Estimating the Social Costs of Gambling Disorders in Louisiana For 1998

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LSUMC-Shreveport
Gambling Studies Unit:

James R. Westphal, M.D.
Associate Professor and Deputy Chair
Department of Psychiatry
Louisiana State University Medical Center
Shreveport, Louisiana

Lera Joyce Johnson, Ph.D.
Assistant Professor
Department of Psychology
Centenary College
Shreveport, Louisiana

Lee Stevens, M.D.
Assistant Professor
Department of Psychiatry
Louisiana State University Medical Center
Shreveport, Louisiana

A. INTRODUCTION

Gambling as a recreational activity probably has minimal negative effects on the gamblers, their families, and society in general. However, a small proportion of people who gamble develop gambling disorders. A recent meta-analytic study performed by the Harvard Medical School Division of Addictions estimated that between 2.3% and 5.7% of the national adult population have a current gambling disorder.[1] People with gambling disorders can develop considerable gambling related debts, commit crimes to obtain money to gamble or pay gambling debts, default on debts, lose productivity at work, and develop other medical and psychological disorders secondary to the stress of their gambling-related financial problems.[2] Although the majority of these behaviors cause suffering principally for the gambler and their immediate family,[2] some of these behaviors will result in financial burdens to the general public. The costs that people with gambling disorders cause others in society, who are not directly impacted by the gambler's behavior, are defined as social costs. At present, researchers can only estimate the social costs of people with gambling disorders. With the exception of some prison costs, this study will only estimate the social costs of adults aged eighteen and over with gambling disorders. An estimate for underage gambling social costs will be presented in Appendix B.

In this report, the LSUMC-Shreveport Gambling Studies Unit research team used a six-step process to estimate and analyze the social costs of Louisiana residents with gambling disorders for 1998. The first step calculated the average social costs per year of a person in treatment in Louisiana for a gambling disorder based on a survey completed by volunteers in Louisiana Gambler's Anonymous (GA) or in current treatment for gambling problems. The second step used standard and other quantitative measures of gambling behavior to estimate how closely the people with gambling problems identified in the 1998 random telephone survey of the Louisiana adult population resembled the GA and treatment sample. The third step estimated the social cost of gambling disorders for the 1998 Louisiana telephone survey sample using a

proportionate model of social costs for community samples. The fourth step extrapolated the telephone survey sample's social costs to the entire adult population of Louisiana for 1998. The fifth step used results from the 1995 and 1998 Louisiana gambling disorder prevalence surveys to estimate the proportion of revenues that each form of legalized gaming derives from people with gambling disorders. The sixth step compared the Louisiana 1998 social costs of gambling disorders estimated in this project to a national social cost estimate for gambling disorders based on different estimation method developed by the National Opinion Research Center for the National Gambling Impact Commission.

B. DEFINITIONS

95% Confidence Interval: Range within which there is a 95% probability of capturing the true mean of the population.

Disordered Gambling: Gambling that results in life problems either mild or severe, both Levels 2 and 3 gambling

Level 1 Gambling:*   Social or recreational gambling without significant life problems.

Level 2 Gambling:*   Gambling that results in moderate personal or social consequences.

Level 3 Gambling:*   Gambling behavior that results in multiple serious life problems consistent with a DSM-IV diagnosis of pathological gambling.

Level 4 Gambling:*   Gambling behavior that results in life problems serious enough to cause the person to seek assistance by professional treatment or through self-help groups such as GA (Gambler's Anonymous).

Lifetime: An event/activity that a respondent has participated in during their lifetime.

Past-year: An event/activity that a respondent has participated during the last 12 months.

Prevalence: The percentage of a population that is affected by a phenomenon at a given time.

Standard Deviation:	A measure of data variation; the square root of the variance. The average amount individual scores differ (vary) from the mean.
Pathological Gambling:	Pathological gambling is the most severe form of gambling disorder and was first defined in the Diagnostic and Statistical Manual, Version III by the American Psychiatric Association in 1990. An individual who fulfills 5 out of the 10 following 10 diagnostic criteria is diagnosed as a pathological gambler: (1) preoccupation with gambling; (2) a need to increase the excitement produced by gambling; (3) restlessness or irritability when unable to gamble; (4) repeated unsuccessful efforts to control, cut back, or stop gambling; (5) gambling in an effort to get back money lost during gambling on a previous day; (6) gambling in an effort to escape a dysphoric mood; (7) lying to cover up gambling; (8) jeopardizing a significant job, relationship, or educational opportunity by gambling; (9) engaging in illegal activity to finance gambling; and (10) going to someone else to relieve a desperate financial situation produced by gambling similar to dependence on a drug or alcohol.
Problem gambling:	Problem gambling is a milder version of a gambling disorder which is not defined by the American Psychiatric Association, but could be considered to be similar to the abuse of alcohol or a drug. Problem gamblers would satisfy only two, three, or four of the 10 diagnostic criteria. Researchers are currently investigating whether there should be a cutoff point for problem gambling, as there is for pathological gambling. This article will use the term "problem gambling" to refer to the less serious condition.

The definitions of Levels 1 through 4 of gambling behavior are adopted from Schaffer and Hall, 1996.[3]

C. BACKGROUND

Limited amounts of data are available on the social costs of gambling disorders.

Currently available social cost data are from people who have gambling disorders and participate

in gambling disorder treatment or Gamblers Anonymous. Data are available from four states:

Connecticut,[4] Illinois,[5] Montana,[6] and Wisconsin.[7]   However, the total number of subjects is small (less than five hundred). These studies found a range of social costs from $8,700 per year per person with a gambling disorder in Wisconsin to $16,000 per year per person with a gambling disorder in Connecticut.

Social costs of people with gambling disorders could vary by state because of environmental factors such as accessibility of various forms of gambling, duration of legalized gambling within a state, social or demographic characteristics of the population, such as racial or age distribution of the population, accessibility of gambling treatment, and public awareness of gambling problems as treatable disorders. Researchers have not established whether there are regional differences in the social costs of gambling disorders. There are no published estimates of the social costs of gambling disorders for southeastern states.

Determining the social costs of gambling disorders at present is inexact. First, the pain and suffering of the person with a gambling disorder, and the suffering caused to their family and friends, cannot be accurately quantified. These costs are called intangible costs. Second, the economic and financial burden that people with gambling disorders directly place on their families, called the family burden of a disease, has not been studied to date for gambling disorders. Third, some aspects of the results of gambling disorders such as suicide, impaired parenting, and spousal abuse cannot be quantified as yet. Fourth, people with gambling disorders usually have other disorders, such as psychiatric or addictive disorders in addition to their gambling disorders. This condition, called comorbidity by professionals, causes difficulty in specifically attributing costs to one disorder, such as a gambling disorder.   Given the limitations cited, this study attempted to estimate the quantifiable economic aspects of gambling disorders on the general public of Louisiana for 1998.

One other methodological issue needs to be addressed. As a part of the larger project described in this report, a randomized telephone survey of Louisiana residents estimated the

1998 Louisiana adult prevalence of gambling disorders. To determine the total statewide cost of gambling disorders, one possible method would be to multiply the Louisiana prevalence of gambling disorders in 1998 times the social cost per person with a gambling disorder in treatment per year and derive a total estimate for 1998. However, there is a potential methodological flaw in this approach.

The crucial methodological question is the validity of generalizing the GA and treatment sample results to the population of people with gambling disorders in the general population. The Harvard Medical School's Division of Addictions group, led by Shaffer, proposed that gamblers in the GA or treatment are different than disordered gamblers found in community samples. Shaffer and Hall[3] proposed classifying people with gambling disorders in treatment as Level 4 gamblers versus people with severe gambling disorders in the community who had not sought treatment as Level 3 gamblers. Five studies on identifying gambling disorders in community populations have questioned the similarity of Level 3 gamblers identified by community samples and Level 4 gamblers (in treatment). [8-12]

In other psychiatric and addictive disorders, treatment samples and community samples differ significantly along several dimensions, including comorbidity, social-economic characteristics and severity of symptoms. In other psychiatric disorders, community samples have less severe and less disabling forms of disorders,[13] and therefore, would have smaller social costs.

D. METHODS

1. GA/Treatment Survey

The first step of this study (the calculation of Louisiana Level 4 gambler per year social costs) modified Thompson and Gazel's gambling disorder social cost model[14] used in the calculation of the Connecticut[4] and Wisconsin[7] social costs estimates. The LSUMC-S team produced a Gamblers Anonymous/Treatment survey similar to surveys used in previous social

cost studies.[4-7] See Appendix A for a copy of the GA/Treatment survey. Reece Middleton, the

Executive Director of the Louisiana Council on Compulsive Gambling distributed the survey to

GA meetings statewide and all sites of state-financed outpatient gambling treatment in January

of 1999. The GA/Treatment survey included the South Oaks Gambling Screen[15] or SOGS, a

widely used instrument which determines the behavioral severity of the gambling disorder.

Also included were a demographics section similar to the telephone survey demographics, and

other social cost questions,[16] developed by the LSUMC-S Gambling Studies Unit in a previous

study of gambling behavior in Indiana. Seventy-eight surveys were returned in time for the

analysis. The basic demographics of the respondents are described by frequency analysis in the

Results section.

