathological gambling when the score is 2 or above,

transitional or potential pathological gambling between 0 and 2, and non-pathological gambling when the score is below 0. The MAGS was administered to participants who reported gambling in the last six months. Fourteen gamblers completed the entire screen (mean score  $2.6 \pm 1.72$ ). The highest score (5.4) was posted by a subject who did not receive IGTP treatment beyond admission. Nine gamblers were classified by the MAGS as pathological gamblers; two of whom were currently in treatment with the IGTP. Four gamblers were classified as transitional or potential pathological gamblers, one of whom was currently in treatment with the IGTP. Only one client was classified by the MAGS as a non-pathological gambler. Overall, 9 of 38 gamblers (24%) seen by the IGTP had either recidivated or had never overcome their pathological gambling three years later.

**Figure 2. Distribution of MAGS scores among the 14 clients who reported gambling in the last 6 months**



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## DISCUSSION

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Researchers in other fields have long recognized the utility of prospective longitudinal studies in advancing knowledge. Gambling research is still in its infancy, however, and has only just begun to apply the methodology of prospective studies to answer pressing questions in this field. The findings from these studies have suggested new trajectories for the development and recovery from disordered gambling; these new trajectories contradict the conventional wisdom that disordered gambling is progressive and chronic. In this study, we utilized prospective methodology to better understand the role of treatment and the course of recovery. When we started, we were optimistic that we would be able to transfer the prospective study methodology to this new area of study, ultimately the organization and practices of the IGTP were not optimal for the chosen design.

Because prospective studies are costly and time-consuming, the DOA designed a follow-up study that targeted previously treated clients for whom admission information was already available through the IGTP. The major advantage of this approach was that it shortened the time from study initiation to follow-up, thus requiring fewer financial resources and enabling the IGTP to respond more quickly to the needs of Iowans with gambling problems. However, to succeed this strategy relied heavily on the practices and organization that already were in place. We thought that the IGTP's resources could be harnessed for this type of longitudinal study; unfortunately this was not the case. A combined lack of IGTP continued client contact and missing contact information significantly hampered our ability to recruit study participants. In addition, our reliance on the IGTP providers placed constraints on other aspects of study design.

### **Cooperation Rate Difficulties: What We Cannot Know About the IGTP**

Ultimately this study suffered from a low project completion rate; only 8% of the eligible gamblers targeted for the study completed a follow-up interview. The biggest potential source of bias in a cohort study is that arising from losses to follow-up. Other longitudinal studies in the field have used various methodologies to reduce attrition. For example, Shaffer and Hall (2002) worked only with casinos where site managers would cooperate with study protocols. The DOA did not have the luxury of choosing the treatment providers it would work with in this study. While some IGTP providers were responsive, others repeatedly ignored DOA requests and failed to follow procedures.

Additionally, in all the previous longitudinal studies in the field of gambling studies, participants were actively enrolled in the study at baseline. This increases the odds that the participants will continue their involvement in the study by completing a follow-up interview. However, we were relying on past admissions and the IGTP does not routinely enroll clients in a formal follow-up study from the onset of treatment. The absence of prior consents created a two-step recruitment process and forced the DOA to rely on providers for the initial contact; providers had little to no experience in recruitment and often less interest. Providers had to gain the participants' consent to be contacted by a researcher, and the researchers had to gain their consent to interview; this two-step procedure reduces the chances that clients will make it over both hurdles to ultimately participate.

The fact that so few clients (44 of 476) made it past the first hurdle is most troubling. The specific counselor who had worked with a client made almost all recruitment attempts for that client. This strategy usually is adopted because clients are more likely to consent if asked to take part in a brief survey by someone with whom they have formed an alliance. The low consent rate raises important concerns about the quality of the treatment alliance forged between counselor and client. Though consent rates are at best circumstantial evidence, this difficulty highlights an important area that deserves further study.

The logistical problems encountered during the recruitment process might indicate that the IGTP data collection system is not operating as it should. A prospective study by definition requires investigators to be able to find the clients again to re-interview them. We had assumed that the vital contact information would be available in client files. In many cases, however, client files were incomplete and did not contain contact information; this circumstance compromised our ability to locate clients eligible for the follow-up interview. In addition to its importance for research purposes, complete contact information is necessary to keep the IGTP centers operating efficiently and to maintain crucial counselor-patient contact. Without contact information, providers cannot call to reschedule appointments or follow-up on a counseling session. The missing contact information indicates that providers might not be adequately performing these types of activities. Given the high rate of recidivism and re-entry into the program for this population, there is a definite need for continuing contact.