Social costs were calculated in nine categories: loss of productivity by missing or

impaired work, unemployment costs, loss of productivity from unemployment, bad debts, theft

costs, civil court costs, criminal justice costs, welfare and treatment costs. The specific

calculations used for each category to determine the cost per year per Louisiana Level 4 gambler,

are described below:

> **Lost Productivity Costs.** Only employed respondent data were used in lost productivity calculations. Full-time workers reported the number of missed days per month was converted to hours per year (123 days x 12 months x 8 hours), and multiplied by the average United States hourly wage for 1997 ($12.67), determined from the Statistical Abstract of the United States 1997.[17]   This figure was divided by the number of total respondents (78).
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> Part-time workers reported the number of missed days per month (33 days) from work because of their gambling (Q29). The total days missed per month was converted to hours per year (33 days x 12 months x 4 hours), and multiplied by the average United States hourly wage for 1997 ($12.67), determined from t he Statistical Abstract of the United States 1997.[17]   This figure was divided by the number of total respondents (78).
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> Full-time workers also reported days per month (436 days) of decreased productivity due to gambling (Q30). The maximum number for any one person was held at 21 days per work month since many people reported productivity losses for weekends. This number was adjusted by 50% (436 days x 50% of each day) to derive at a decreased productivity day total. This was converted to hours per year [436 x .50 days) x 12 months x 8 hours] and multiplied by the average United States hourly wage for 1997 ($12.67), determined

from the Statistical Abstract of the United States 1997.[17] This figure was divided by the number of total respondents (78).

Part-time workers also reported days per month (60 days) of decreased productivity due to gambling (Q30). The maximum number for any one person was held at 21 days per work month since many people reported productivity losses for weekends. This number was adjusted by 50% (60 days x 50% of each day) to derive at a decreased productivity day total. This was converted to hours per year [60 x .50 days) x 12 months x 4 hours] and multiplied by the average United States hourly wage for 1997 ($12.67), determined from the Statistical Abstract of the United States 1997.[17] This figure was divided by the number of total respondents (78).

Unemployment Costs. Respondents reported the number of months (18) of unemployment compensation (Q46B) due to gambling problems over their lifetime. This was multiplied by the average Louisiana monthly unemployment compensation as determined from the U.S. Statistical Abstract[17] ($567.00). This figure was divided by the number of total respondents (78) times the median gambling career (4). The median gambling career length is the number of years that people in the sample reported having gambling problems. This was calculated by subtracting the age at which the individual experienced problems as a result of gambling from the age the individual began treatment or started attending Gamblers Anonymous meetings.

Productivity Losses From unemployment Costs. The total months of unemployment due to gambling (18 months) reported (Q46B) by all respondents was multiplied by the average United States hourly wage, $12.67 as determined from the Statistical Abstract.[17] This figure was divided by the number of total respondents (78) times the median gambling career (4).

Bad Debts Costs. The total amount of bad debts ($388,675) respondents reported that they did not repay because of their gambling (17A) was divided by the number of total respondents (78) times the median gambling career (4).
Theft Costs. The total amount of thefts ($602,000) respondents reported (Q19A) that they did not repay because of their gambling was divided by the number of total respondents (78) times the median gambling career (4).

Civil Court Procedure Costs. Previous studies[14] estimated that each court case cost society $3750. This cost represents cost of public counsel (many gamblers will not have funds and, therefore, require public counsel), costs of judicial and other court personnel salaries, and court facilities. The $3750 figure is one-half the per case cost of operating the trial courts of the federal judiciary. The total number of bankruptcy cases (19) and other civil cases (19) reported by respondents was multiplied by $3750 per case and totaled ($142,500). This figure was divided by the number of total respondents (78) times the median gambling career (4).

Criminal Justice Costs. The respondents reported gambling related criminal arrests (33), trials (16), and months of probation (210). Previous studies[14] have used $500 per arrest, $3750 per trial, and $2800 per year of probation. The costs in each category were totaled, $16,500, $60,000, and $49,000, respectively. Each of these figures was divided by the number of total respondents (78) times the median gambling career (4).

Welfare Costs. The respondents reported costs of outpatient ($22,103) and inpatient ($101,500) treatment for gambling problems. The total costs for both types of treatment were summed and divided by the number of total respondents (78) times the median gambling career (4).

Treatment Costs. The respondents reported costs of outpatient and inpatient treatment for gambling problems. The total costs for both types of treatment were summed and divided by the disordered gambling person years.

2. Callback Survey

Two hundred respondents of the original 1,800 adult panel called in the 1998 Louisiana telephone survey were recalled and asked twenty additional questions on gambling-related behavior, used in a previous survey.[16] The callback survey was developed to assist in determining the degree of similarity between the Level 2 and Level 3 gamblers found in the telephone survey and the Level 4 gamblers surveyed in the GA and treatment sample. If the two groups of gamblers were similar in their gambling behavior, then the average social costs of the GA and treatment sample can be extrapolated to the Level 2 and 3 gamblers found in the population by the telephone survey.

However, if the two samples were very dissimilar, then only a proportion of the social costs found in the GA and treatment sample can be extrapolated to the Level 2 and 3 gamblers found in the population. The two groups were compared using SOGS scores and the quantitative measures of gambling[16] used in the callback survey. The callback items included average amounts of time and money spent gambling, average gambling debt, and average number of days missed from work and average number of days of reduced productivity at work, total number of arrests and times sued related to gambling activities. See Appendix A for the text of the callback survey.

3. Calculation of the Social Costs of the Telephone Sample

As will be reported in the Results section, the GA/Treatment sample and the disordered gamblers identified in the telephone survey were not identical in SOGS scores or other quantitative measures of gambling behavior. Consistently, the level 4 gamblers were more severe in SOGS scores and other measures of gambling behavior. The data do not support directly extrapolating the Level 4 gambler's social costs to the disordered gamblers identified in telephone survey.

An alternative method would be to attribute **proportions** of the Level 4 gambler's social cost to the Level 2 and 3 gamblers in the telephone survey. The only social costs that the Level 2 gamblers surveyed in the callback survey acknowledged were impaired productivity. The social costs of gambling debt and more severe loss of productivity were acknowledged by the Level 3 gamblers surveyed in the callback sample.

The model for attributing Level 4 annualized social costs to the community sample used two components loss of productivity and other social costs. The loss of productivity cost (which is the only past year cost measured by this survey) is attributed to the whole sample (Level 2 and 3) by the proportion of their past year SOGS score to the average SOGS score of the GA and treatment sample (13.8). The other social costs (the annualized lifetime costs) were attributed by proportion to the average SOGS score of the GA and treatment sample but only to the Level 3 gamblers in the telephone survey based on their lifetime SOGS score. The calculations are shown in Table Four in the Results section.

4. Determination of Statewide Costs

The first step of methodology of extrapolating the telephone sample's social costs to the adult population of Louisiana of 3,171,870 over age eighteen adults was to calculate average productivity and annualized lifetime social costs per disordered gambler in the telephone survey

sample. The average annualized lifetime cost per disordered gambler was determined by dividing the total cost of the telephone sample by the total number of disordered gamblers in the sample, Table Eight B. The average productivity costs per disordered gambler were determined in a similar manner, Table Eight A.

The second step used the 1998 Louisiana prevalence of gambling disorders and its confidence limits as determined by Volberg[18] to estimate the state's 1998 social costs . The estimate of the prevalence of lifetime disordered gamblers (5.8%) in the total 1998 Louisiana state population is multiplied by 3,171,870 (the adult population of Louisiana in 1998), resulting in an estimated 183,968 disordered gamblers. The estimate of the prevalence of past year disordered gamblers (3.9%) in the total 1998 Louisiana state population is multiplied by 3,171,870 (the adult population of Louisiana in 1998), resulting in an estimated 123,703 disordered gamblers. Confidence limits on each estimate were also calculated, past year (2.6%-5.2%) and lifetime (4.3%-7.3%). Productivity was extrapolated to the estimated Louisiana 1998 past year population and the annualized lifetime costs to the estimated lifetime Louisiana 1998 population. The 1998 productivity and annualized lifetime costs were summed to provide 1998 total social cost estimate.

4.A. Estimation of 1998 Louisiana Adult Incarceration Costs of Gambling Disorders

Community samples, by definition, exclude members of the population in inpatient treatment, in detention, or in prisons. The social costs estimate in the present study captured social cost information from those in treatment and from those in the community. Absent from that estimation was a very important constituent of social costs due to gambling, those whose gambling activities have led to their arrest, court conviction, and incarceration.

Gambling disorders and crime are closely associated. Researchers surveying Gamblers Anonymous[19-24] or gambling disorder treatment populations[20,21,25-31] find a significant proportion of gamblers who acknowledge criminal activity as a means to finance their gambling.

Researchers surveying prison populations[32-37] find a significant portion who report symptoms consistent with gambling disorders.

The low costs of incarceration obtained from the social cost estimate of the Louisiana GA and treatment populations are found in results section, Table Four and can be compared to other states (9 Thirteen).   There are several possible explanations for these results. Gamblers whose criminal activities have led to their arrests and court convictions may be currently incarcerated, and, therefore, not a part of the GA and treatment sample. Other possibilities are sampling error because of small sample size or that the demographics of the GA sample and the incarcerated disordered gambler population are significantly different.

A separate analysis was developed to estimate incarceration costs of adult gambling disorders in Louisiana in 1998.   A study was performed in an adult prison in Louisiana in 1996. Survey questions in the study asked whether the current arrest was due to a gambling-related crime. Gambling-related crime includes gambling offenses and crime to obtain money to finance gambling activity or to repay a gambling-related debt.   The study's results indicated that 10% of non-violent crime was gambling related. A parallel study was also done in the juvenile justice system in Louisiana to determine the percent of gambling related crime in that population.

Incarceration costs were calculated using this equation: 1998 cost of gambling related adult incarceration = Louisiana 1998 daily cost of one adult residing in prison multiplied by total days spent in 1998 in Louisiana adult prisons by non-violent offenders multiplied by percent of adult non-violent population in prison for gambling-related crime. Louisiana adult (nonviolent) 1998 total days and per diem costs were obtained from the Department of Public Safety and Corrections, Office of Management and Finance, Baton Rouge, LA. The same formula is also used to determine the costs for the Louisiana Technical Institute, a facility for non-violent juvenile offenders. The other social costs in this study were only estimated for people 18 years old and older due to the difficulty of surveying juveniles via a telephone survey. Since the

incarceration costs are available through the use of a different methodology, they were included in the analysis.

This estimate is conservative, because it is restricted to average costs of incarceration. If these people were not in prison, we would expect that a significant portion would be in full or part-time employment. Incarceration implies an additional social cost of lost productivity. Also, the incarceration estimate does not reflect the impact of their imprisonment on their families and possible increased dependence by family members on social services.

$35.86	X	4,954,348	X	10%	=	$17,766,292
Adult Prison Cost Per Day		Total Person Days For Nonviolent Adult Offenders		Percent Gambling Related Crime		Total
$71.86	X	669,752	X	11.6%	=	$5,586,000
LTI Cost Per Day		LTI Person Days		Percent Gambling Related Crime		Total

Total $23,352,292

5. Proportion of Gambling Revenues Derived from People with Gambling Disorders

Several studies have attempted to develop methodology to calculate the proportion of legal gaming revenues derived from people with gambling disorders.[2,38-40] This study used the methodology developed by Volberg et al.[41] using 1995 and 1998 Louisiana gaming disorder prevalence survey data to calculate the proportion of Louisiana 1995 and 1998 gambling revenues provided by people with gambling disorders. In addition the average amounts spent on private gambling activity, each form of legalized gaming and the total spent on gambling activity by Level 1, 2 and 3 gamblers for each year was calculated.

The 1995 Louisiana gambling disorder prevalence survey[42] and the 1998 Louisiana gambling disorder prevalence survey[18] collected both gambling expenditure data and data on

gambling behavior using the South Oaks Gambling Screen.[15] Questions were asked on each survey about whether the person had gambled in each of thirteen different activities the past year and how much money they typically spent per month on each of the thirteen activities. Each survey assessed Level 1through Level 3 gambling using the SOGS. The respondents scoring two or less were classified as level 1, three or four on the SOGS were classified as Level 2 gamblers and five or more on the past year SOGS were classified as Level 3 gamblers for the purpose of the survey.

For each gambling activity, the PLF (proportional loss factor) or the ratio of the mean expenditure of people with gambling disorders divided by the mean expenditure of people without gambling disorders, and the prevalence of people with gambling disorders in each gambling activity (PR) was calculated.   Then the aggregate average expenditure for each activity can be calculated using this formula: $AAE = (PLF) + (100 - PR)$. The proportional loss is then calculated by the formula $PL = (PLF) (PR)/AAE$. Only the legalized gambling activities, the aggregate private activities and totals are reported.

6. Comparison of the National Opinion Research Center (NORC) Model Costs

On March 18, 1999, the National Opinion Research Center reported the results of the second national study of gambling behavior.[43] The NORC study used different terminology and methodology to estimate the social costs and prevalence of gambling disorders. The NORC study also estimated different social costs.   The NORC method resulted in estimated annual and total lifetime costs based on the severity of the gambling disorder. In addition, the NORC methodology did not calculate productivity losses, defined some of the social costs we included as transfers rather than social costs, and included several social cost areas that our study did not. Examples of additional areas of social cost in the NORC model were the economic costs of poor physical and mental health in disordered gamblers. The NORC methodology was also different in the basis of the social cost calculations. The NORC model compared the answers of the

disordered gamblers to variables such as criminal arrests, divorces, and bankruptcies to the answers of non disordered gamblers in their study, and found areas of statistical difference. A statistical model was developed that controlled for the influences of alcohol and drug use and cost estimates were developed from the statistical model.

Finding an area to compare the NORC model and the study model was difficult because of the differences in methods, terminology and purpose. A NORC model estimate for Louisiana 1998 social costs was not possible because of differences in measuring the prevalence of disordered gamblers and the lack of data comparing the two different methods. Using the NORC model estimated national prevalence for Louisiana would significantly underestimate Louisiana prevalence, which is among the highest in the United States[18]. The annualized lifetime and productivity costs from this model and the annual and total lifetime costs of the NORC model are not comparable. The NORC model costs are individual and based on diagnostic category. This model costs are population based and vary by both diagnostic category and severity within category. However, we found that through adjustments in both models, we could calculate a similar term and estimate the amount of agreement between the models.

The average annualized lifetime cost of level 2 and 3 gamblers (excluding productivity costs) in our model and the average combined annual and annualized lifetime costs based on national prevalence rates are comparable between both models because both are population based rates and would be measuring similar costs for a similar time period. The average annualized lifetime cost of level 2 and 3 gamblers was calculated similar to Table Eight B, but level 2 other annualized lifetime social costs were added, and an average derived.

The NORC model prevalence rates for problem and pathological gamblers were applied to a theoretical sample of 1000 people. The NORC national prevalence of problem gamblers (closest to Level 2 gambling) is 1.3% and pathological gamblers (closest to Level 3 gamblers) is 0.8%. The NORC model estimates $560 annual and $3500 lifetime costs for problem gamblers

and $1,050 annual costs and $7,250 lifetime costs for pathological gamblers. The total annual

costs were calculated by multiplying the annual cost of each type by the prevalence of each type

and summing. The lifetime costs for each type were annualized by dividing by four, the same

method used to annualize the total lifetime costs found in the GA and treatment study. The

median length of disordered gambling in Louisiana found by the GA/treatment survey was four

years.   The total annualized lifetime costs were calculated by multiplying the prevalence of each

type by their annualized costs and summing. The total annualized lifetime and annual costs were

summed and divided by the prevalence of disordered gamblers to derive an average.

RESULTS

1.   GA Treatment Survey

1.A. Demographics

The mean age for the GA sample is 45 with a minimum age of 22 and a maximum age of

70. Religious affiliations reported were 62% Protestants and 31% Catholic. Gender distribution

was 52.6% male and 48.7% female. Self-reported racial configuration was: Caucasian, 80.8%;

African-American, 12.8%; American Indian, 3.8%; Asian-Pacific Islander, 1.28%; and other,

1.28%.

Eighteen percent of the sample worked at clerical level positions, 15% worked in a

skilled manual labor, and 14% worked in managerial and supervisory positions. Fifteen percent

worked in sales and 8% in service positions. Four percent were educators, and three percent

were students. Four percent were craftsman and another three percent were in professional

services. Artists/writers, gaming industry, manufacturing, technical/research, farm and law

enforcement professions each had 1.3%.

Forty-one percent had a total household income below $50,000, 47.4% had a total

household income between $50,000 and $100,000, and 11.5% had a total household income

over $100,000. Fifty-five percent were married, and 5% were in common law/cohabitation

relationships. Fifteen percent were divorced, 9% were separated, and 15% were never married. Thirty-nine percent had been to college or trade school, and 26% had a bachelor's degree or higher. Sixty-five percent were full-time employed and 5% part-time. Eight percent were full-time homemakers, and 10% were disabled. Six percent were unemployed, 4% were retired, and less than 2% were students.

Sixty-one of the 78 respondents (78%) reported other addictive or psychiatric problems. Thirty(38.5%) of the respondents stated that addictive and psychiatric problems had increased the severity of their gambling addiction. See Table One for frequencies of co-morbidities.