Also complicating recruitment, the population of gamblers under study appears to be highly transient as evidenced by the high rate of undeliverable letters. The long period of time that had passed between admission to the IGTP and the current follow-up (3-4 years) increased the likelihood that they had moved. This was the most current cohort of clients for whom the DOA had admission information; consequently, we were constrained in our choice of follow-up period. The lack of continued contact during this period made this an insurmountable challenge to the study. To ensure that providers will be able to reach their clients in the future for clinical and research purposes, it might be necessary to record the names and numbers of several close relatives who could provide current contact information if the client moves.

In addition to the overall low numbers, people who received no treatment beyond admission or short courses of treatment are under-represented in the follow-up dataset. There are three primary possible explanations for their absence: (1) gamblers who had less involved interactions with the IGTP were less willing to complete a survey for them; (2) their files were less likely to contain complete or recent contact information that facilitated recruitment; or (3) the IGTP providers made fewer attempts to contact those clients with whom they had had limited interaction. Whatever the reason for this under-representation, the consequence of their exclusion is that the results of the follow-up survey are no longer generalizable to the entire cohort of gamblers treated by the IGTP. These two groups, those who received more or less extensive treatment courses, might have very different treatment outcomes. For example, gamblers might have attended more extensive counseling services because they felt the program was beneficial, those who left might have done so because they did not feel the services were helpful or

because they recidivated. The results of this current study are likely skewed towards beneficial outcomes.

### **Interviewed Gamblers: What We Do Know About the IGTP**

Overall, interviewed gamblers reported high rates of satisfaction with the services they received from the IGTP and stopped attending only when their treatment course was complete or they felt they were better. Only a small percentage (5%) felt that they did not receive any benefit from the IGTP services; prompting some to end treatment prematurely. The success of the IGTP services is reflected in the relatively low number (13%) of gamblers who reported placing a bet since they were discharged and the absence of major adverse consequences in the population, including losing a job or being arrested because of gambling. Furthermore, income had increased substantially for the majority of gamblers and they had been able to halve their gambling debt on average. In addition to improvements in their financial situation, a majority of gamblers also reported that their relationships, health and functioning had improved since they began treatment with the IGTP.

For the few gamblers who were not able to quit, however, the data suggest that their problems have escalated. This group tends to illustrate the conventional wisdom about gambling disorders. This group appeared to be playing for higher stakes because they reported a significant increase in their highest weekly losses. Their current gambling behavior also caused them to miss a greater number of work days in the last six months than what they reported at the time of admission. Increased follow-up might be required, not just for purposes of program evaluation, but also to capture gamblers who have relapsed and would benefit from reenrollment in the IGTP. Successful control of addictive behaviors often takes several rounds of treatment to achieve and should be anticipated. Reenrollment was common in this sample, 29% had been readmitted to the IGTP for further counseling, and many had sought additional help through Gamblers Anonymous (60%).

Further evidence of continued treatment need comes from the results of the Massachusetts Gambling Screen, a brief clinical screening instrument for pathological gambling included in the follow-up interview. Of those gamblers who placed a bet within 6 months of the follow-up interview, the majority were still classified as pathological gamblers. Looking at the larger picture, this means that 24% of the pathological gamblers seen by the IGTP had either recidivated or had never overcome their pathological gambling three years later.

Although the low recruitment prohibits generalization, the data do raise interesting and important questions that deserve further exploration. The problems with recruitment suggest that the tracking and case management systems employed by the treatment programs that constitute the IGTP are potentially introducing bias into the study enrollment; these administrative procedures need to be examined. Further, screening efforts with many of the gamblers treated and released by the IGTP continue to classify them as pathological gamblers, yet few are enrolled in continued care counseling programs. Despite these issues, most gamblers admitted to the IGTP in FY2000-2001 and examined at follow-up three years later reported they had benefited from the services

received and demonstrated improvement in reported gambling behaviors, financial well-being, relationships, and health.