Table One
Co-Morbidities in Gamblers Anonymous Sample February 1999

Comorbidity GA Sample N=78	Frequency	% of Total Sample
Depression/ Psychiatric Problem	46	60%
Overeating Problem	31	39.7%
Drinking Problem	22	28.2%
Drug Problem	22	28.2%
Compulsive Shopping	16	20.5%
Marijuana	13	16.7%
"Downers"	12	15.4%
"Uppers"	4	5.1%
Anorexia/Bulimia/ Eating Disorder	4	5.1%
Problem with Other Drugs	4	5.1%
Narcotics	3	3.8%
Problem w/ Other Specific Drug	3	3.8%
Hallucinogens	1	1.3%

1.B.   Gambling Behavior

Fourteen percent of the sample lost between $1,000 to $4,999 in the last year gambled, 22% lost between $5,000 and $9,999, 21% percent lost between $10,000 and $24,999 and another 21% of the sample lost between $25,000 and $49,000. Twelve percent lost between $50,000 and $99,999 and 3% lost more than $100,000 dollars. Fifty-one percent lost less than $50,000, 27% of the sample lost between $50,000 and $99,999 during their lifetime as a result of gambling (losses minus winning), and 22% lost between $100,000 and $10,000.000.

All data describing gambling career are in medians. The respondents, started gambling at age 25, started weekly gambling at age 34, their gambling problems began at age 37, they began borrowing to gamble at age 38, their problem gambling lasted four years, and they had been in GA/Treatment for four months. See Table Two Louisiana gambling career data. Their lifetime gambling loss was between $25,000 and $50,000 and their last year gambling lost was between $10,000 and $25,000. See Table Two for gambling losses lifetime and the year before starting GA or treatment.

Table Two
Gambling Career

	(Median)
Age Gambling Began	25
Age Weekly Gambling Began	34
Age First Borrowed to Gamble	38
Age Gambling Problems Began	37
Age Now	44
Length Gambling Career	4 years
Time in GA	.375 years

Table Three
Median Amounts of Gambling Related Loss

Lifetime	$37,500
Year before GA	$17,500

1.C. Social Costs

In the GA treatment sample (N=78), respondents missed 7.58 days per month, on average, due to gambling, and performed at low levels of productivity an average of 17.34 days per month. One third of the sample reported that they had been unemployed (32.1%) for an average of 6.4 months, with an average of 3 weeks of that time directly attributed to participation in gambling activities. They had spent about two months (1.8) of the last year on welfare as a direct result of gambling activities. Over half (56.4%) admitted that they had borrowed money to gamble that they could not repay, had been sued twice, on average, due to gambling-related debts, and one-fourth of the sample (24.4%) had filed bankruptcy. Twelve percent (12.3%) had used public financial counseling services at least once (1.4 times). Nearly forty percent (39.7%) reported that they had stolen goods or money to gamble or to pay gambling debts, and almost a quarter of the sample (24.6%) had stolen money or goods from their place of employment. One respondent was homeless.

Almost every respondent had been divorced at least once. They had been arrested twice (1.9), gone twice to court (1.8), and were twice convicted (1.6) as a direct result of their gambling. Three percent (2.6%) had gone to jail for gambling. They were on probation twice (1.8), for an average of a year and a half (29.6 mos.). Four percent had used a public defender in court once, on average.

Over half of the GA treatment sample had sought treatment as an outpatient (52.6%), and five percent (5.3%) had received inpatient treatment, for gambling. They had been to doctors for

treatment about 18 times (18.1) at an average cost of $756.55. Twelve percent (11.5%) had visited hospitals for gambling treatment twice, for an average treatment cost of $23,375, for which insurance provided coverage for about half (51.5) of the visits. Seven percent (6.8%) had visited the emergency room of a hospital four times, on average. About three percent (2.8%) had used public health services.

Ten percent (9.7%) had used mental health services about 12 times (12.3) and sixteen percent had sought family services 19 times. Fourteen percent (13.7%) reported problems with substance abuse and had sought help with substance abuse an average of 25 times. Almost half of those with substance abuse problems (5.5% of total sample) had been hospitalized for drug treatment over 25 times (25.3).

Average days of work missed per month (including housework/repairs at home) because of gambling were: 3.5 days by those employed full-time, 8.25 days by part timers, 16 days by those who kept house, 7 days by the disabled, 8 days by retirees, and 9 days by those unemployed. (Only workdays lost by those working outside the home are used in the lost productivity calculation below.) Fifty-six percent (n=44) had defaulted on loans that ranged from $75 to $80,000, with the mean loan amount of $10,210.

The social costs per level 4 Louisiana gambler was $10,958 per year, with majority of costs employment cost and lost productivity cost ($5,968), bad debts ($1,246), lost productivity ($1,003), and thefts ($1,929). See Table Four for a summary of social cost data.

Table Four
A Summary of the Annual Societal
Costs of one Level 4 Problem Gambler

	Louisiana
Employment Costs	Total
a. lost work hours (employed only)	$5809
b. unemployment compensation	33
c. lost productivity/unemployment	127
Bad Debts	1246
Thefts	1929
Civil Court Costs	457
Criminal Justice Costs	
a. costs of arrests	53
b. costs of trials	192
c. costs of probation	157
d. costs of incarceration	* 533
Welfare Costs	27
Treatment Costs	396
TOTAL ANNUAL SOCIAL COSTS EACH LEVEL 4 GAMBLER	$10,958

*See page 12 Section 4A for alternative incarceration cost calculation.

1.D. Gender Differences in Social Costs:

The social cost data show a bi-modal distribution based on gender. For example, in the calculation of number of months of unemployment due to gambling, the average of three weeks (.75 months) does not reflect the statistically significant ($p < .01$) difference in months of unemployment due to gender. Males reported that zero months of their average 5.6 months of unemployment were directly attributed to gambling, while females reported that six weeks of their average of 7.25 months of unemployment could be directly attributed to gambling activities.

Significant differences due to gender were also observed in hospital costs. The average cost of treatment was $23,375. The cost for males at $28,250 was significantly higher ($p < .001$) than that for females at $22,500. Males sought treatment for substance abuse 43.44 times on

average. Their frequency was significantly ($p < .05$) higher than that of females at 15.17 times on average. The overall average of 24.56 times presenting for substance abuse treatment does not adequately reflect this gender difference in social costs.

Similarly, males presented for inpatient psychiatric treatment 24 days on average as a result of gambling, which was significantly more frequent ($p < .001$) than females at 19 days on average. The overall average of 21.5 days of psychiatric inpatient treatment does not reflect this significant gender difference.   Mental health services were accessed twice as often (15.75 times) by females than by males (7.67 times), although the overall average was 12.29 times.

The average number of times respondents had been in jail, 2.6, came exclusively from females. The lack of reported jail sentences from males could easily be explained by the fact that the males are still incarcerated, or by the demographics of the males surveyed.   Similarly, females reported an average of 40.67 months on probation compared to 24.86 months for males. The overall average of 29.6 months of probation conservatively estimates the social costs, and could reflect that males are still incarcerated and not on probation or males surveyed are not part of the demographic group with the highest risk of incarceration in Louisiana.

Finally, the gender differences in gambling career length, although not statistically significant, was clinically significant. The overall average of 6.75 years presents a conservative estimate. The average gambling career for males was 9.26 years, and the average gambling career for females was 4.38 years. Length of gambling career may mirror findings in other pathologies that females present earlier for treatment and males postpone treatment until symptoms and outcomes reach crisis proportions. A summary of the gender differences in social costs is presented in Table Five. In general, it appears that females have more social costs over shorter disordered gambling careers giving them higher social costs for gambling disorders.

Table Five
Gender Differences of Social Costs

GA Treatment Sample N=78 Question	Overall Mean or Total "yes"	Males	Mean Male Or % Total	Females	Mean Female or or % Total
MISSED DAYS	7.58	26	6.12	29	8.9
IMPAIRED DAYS	17.34	30	16.97	34	17.68
UNEMPLOYED	32.1%	13	16.7%	12	15.4%
MONTHS UNEMPLOYED	6.4	13	5.62	12	7.25
UNEMPLOYED DUE TO GAMBLING	.75	12	0	12	1.5
BAD DEBT	56.4%	21	26.9%	23	29.5%
BANKRUPTCY	24.4%	8	10.3%	11	14.1%
STOLEN TO GAMBLE	39.7%	17	21.8%	14	17.9%
STOLEN FROM WORK TO GAMBLE	24.6%	9	15.8%	5	8.8%
SUED FOR DEBTS	2.39	4	2.88	5	2
DIVORCE DUE TO GAMBLING	.5	13	.54	9	.56
ARRESTS DUE TO GAMBLING	1.91	5	2	6	1.83
TRIALS DUE TO GAMBLING	1.75	3	1.83	7	1.71
CONVICTIONS DUE TO GAMBLING	1.63	3	1.83	8	1.5
JAIL DUE TO GAMBLING	2.6%	0	0	2	2.6%
PROBATION DUE TO GAMBLING	1.83	3	1.83	3	1.83
MONTHS PR0BATION	29.6	7	24.86	3	40.67
WELFARE DUE TO GAMBLING	1.8	2	0	8	2.25

2. Callback Survey Results

SOGS scores were calculated for both the telephone survey respondents and the GA and treatment sample. The mean raw SOGS score for the GA treatment sample was 13.8 and the median raw SOGS score was 15. The overall mean raw SOGS score for the disordered gamblers identified in the telephone survey sample was 4.94 (3.28 for Level 2, 7.20 for Level 3), and the median raw SOGS score was 4. The total number of telephone survey subjects at or above the mean (13.8) and/or at or above the median (15) raw GA treatment SOGS score was the same, one.

Clearly the two samples were not similar on the behavior that the SOGS measures, the GA and treatment group on average acknowledging much more severely disordered gambling behavior. However, some individuals in the telephone sample were comparable to some individuals in the GA and treatment group at least in terms of the behavior measured by the SOGS. Table Six summarizes the results of the frequency analysis of the past year SOGS scores from the callback survey.

Table Six
Panel Callback Survey Results
SOGS Score Frequency in Telephone Survey

SOGS Score	Frequency Past Year	Gambling Behavior Level	Number Per cent
0	130	**Level 1**	159 76.4%
1	24		
2	5		
3	18	**Level 2**	29 13.9%
4	11		
5	7	**Level 3**	20 9.6%
6	6		
8	3		
9	1		
12	1		
13	1		
15	1		

Table Seven shows the average responses for past month for the callback respondents at Levels 1, 2, and 3 and comparable averages for respondents in the GA and treatment sample, when asked the same questions for a typical month when they were gambling. Note that legal problems were assessed by two questions in the GA treatment survey. The first figure (20%) represents the proportion of respondents who reported that they had been arrested for gambling-related crimes, and the second figure (25%) represents those who reported that they had been sued for debts related to gambling. The question regarding legal problems that was posed to the callback sample combined arrests and times sued for gambling-related offenses.

Level 2 gamblers in the callback survey on average gamble more in time and money spent and have more severe consequences such as financial problems and impaired productivity than the comparable gamblers in the GA sample by SOGS score. However, the number of these gamblers in the GA sample is less than 3%. The level 3 gamblers in the callback survey acknowledged much less severe gambling behavior than the comparable gamblers in GA by SOGS score. The GA sample reported more severe behavior on average for all measures except for impaired productivity. The GA sample on average reported ten to twenty times more severe behavior than on the rest of the measures. Impaired productivity was the only area of statistical similarity on average between the two groups.

The contrast in averages across the two samples in both SOGS scores and gambling related behaviors clearly indicates a qualitative difference between Level 2 and 3 gamblers in the telephone survey sample and Level 4 gamblers in the GA and treatment sample. The difference could be in the gambling behavior itself or in the Level 2 and 3 gamblers' ability to honestly acknowledge and discuss the consequences of the gambling behavior with a stranger in a telephone interview.

Table Seven
Comparison of Callback Sample and
GA Treatment Sample

Sample & Level of gambling behavior	Money Spent per month	Time in Hours per Month	Debt	Productivity		Percent Financial Problems	Percent Legal Problems
				Days Missed	Impaired Productivity		
Callback							
Level 1	$91.21	9 hrs 48 min	0	0	0	8.8%	0
Level 2	$761.24	17 hrs 12 min	0	0	3	17.2%	0
Level 3	$511	9 hrs 48 min	$500	1	20	20%	0
GA							
Level 2	$267	8 hrs	0	0	0	0	0
Level 3	$4235	89 hrs 45 min	$10,505	6.24	16.15	85%	20-25%

3. Calculation of 1998 Prevalence Sample Survey Social Costs

Tables Eight A and B show the calculation of the telephone survey's sample 1998 annualized lifetime social costs and productivity social costs using the proportionate model.   Table Eight A is the calculation of 1998 costs based on loss of productivity and Table Eight B is the calculation of the 1998 annualized lifetime costs.

Table Eight A
Productivity Costs for Telephone Survey Sample Based on Proportionate Model

Past-Year SOGS Score N=1800	Frequency of Disordered Gamblers	Productivity Multiplier Sogs Score/13.83	Total Costs per person	Productivity Cost of Telephone Sample	Statewide Costs
3	31	0.216920	$1,260.02	$39,060.72	$68,830,000
4	11	0.289226	$1,680.03	$18,480.34	32,570,000
5	11	0.361533	$2,100.04	$23,100.43	40,710,000
6	6	0.433839	$2,520.05	$15,120.28	26,640,000
7	2	0.506146	$2,940.05	$5,880.11	10,360,000
8	5	0.578453	$3,360.06	$16,800.31	29,600,000
9	0	0.650759	$3,780.07	$0.00	0
10	1	0.723066	$4,200.08	$4,200.08	7,400,000
11	0	0.795372	$4,620.09	$0.00	0
12	2	0.867679	$5,040.09	$10,080.19	17,760,000
13	1	0.939986	$5,460.10	$5,460.10	9,620,000
14	0	1.012292	$5,880.11	$0.00	0
15	1	1.084599	$6,300.12	$6,300.12	11,100,000
Total	**71**			$144,482.68	$254,590,000

Table Eight B
Annualized Lifetime Social Costs for Telephone Survey Sample Based on Proportionate Model

Lifetime SOGS Score	Frequency Disordered Gamblers-	Graduated Multiplier[GM] SogsScore/13.83	Annualized Employment Cost GM* $159.41	Annualized Other Lifetime Social Costs GM* $4,817.16	Total Cost of Telephone Sample	Total Statewide Costs
3	41	0.216920	$34.58		$1,417.76	$2,500,000
4	19	0.289226	$46.11		$876.01	1,540,000
5	13	0.361533	$57.63	$1,803.93	$24,200.30	42,640,000
6	9	0.433839	$69.16	$2,164.71	$20,104.86	35,430,000
7	4	0.506146	$80.69	$2,525.50	$10,424.74	18,370,000
8	7	0.578453	$92.21	$2,886.29	$20,849.49	36,740,000
9	3	0.650759	$103.74	$3,247.07	$10,052.43	17,710,000
10	1	0.723066	$115.27	$3,607.86	$3,723.12	6,560,000
11	0	0.795372	$126.79	$3,968.64	$0.00	0
12	3	0.867679	$138.32	$4,329.43	$13,403.24	23,620,000
13	2	0.939986	$149.84	$4,690.21	$9,680.12	17,060,000
14	1	1.012292	$161.37	$5,051.00	$5,212.37	9,190,000
15	2	1.084599	$172.90	$5,411.79	$11,169.37	19,680,000
Total	105				$131,113.81	$231,040,000

4. State Of Louisiana Social Costs Of Gambling Disorders (1998)

The average 1998 productivity cost per disordered gambler was $2034.97 per disordered gambler in 1998. The 1998 cost of 123,703 disordered gamblers in the State of Louisiana would be a total of $254.6 million. The average 1998 annualized lifetime cost was $1248.70 per disordered gambler. The 1998 cost of 183, 968 disordered gamblers in the State of Louisiana would be a total of $231 million. The total social cost would be $485.6 million. The calculation of these costs is also shown in Tables 8A and 8B. The confidence limits of the Louisiana 1998 prevalence rates could vary the total social cost estimate by plus or minus twenty five percent.

5. Revenues Derived from People with Gambling Disorders

The proportion of total expenditures on each gaming activity and private gambling from level 2 and 3 gamblers in each activity and the difference between 1995 and 1998 are presented in Table Nine.

Table Nine
Proportion Of Total Expenditures Spent On Each Gaming Activity

	1995			1998		
Games	**Level 2 %**	**Level 3 %**	**Total %**	**Level 2 %**	**Level 3 %**	**Total %**
Pari-mutuel	18.2	46.8	65.0	1.8	6.3	8.1
Lottery	7.9	3.5	11.4	16.3	3.3	19.7
River Casino	6.9	11.1	18.0	18.3	11.6	29.9
Charity	17.6	6.3	23.9	5.3	6.4	11.7
Indian Casino	6.3	2.5	8.8	33.8	8.5	42.3
Electronic	16.7	9.9	26.6	18.4	8.7	27.1
Out of State	4.0	13.4	17.4	11.9	8.4	20.3
Private	14.4	12.7	27.1	8.1	17.0	25.1
Telephone/internet	0	0	0	0	10.5	10.5
Other	8.4	5.2	13.6	0	0	0
Total	11.2	14.1	25.3	15.5	9.6	25.1

The average amount spent by level 2 gamblers on legalized gaming in 1995 was $206 per gambler, which increased to $1073 in 1998. The average amount spent per level 3 gambler in 1995 on legalized gaming was $1183 per gambler, which decreased to $818.75 per gambler in 1998.

6. National Opinion Research Center Model Social Costs for Louisiana 1998:

The average annualized lifetime cost of level 2 and 3 gamblers (excluding productivity costs) in our model was calculated to be $1845.47 per disordered Louisiana gambler per year. The NORC model average combined annual and annualized lifetime costs based on national prevalence rates calculates to $1991.19 per national disordered gambler per year. The difference is 2.9% per disordered gambler per year.

F. DISCUSSION

1. Level Four Gambler Annual Social Cost Estimate

There are minimal data in terms of numbers of level four gamblers whose social costs have been calculated and numbers of previous studies of gambling disorder social costs. The social cost estimate we have developed is based on data from approximately 0.1% of the people in the state of Louisiana with a lifetime diagnosis of level 3 gambling and 15% to 26% of the

current GA and treatment population in the state. We can only estimate the GA and treatment population's total because we do not know the overlap between these two populations. The upper limit represents complete overlap (all members of GA are in treatment) and the lower limit represents no overlap (no members of GA are in current treatment). It is highly likely that the overlap is substantial, and that this survey captured approximately one quarter of the identified population.