Prospective studies hold great potential to evaluate treatment programs and to advance our knowledge of recovery. While we encountered a number of challenges in this study, scientists interested in studying gambling treatment outcomes can use this experience to improve upon the design and implementation of future studies. To facilitate evaluations, we urge the IGTP to initiate a follow-up study at admission. This means the IGTP would implement consent procedures at admission, thus enabling researchers to contact clients directly. Intake procedures for gathering contact information need to be strengthened. These procedures should be expanded to include gathering information about friends or family members who then could provide current contact information on the gambler if he or she should move before follow-up. We encourage continued contact with clients as both a means to improve their treatment experience and to regularly update contact information. Shorter intervals between follow-up interviews will increase the likelihood that researchers will be able to locate clients and that they will continue to participate in the study. These earlier interviews should not replace follow-up interviews that occur years out of treatment, as the two time frames provide different information on short-term and long-term change. Based on the low rates of participation, we suggest that future studies use incentives to encourage participation. Implementing these changes should improve follow-up retention and allow for a comprehensive evaluation of the IGTP.

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## APPENDIX A

**Follow-up Survey of FY 2000-2001 Participants in the Iowa Department of Public Health Gambling Treatment Program**  
 (\* = Item replicates IGTP Discharge/Follow-up Form    ^ = Item replicates IGTP Discharge/Follow-up Form except the time frame – "since admission/discharge" is changed to "last 6 months")

1 Client Number

11\*.         Birth date (MM/DD/YYYY)

12\*.   County  
 00=Out of State

13\*.  Relationship Status  
 1 Single    3 Cohabiting    5 Divorced  
 2 Married    4 Separated    6 Widowed    7 Other

15\*.  Employment Status  
 1 Employed full time (35 or more hours per week)  
 2 Employed part time (less than 35 hours per week)  
 3 Unemployed (looking for work in past 30 days)  
 4 Not in labor force due to—homemaker, student, retired, disabled, inmate, not looking for work in the past 30 days.

16\*.  Not in Labor Force Due to:  
 0 N/A, Client employed/looking for work    4 Person has a disability  
 1 Homemaker    5 Incarcerated  
 2 Student    6 Unemployed (not looking for work in the past 30 days.)  
 3 Retired

17\*.  Occupation  
 0 None    4 Laborers  
 1 Prof/Managerial    5 Farm Owners/Laborers  
 2 Sales/Clerical    6 Service/Household  
 3 Crafts/Operatives

18\*.   Months Employed in last 6 months  
 0 None    1-6 one to six    8 not in labor force

19\*.   Days of work or school missed due to a gambling-related problem in last 6 months.

20\*.   Jobs lost due to gambling in last 6 months.

21a\*      Current gross/taxable individual monthly income

21b\*      Total household monthly income

22a\*   Times arrested in last 6 months.

22b\*   Number of gambling-related arrests in last 6 months.

23\*.   GA/Gamanon or similar meetings per month in last 6 months

24a\*.  Was a concerned person also involved in IGTP treatment process?  
 1 Yes    2 No

24b.  What was the concerned person's relationship to you?  
 0 Partner    1 Child    2 Parent  
 3 Other Relative    4 Friend

**25. Services Evaluation: Please think over all the services you have received since you first entered the IGTP.**

	<b>Received?</b> 1 Yes 2 No	<b>Why did you stop?</b> 1 Did not find it helpful 2 Felt I was better 3 I was asked to leave 4 Finished program 5 I was referred outside program 6 Incarcerated	<b>Did you find it beneficial?</b> 1 Very beneficial 2 Mostly beneficial 3 Beneficial 4 Somewhat beneficial 5 Not beneficial
<b><u>IGTP Services</u></b>			
a. Individual Counseling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Family Counseling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Group Counseling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Education Classes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. All IGTP Services Overall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**26. Please think over all the services you have received since you were discharged from the IGTP in 2000-2001.**