Given the limitations of this Louisiana study, we can still ask how does it compare to previous studies? Previous studies have collected data almost exclusively from Caucasian males, consistent with the historical evidence that level 3 gambling behavior is highly associated with males[1]. This study's data are almost equally split between males and females, more consistent with contemporary national[43] and Louisiana[18] studies that find an increasing female prevalence of gambling disorders. This study's female data coupled with our findings that female gambling careers are different and their social costs higher and different than their male counterparts makes this study unique.

However, we will discuss our findings in comparison to previous studies to provide context. Tables Ten and Eleven provide comparison of the Louisiana GA and treatment sample results to data available from Connecticut and Wisconsin studies on gambling career and debt levels. Data from previous studies on female gamblers have found measures of debt and career length less and age of starting gambling older than their male counterparts, which is consistent with the Louisiana data.[44-46]

The Louisiana sample on average starts their gambling, weekly gambling, borrowing and disordered gambling later, has less treatment time and lifetime gambling debt than the Wisconsin and Connecticut samples. The Louisiana sample is older, has a longer length of disordered gambling and more gambling debt the year before entering treatment than Wisconsin but is

younger and has less gambling debt the year before treatment and shorter duration of disordered

gambling than Connecticut.

Table Ten
Amounts of Median Gambling Related Loss

	Connecticut	Wisconsin	Louisiana
Lifetime	$82,500	$45,000	$37,500
Year before GA	$20,000	$12,000	$17,500

Table Eleven
Comparisons for Median Gambling Career Hallmarks for
Wisconsin, Connecticut, and Louisiana

	Wisconsin (Median)	Connecticut (Median)	Louisiana (Median)
Age Gambling Began	20	16	25
Age Weekly Gambling Began	31	21	34
Age First Borrowed to Gamble	33	27	38
Age Gambling Problems Began	35.5	29	37
Length of Disordered gambling	3 years	9 years	4 years
Time in GA	1.45 years	2 years	.375 year
Age Now	43	47	44

A comparison of Louisiana's social cost components with Connecticut's and Wisconsin's

social costs is in Table Twelve.   The Louisiana social costs per year are between the Wisconsin

and Connecticut results. A previous study[14] found common patterns in Wisconsin and

Connecticut social costs with over four-fifths of the variation in costs represented by more theft

and bad debts in Connecticut. The Connecticut predominantly male respondents had longer

gambling careers and greater indebtedness than their male counterparts in Wisconsin, which may

explain their heavier reliance on non-personal financial sources to sustain their gambling

activity. Louisiana's social costs fit the Wisconsin pattern with significantly less theft and bad

debt compared to the Connecticut respondents, and less arrest, trial, and probation costs than

Connecticut.

Table Twelve
A Summary of the Annual Societal
Costs of one Level 4 Problem Gambler

	Connecticut	Wisconsin	Louisiana
Employment Costs			
a. lost work hours	$1770	$1329	$5809
b. unemployment compensation	488	488	33
c. lost productivity/unemployment	1666	1666	127
Bad Debts	2300	1487	1246
Thefts	7219	1733	1929
Civil Court Costs	536	535	457
Criminal Justice Costs			
a. costs of arrests	71	38	53
b. costs of trials	458	179	192
c. costs of probation	333	152	157
d. costs of incarceration	556	534	* 533
Welfare Costs	523	347	27
Treatment Costs	114	377	396
TOTAL ANNUAL SOCIAL COSTS EACH COMPULSIVE GAMBLER	$16,034	$8,635	$10,958

* directly calculated costs see section 4A in methodology

The **pattern** of social costs found in Louisiana are different than the Wisconsin and

Connecticut patterns. The major differences are in employment costs, civil court costs, and

welfare costs.   The major areas of variation in the Louisiana employment costs are lost work

hours or productivity. Two differences account for the larger productivity costs. The first is

methodological.   The Louisiana study asked about impaired productivity in addition to missed

days of work, which doubled the productivity costs.   The second difference is Louisiana

respondents reported significantly more lost days and days of impaired productivity due to

gambling than the respondents in the other states. The differences in civil court costs are

probably gender related.   Louisiana females reported less divorces and debt related civil suits

than their male counterparts. Louisiana respondents reported high amounts of months on welfare

and unemployment, but only attributed a small percent of their welfare and unemployment months to gambling problems, which accounts for the smaller Louisiana costs.

One interesting observation on social costs in all three states is that treatment is a small percentage of total social costs. See Table Thirteen for a comparison of treatment costs in all three states. Treatment comprise less than five percent of social costs in all three states.

Table Thirteen
Treatment Costs as a Present of Total Social Cost

Connecticut	Wisconsin	Louisiana
.7%	4.3%	3.6%

2. Gaming Revenues Derived from People with Gambling Disorders.

The total amount spent on gambling is similar for both the 1995 and 1998 samples. The total percentage spent on gambling by disordered gamblers has increased slightly from 24.1% to 27.3% even though the prevalence of disordered gamblers has decreased in 1998. The most significant difference is the dramatic increase in gambling expenditures per gambler by level 2 gamblers (from $206 to $1073 per gambler) to rates that exceed the gambling expenditures of level 3 gamblers per gambler ($818.75).   The increased spending of level 2 Louisiana gamblers in 1998 could signal an increase in the severity of disordered gambling by this group as a whole, and may argue for increased social costs for this group of gamblers. The increased spending could also chronicle the progression of an addictive behavior in this group of gamblers.

The major differences in the pattern of gambling in Louisiana between 1995 and 1998 are 1) the shift from pari-mutuel gambling by all gamblers (especially disordered gamblers) to casino gambling (mostly Indian casinos), 2) the decrease in private forms of gambling in 1998 by all groups of gamblers, and (3) the increase in out-of-state gambling by all groups of gamblers. In general, from 1995 to 1998 in Louisiana, casino gambling diverted revenues from other forms

of legalized and private gambling and benefited from the expenditures of disordered gamblers the most of any form of legalized gaming. Indian casinos seem to benefit the most from the shift in gambling patterns.

3. National Opinion Research Center Model Comparison

As was stated in the methodology section, **a direct comparison of both models is not possible at this point**. The comparison of this model and the NORC model was not direct because of the differing terminology, methodology and goals. In the calculated comparison, both models seem to provide comparable results (within 3%) when attempting to calculate a similar cost over a comparable time period. However, given the differences in the model development, the likely differences between a national and a state study and the exploratory nature of both studies, the minimal differences are encouraging for the field in general. The differences between costs calculated for Louisiana from this model and Louisiana's portion of the national costs as calculated by the NORC model are likely to be the added loss of productivity costs found only in the Louisiana model and differences in estimated prevalence rates between the two studies, because of differing methods to estimate the prevalence of gambling disorders.

G. CONCLUSIONS

(1) The social costs of Level 4 gambling disorders per person per year found in Louisiana are consistent with previous studies. (2) The major categories of social costs found in this study are also consistent with previous studies, with productivity losses, theft, bad debt and criminal justice costs comprising the majority of social costs. (3) The treatment cost of gambling disorders is a small part of the total social cost (less than four percent in Louisiana). (4) The social costs of gambling disorders in Louisiana in 1998 were substantial, approximately $485.6 million dollars. (5) Casino gambling benefits the most from expenditures by disordered gamblers in Louisiana. (6) Two trends identified in Louisiana gambling, the increase in women with

gambling problems and their higher social costs and the dramatic increase in gambling

expenditures of people with milder forms of gambling disorders (level 2 gamblers) indicate that

social costs of gambling disorders may rise, possibly dramatically in the future.

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APPENDIX A

Instruments Used in this Study:

1. **Callback Telephone Survey**

2. **GA and Treatment Survey**

CallBack Study Telephone Survey

Screening Question:

Did you recently answer a telephone survey about gambling?

___ Yes
___ No-Either attempt to get correct repeat subject or end call.

      Subject must be 18 or over. Subject should be matched by gender from previous call.