	<b>Received?</b> 1 Yes 2 No	<b>Start Date</b>	<b>Stop Date</b>	<b>Why did you stop?</b> 1 Did not find it helpful 2 Felt I was better 3 I was asked to leave 4 Finished program 5 I was referred outside program 6 Incarcerated	<b>Did you find it beneficial?</b> 1 Very beneficial 2 Mostly beneficial 3 Beneficial 4 Somewhat beneficial 5 Not beneficial
a. Readmission to the IGTP	<input type="checkbox"/>	___/___/___	___/___/___	<input type="checkbox"/>	<input type="checkbox"/>
<b><u>Outside Services</u></b>					
b. Gamblers Anonymous	<input type="checkbox"/>	___/___/___	___/___/___	<input type="checkbox"/>	<input type="checkbox"/>
c. Financial Counseling	<input type="checkbox"/>	___/___/___	___/___/___	<input type="checkbox"/>	<input type="checkbox"/>
d. Alcoholics Anonymous	<input type="checkbox"/>	___/___/___	___/___/___	<input type="checkbox"/>	<input type="checkbox"/>
e. Substance Abuse Counseling (other than AA)	<input type="checkbox"/>	___/___/___	___/___/___	<input type="checkbox"/>	<input type="checkbox"/>
f. Mental Health Counseling	<input type="checkbox"/>	___/___/___	___/___/___	<input type="checkbox"/>	<input type="checkbox"/>
g. Domestic Abuse Counseling	<input type="checkbox"/>	___/___/___	___/___/___	<input type="checkbox"/>	<input type="checkbox"/>
h. Sexual Addiction Counseling	<input type="checkbox"/>	___/___/___	___/___/___	<input type="checkbox"/>	<input type="checkbox"/>
i. Other Gambling Treatment	<input type="checkbox"/>	___/___/___	___/___/___	<input type="checkbox"/>	<input type="checkbox"/>
Name _____					
j. Other Gambling Treatment	<input type="checkbox"/>	___/___/___	___/___/___	<input type="checkbox"/>	<input type="checkbox"/>
Name _____					
k. Other Gambling Treatment	<input type="checkbox"/>	___/___/___	___/___/___	<input type="checkbox"/>	<input type="checkbox"/>
Name _____					

27.  **Number of gambling treatment program admissions since June 30, 2001.**  
0=Less than one 1-7=One to seven or more 8=Not admitted

28^  **Bankruptcy or other defaults in last 6 months?** 1 Yes 2 No

29a^           **Total Amount of Credit Card Debt**

29b^           **Total amount required to pay all overdue bills**

29c\*.  Total Debt

29d\*.  How much of total debt is a result of gambling?

30\*.  Date Last Gambled  
M M D D Y Y Y Y

**31. Gambling Behavior**

How many times in the last 30 days did you play:

On average, how much did you lose each time you played?

	How many times in the last 30 days did you play:	On average, how much did you lose each time you played?
a. Casino table games	<input type="text"/> <input type="text"/>	\$ _____
b. Slots	<input type="text"/> <input type="text"/>	\$ _____
c. Live keno	<input type="text"/> <input type="text"/>	\$ _____
d. Video: Poker/Keno/Blackjack	<input type="text"/> <input type="text"/>	\$ _____
e. Non-Casino Cards	<input type="text"/> <input type="text"/>	\$ _____
f. Bingo	<input type="text"/> <input type="text"/>	\$ _____
g. Scratch tickets and Pull-tabs	<input type="text"/> <input type="text"/>	\$ _____
h. Lotteries (includes numbers)	<input type="text"/> <input type="text"/>	\$ _____
i. Racetrack (horses, dogs)	<input type="text"/> <input type="text"/>	\$ _____
j. Sports	<input type="text"/> <input type="text"/>	\$ _____
k. Stocks/Commodities/Futures	<input type="text"/> <input type="text"/>	\$ _____
l. All Other (including illicit and informal gambling)	<input type="text"/> <input type="text"/>	\$ _____

32\*.  Most lost in any one week in the last 6 months.

33\*.  Frequency of types of behavior during the last 30 days.