1.   Have you gambled in the past 30 days.
      ___ Yes
      ___ No (If no, skit to Q13)

2.   How much money in total did you gamble in all types of gambling activities in the past 30 days? $_____

3.   In hours, how much total time did you spend gambling in all types of gambling activities in the past 30 days? _____ hours

4.   How far away from home do you usually gamble?
      ( ) Less than a mile   ( ) 10 miles to 24.9 miles$_3$ ( ) 100 miles or more$_5$
      ( ) 1 mile to 9.9 miles$_2$ (25) miles to 99.9 miles$_4$

5.   How far away from home do you usually gamble?
      ____ Yes   ____No-Skip to Q7

6.   At what age did you first gamble or bet on a weekly basis or more often?
      ____ years old

7.   Have you ever borrowed to gamble or pay gambling debts?
      ____Yes   ____No—skip to Q11
8.   How old were you when you first borrowed money to gamble or pay gambling debts
      _____years old
9.   Do you have any current gambling debts?
      ____Yes   ____No-Skip to Q11
10.   How much current gambling debt do you have now/ $____

11.   How many days from work/household duties did you miss in the past 30 days

      Due to gambling? ____ days (enter 0 for none)

12.   How many days were you performing less than your usual productivity
      At work or at home in the past 30 days to gambling? ____days (enter 0 for none)

(Questions for everyone)

13.   In the past year, have you had financial problem such as being late on mortgage, rent or major credit card payments? 1 = yes 2=no 0=refused

14.   In the past year, have you been arrested or sued for bad debts? ___yes ___ no

15.   In the last year how many times have you visited an emergency room?

           _____times (enter 0 for none).

16.   In the last year, how many days were you hospitalized for a medical reason?
           _____ days (enter O for none)

17.   In the past year, how many times did you go to a self-help group of any kind? _____ times (enter 0 for none)

18.   In the last year, how many times have you received any type of mental health, alcohol or drug treatment or counseling? _____times (enter 0 for none)

19.   In the last year how many times were you hospitalized for any type of a psychiatric or alcohol or drug problem? ____days (enter 0 for none)

20.   What is your age? ____ If refuse, ask age categories…

           ___18-20$_1$
           ___21-24$_2$
           ___25-44$_3$
           ___45-64$_4$
           ___or 65 or older$_5$

Thank you……

GAMBLING SURVEY

INSTRUCTIONS:

The researchers in the Louisiana State Medical Center-Shreveport Gambling Studies Unit and the University of New Orleans ask you to participate in a voluntary, confidential study of gambling behavior in Louisiana. This survey is part of a larger study whose purpose is to determine the cost and benefits of legalized gambling to the state of Louisiana. The study will provide information important to decisions concerning the expansion and control of legalized gambling in Louisiana. Please be as honest and accurate as possible (do not exaggerate or conceal). Your participation is completely voluntary. The survey results will be completely anonymous. Do not put your name or any other personal identification on the survey. Only research personnel who will analyze the results will open the envelope. Only a summary of the survey results will be made public. No individual information will be released by the study scientists. When you are finished, place your survey in the envelope, seal it, and return it to the person distributing the surveys or return it by mail in the postage-paid envelope. If you have questions about the survey, you can contact one of the researchers. Thank you for your participation and assistance in this important study. **Please return all surveys by February 7, 1999.**

James R. Westphal, M.D.
Associate Professor and Deputy Chair
Gambling Studies Unit
Department of Psychiatry
LSUMC – Shreveport
1501 Kings Highway
Shreveport, LA 71130
(318) 675-6040

Return Surveys to: Division of Business and Economic Research
College of Business
University of New Orleans
New Orleans, LA 70148
Contact: Janet F. Speyrer, Ph.D.
(504) 280-6981

1. Please indicate how often you have participated in the following types of gambling in your lifetime, and the amount spent on this activity in a typical 30-day period. For each type, mark only one answer:

	Not at all	Less than weekly	Once a week or more	Type of Gambling Activity	Amount spent in a typical 30 day period
a.	( )	( )	( )	Outcome of a public sporting event? This includes formal sports pools with family, friends, a bookmaker, etc.?	$ _____
b.	( )	( )	( )	Louisiana electric gambling devices, such as video poker or slots, **not** at an Indian Reservation or riverboat casino?	$ _____
c.	( )	( )	( )	Louisiana horse racing at the track, at an official off-track betting establishment or with a bookmaker?	$ _____
d.	( )	( )	( )	Electric gambling devices, such as video poker or slots, at a Louisiana horse track?	$ _____
e.	( )	( )	( )	Louisiana riverboat casino games?	$ _____
f.	( )	( )	( )	Lottery games?	$ _____
g.	( )	( )	( )	Louisiana charitable gaming, such as, raffles, bingo, or keno?	$ _____
h.	( )	( )	( )	Speculative stock or commodity investments?	$ _____
i.	( )	( )	( )	Land based casino games, (not on Indian land)?	$ _____
j.	( )	( )	( )	Louisiana Indian Reservation casino games?	$ _____
k.	( )	( )	( )	Telephone or computer wagering, including the Internet or the Worldwide Web?	$ _____
l.	( )	( )	( )	Out-of-state gaming locations?	$ _____
m.	( )	( )	( )	Private card game(s)?	$ _____
n.	( )	( )	( )	Private games of skill, such as, bowling, pool, or golf?	$ _____
o.	( )	( )	( )	Private games of chance, such as dice?	$ _____
p.	( )	( )	( )	Some other form of gaming not listed above? (please specify) _____	$ _____

2. How old were you when you started gambling? _____ years old

3. At what age did you first gamble weekly or more often? _____ years old _____N/A

4. When you gamble, how often do you go back another day to win back money you have lost?
   ( ) Never$_1$
   ( ) Some of the time (less than half the time I lose)$_2$
   ( ) Most of the time I lose$_3$
   ( ) Every time I lose$_4$

5. Have you ever claimed to be winning money gambling but weren't really? In fact you lost?
   ( ) Never$_1$
   ( ) Yes, less than half the time I lost$_2$
   ( ) Yes, most of the time$_3$

6. Do you feel you have ever had a problem with betting money or gambling?
( ) No$_1$
( ) Yes, in the past but not now$_2$
( ) Yes, currently have problem$_3$

		Yes	**No**
7. Have you ever spent more time or money gambling than you intended?...............................		( )	( )
8. Have people ever criticized your gambling?...		( )	( )
9. Have you ever felt guilty about the way you gamble or what happens when you gamble?		( )	( )
10. Have you ever felt like you would like to stop gambling, but didn't think you could?		( )	( )
11. Have you ever missed time from work or school due to gambling?..		( )	( )
12. Have you ever hidden betting slips, lottery tickets, gambling money, or other signs of gambling from your spouse or partner, children or other important people in your life?..........		( )	( )
13. Have you ever had arguments with people you live with over how you handle money?		( )	( )
a. If yes, have money arguments centered on your gambling?..		( )	( )
14. Have you ever borrowed money to gamble or pay gambling debts?......................................		( )	( )

    a. If yes, how old were you when you first borrowed money to gamble or pay gambling debts? _____ years old
    b. **If no**, skip to Question 17.

15. If you borrowed money to gamble or to pay gambling debts, who or where did you borrow from? (check "yes" or "no" for each.)..

	Yes	**No**
a. From household money..	( )	( )
b. From your spouse or partners...	( )	( )
c. From other relatives or in-laws	( )	( )
d. From banks, loan companies or credit unions	( )	( )
e. From credit cards (cash withdrawals; does not include instant cash cards from bank accounts)..	( )	( )
f. From loan sharks..	( )	( )
g. You borrowed on your checking account by writing checks that bounced.........................	( )	( )
h. You have (had) a credit line with a bookie	( )	( )
i. You have (had) a credit line with a casino	( )	( )

16. How much would you estimate you have borrowed to gamble or pay gambling debts in your lifetime? (Include money you borrowed and paid back.)
( ) nothing$_1$ ( ) $5,000 - $9,999$_4$ ( ) $50,000 - $99,999$_7$
( ) under $1,000$_2$ ( ) $10,000 - $24,999$_5$ ( ) $100,000 - $249,999$_8$
( ) $1,000 - $4,999$_3$ ( ) $25,000 - $49,999$_6$ ( ) $250,000 or more$_9$

17. Have you ever borrowed from someone for any purpose and not paid them back as a result of your gambling?
( )Yes   ( ) No
a. If yes, what is the approximate amount of money you owed in these bad debts because of gambling in your lifetime? $_____

18. Have you ever cashed in stocks, bond or other securities, or sold personal or family property, to gamble or pay gambling debts?　( )Yes　　( ) No

   a. If yes, what is the total estimated value of these items?

( ) nothing$_1$	( ) \$5,000 - \$9,999$_4$	( ) \$50,000 - \$99,999$_7$
( ) under \$1,000$_2$	( ) \$10,000 - \$24,999$_5$	( ) \$100,000 - \$249,999$_8$
( ) \$1,000 - \$4,999$_3$	( ) \$25,000 - \$49,999$_6$	( ) \$250,000 or more$_9$

19. Have you ever stolen money or items of value and used them to gamble or pay gambling-related debts?

   ( )Yes　　( ) No (**If no**, skip to Question 21)

   a. If yes, what would be their approximate total value?

( ) nothing$_1$	( ) \$5,000 - \$9,999$_4$	( ) \$50,000 - \$99,999$_7$
( ) under \$1,000$_2$	( ) \$10,000 - \$24,999$_5$	( ) \$100,000 - \$249,999$_8$
( ) \$1,000 - \$4,999$_3$	( ) \$25,000 - \$49,999$_6$	( ) \$250,000 or more$_9$

20. Have you ever stolen anything from work in order to gamble or to pay gambling debts?

   ( )Yes ( ) No

   a. If yes, what would be their approximate total value?