	0 None	1 1-3 Times in past month	2 1-2 Times per week	3 3-6 Times per week	4 Daily	5 2-3 Times per day	6 4+ Times daily
a. <input type="text"/> <input type="text"/> Tobacco Use							
b. <input type="text"/> <input type="text"/> Alcohol Use (including with meals)							
c. <input type="text"/> <input type="text"/> Illicit ("street") drug use							
d. <input type="text"/> <input type="text"/> Prescription drug abuse							
e. <input type="text"/> <input type="text"/> Food abuse (self-starvation, binge, purge)							
f. <input type="text"/> <input type="text"/> Compulsive work (uses work to avoid/escape)							
g. <input type="text"/> <input type="text"/> Compulsive sex/romance/relationship							
h. <input type="text"/> <input type="text"/> Compulsive spending/shopping							
i. <input type="text"/> <input type="text"/> Physical violence							
j. <input type="text"/> <input type="text"/> Physical harm to self							

34. Compared to before you started IGTP treatment:  
 1 Much better 2 Better 3 Same 4 Worse 5 Much worse 9 N/A

- a. How is your job performance?
- b. How do you get along with your spouse or significant other?
- c. How do you get along with your immediate family?
- d. How is your physical health?
- e. How is your mental health?
- f. How is your financial health?
- g. How do you handle problems?

35. Gambling Screen: Please think back over the last 6 months and answer the following questions about that time period.

In the past 6 months:

- a. Have you ever experienced social, psychological or financial pressure to start gambling or increase how much you gamble?  0 No  
1 Yes
- b. How much do you usually gamble compared with most other people?  0 Less  
1 About the same  
2 More
- c. Do you feel that the amount or frequency of your gambling is "normal"?  0 No  
1 Yes
- d. Do your friends or relatives think of you as a "normal" gambler?  0 No  
1 Yes
- e. Do you ever feel pressure to gamble when you do not gamble?  0 No  
1 Yes
- f. Do you ever feel guilty about your gambling?  0 No  
1 Yes
- g. Does any member of your family ever worry or complain about your gambling?  0 No  
1 Yes
- h. Have you ever thought you should reduce or stop gambling?  0 No  
1 Yes
- i. Are you always able to stop gambling when you want?  0 No  
1 Yes
- j. Has your gambling ever created problems between you and any member of your family or friends?  0 No  
1 Yes
- k. Have you ever gotten into trouble at work or school because of your gambling?  0 No  
1 Yes
- l. Have you ever neglected your obligations (e.g., family, work or school) for two or more days in a row because you were gambling?  0 No  
1 Yes
- m. Have you ever gone to anyone for help about your gambling?  0 No  
1 Yes
- n. Have you ever been arrested for gambling?  0 No  
1 Yes

36.  How honest were your answers to the questions I asked?

1 Not at all honest 2 Somewhat dishonest 3 Somewhat honest 4 Very honest

If less than Very honest ask, "Are there any answers you would like to change?"  
 If yes – go through interview again to identify and change responses.

County Codes for Question 11

00-Does not live in Iowa		
01-Adair	34-Floyd	67-Monona
02-Adams	35-Franklin	68-Monroe
03-Allamakee	36-Fremont	69-Montgomery
04-Appanoose	37-Greene	70-Muscatine
05-Audubon	38-Grundy	71-O'Brien
06-Benton	39-Guthrie	72-Osceola
07-Black Hawk	40-Hamilton	73-Page
08-Boone	41-Hancock	74-Palo Alto
09-Bremer	42-Hardin	75-Plymouth
10-Buchanan	43-Harrison	76-Pocahontas
11-Buena Vista	44-Henry	77-Polk
12-Butler	45-Howard	78-Pottawattamie
13-Calhoun	46-Humboldt	79-Poweshiek
14-Carroll	47-Ida	80-Ringgold
15-Cass	48-Iowa	81-Sac
16-Cedar	49-Jackson	82-Scott
17-Cerro Gordo	50-Jasper	83-Shelby
18-Cherokee	51-Jefferson	84-Sioux
19-Chickasaw	52-Johnson	85-Story
20-Clarke	53-Jones	86-Tama
21-Clay	54-Keokuk	87-Taylor
22-Clayton	55-Kossuth	88-Union
23-Clinton	56-Lee	89-Van Buren
24-Crawford	57-Linn	90-Wapello
25-Dallas	58-Louisa	91-Warren
26-Davis	59-Lucas	92-Washington
27-Decatur	60-Lyon	93-Wayne
28-Delaware	61-Madison	94-Webster
29-Des Moines	62-Mahaska	95-Winnobago
30-Dickinson	63-Marion	96-Winneshiek
31-Dubuque	64-Marshall	97-Woodbury
32-Emmet	65-Mills	98-Worth
33-Fayette	66-Mitchell	99-Wright