( ) nothing$_1$	( ) \$5,000 - \$9,999$_4$	( ) \$50,000 - \$99,999$_7$
( ) under \$1,000$_2$	( ) \$10,000 - \$24,999$_5$	( ) \$100,000 - \$249,999$_8$
( ) \$1,000 - \$4,999$_3$	( ) \$25,000 - \$49,999$_6$	( ) \$250,000 or more$_9$

21. How much would you estimate you lost (losses minus winnings) in the last year you gambled (include money from all sources):

( ) nothing$_1$	( ) \$5,000 - \$9,999$_4$	( ) \$50,000 - \$99,999$_7$
( ) under \$1,000$_2$	( ) \$10,000 - \$24,999$_5$	( ) \$100,000 - \$249,999$_8$
( ) \$1,000 - \$4,999$_3$	( ) \$25,000 - \$49,999$_6$	( ) \$250,000 or more$_9$

22. How much do you estimate you lost during your lifetime as a result of gambling (losses minus winnings)? (Include money you earned, borrowed, stole, etc.)

( ) nothing$_1$	( ) \$50,000 - \$99,999$_7$
( ) under \$1,000$_2$	( ) \$100,000 - \$249,999$_8$
( ) \$1,000 - \$4,999$_3$	( ) \$250,000 - \$499,999$_9$
( ) \$5,000 - \$9,999$_4$	( ) \$500,000 - \$999,999$_{10}$
( ) \$10,000 - \$24,999$_5$	( ) \$1,000,000 - \$9,999,999$_{11}$
( ) \$25,000 - \$49,999$_6$	( ) \$10,000,000 or more$_{12}$

23. How much money would you estimate you owed as a result of your gambling when you came into GA or treatment?

( ) nothing$_1$	( ) \$5,000 - \$9,999$_4$	( ) \$50,000 - \$99,999$_7$
( ) under \$1,000$_2$	( ) \$10,000 - \$24,999$_5$	( ) \$100,000 - \$249,999$_8$
( ) \$1,000 - \$4,999$_3$	( ) \$25,000 - \$49,999$_6$	( ) \$250,000 or more$_9$

24. Do you have any current gambling debt?　　( ) Yes　( ) No (**If No,** skip to Question 26)

25. If yes, how much is your current gambling debt? \$_____

26. Have you ever filed bankruptcy because of gambling losses or debts?　　　　( ) Yes　( ) No

Please answer questions 27 through 31 for the most recent time when you were experiencing gambling problems.

27. How much money in total did you usually gamble in all gambling activities in a typical 30-day period?
    $_____

28. How much total time did you usually spend gambling in all gambling activities in a typical 30-day period?   _____hours

29. How many days from work/household duties did you usually miss in a typical 30-day period due to your gambling? _____ days

30. How many days were you performing less than your usual productivity at work or at home in a typical 30-day period due to your gambling? _____days

31. How far away from home did you usually gamble? ( ) Less than a mile$_1$( ) 10 miles to 24.9 miles$_3$ ( ) 100 miles or more$_5$
    ( ) 1 mile to 9.9 miles$_2$ ( ) 25 miles to 99.9 miles$_4$

	Never	Once	2-5 Times	6+ Times
32. From age 15 to the present, how many times have you been arrested by the police? ……………………..	( )	( )	( )	( )
33. How many of these arrests were related to your gambling? ….............	( )	( )	( )	( )
34. How many times have you been sued to collect debts?……….............	( )	( )	( )	( )
35. How many times have you been sued to collect gambling-related debts?	( )	( )	( )	( )
36. How many times have you been tried in court? ……...........................	( )	( )	( )	( )
37. How many times have you been tried in court on gambling-related offenses? ……………………..	( )	( )	( )	( )
38. How many times have you been convicted of an offense? …………....	( )	( )	( )	( )
39. How many times have you been convicted of gambling-related offenses?	( )	( )	( )	( )
40. How many times have you served time in jail? …...............................	( )	( )	( )	( )
41. How many times have you served time in jail or prison for gambling related offenses? ……………..	( )	( )	( )	( )

a. If time was served, how many months did you serve? _____

	Never	Once	2-5 Times	6+ Times
42. How many times have you been placed on probation?........................	( )	( )	( )	( )
43. How many times have you been placed on probation because of gambling related offenses?..	( )	( )	( )	( )

a. If on probation, how many months in total were you on probation? _____ months.

44. Have you ever been on welfare for any reason? ( ) Yes   ( ) No
    a. If yes, how many months on welfare? _____ months
    b. If yes, how many months of welfare was due to gambling or gambling related problems? _____months

45. Have you ever lost or quit a job due to gambling? ( ) Yes   ( ) No

46. Have you ever been on unemployment assistance?   ( ) Yes   ( ) No
    a. If yes, how many months? _____
    b. If yes, how many months of unemployment assistance was due to gambling problems?
       _____ months

47. Do you believe that you now have or have ever had: .... **Yes No**
    a. drinking problem... ( ) ( )
    b. overeating problem... ( ) ( )
    c. anorexic or bulimic eating disorder .... ( ) ( )
    d. compulsive shopping problem... ( ) ( )
    e. psychiatric problem such as depression .... ( ) ( )
    f. drug problem: (if yes, please specifiy) .... ( ) ( )
        1. Marijuana problem... ( ) ( )
        2. "Downers" problem (Valium, Xanax, Soma)... ( ) ( )
        3. "Uppers" problem (Dexedrine, speed, meth).. ( ) ( )
        4. Hallucinogen problem (LSD, mescaline) .... ( ) ( )
        5. Narcotics problem (heroin, methadone, Lortabs).. ( ) ( )
        6. Problem with other drugs (please specify} _____ .... ( ) ( )

48. Did any of these problems ever make your gambling problems worse?................................ ( ) ( )

49. How old were you when you first experienced problems with your gambling? _____ years old

50. How old were you when you first attended Gamblers Anonymous or another gambling treatment
    group?   _____ years old

51. How long have you been attending Gamblers Anonymous or another treatment group?
    ( ) less than a month   _____ months
    a. About how many meetings/sessions have you attended in total? _____

52. Have you ever been to a therapist or doctor as an outpatient for help with a gambling problem?
    ( ) Yes   ( ) No
    a. If yes, how many times? _____
    b. If yes, how much, in total, did your outpatient therapy cost? _____

53. Were you ever hospitalized for a gambling problem? ( ) Yes   ( ) No
    a. If yes, how many times? _____
    b. If yes, how much, in total, did your inpatient therapy cost? _____
    c. If yes, what percentage of this treatment was covered by insurance?
        ___none$_1$ ___$\leq$ 25% $_2$ ___ 50% $_3$ ___51-75% $_4$ ___>75% $_5$ ___100% $_6$26 –

54. As a result of your gambling, have you or a family member used the following?
Enter an "X" or times/days as appropriate for items a-n below:

	Activity/Event	No	You — Yes, but not in the past year	You — Yes, in the past year	No	A Family Member — Yes, but not in the past year	A Family Member — Yes, in the past year
a.	Mental health clinic			_____times			_____times
b.	Family counseling services			_____times			_____times
c.	Hospital emergency Room			_____times			_____times
d.	Substance abuse outpatient clinic			_____times			_____times
e.	Family debt counselors			_____times			_____times
f.	Public defender's office			_____times			_____times
g.	Inpatient psychiatric treatment			_____days			_____days
h.	Inpatient substance abuse treatment			_____days			_____days
i.	Inpatient medical treatment			_____days			_____days
j.	Homeless shelter			_____days			_____days
k.	Public housing						
l.	Foster care or child welfare services						
m.	Public financial assistance						
n.	Private social service agency						

55. Have you ever been separated or divorced?   (   ) Yes   (   ) No
    a. If yes, was gambling a factor in the separation or divorce?   (   ) Yes   (   ) No
    b. If yes, how many times have you divorced because of gambling? _____ times

56. What is your age? _____ years old

57. What is your gender? (   ) Male$_1$ (   ) Female$_2$

58. Which of the following best describes your current religious preference?
    (   ) Catholic$_1$ (   ) Moslem$_4$
    (   ) Eastern Orthodox$_2$ (   ) Protestant$_5$
    (   ) Jewish$_3$ (   ) Other$_6$ (please specify) _____

59. What is your race and/or ethnicity?
    (   ) American Indian$_1$ (   ) White (Caucasian)$_4$
    (   ) Asian or Pacific Islander$_2$ (   ) Hispanic$_5$
    (   ) Black or African American$_3$ (   ) Other$_6$ (please specify) _____

60. What is your five-digit home zip code?   _____

61. In addition to yourself, how many adults (age 18 and over) live in your household? _____

62. How many children (age 18 and under) live in your household? _____

63. What kind of work do you normally do?
    ( ) Administrative/Clerical$_1$
    ( ) Artist/graphics/writer$_2$

    ( ) Craftsman (contractor/plumber/carpenter)$_3$
    ( ) Education$_4$
    ( ) Gaming Industry$_5$
    ( ) Managerial/supervisor$_6$
    ( ) Manual labor (janitorial/driver/warehouse)$_7$

    ( ) Manufacturing$_8$
    ( ) Professional service
       (doctor/lawyer)$_9$
    ( ) Sales$_{10}$
    ( ) Service$_{11}$ (retail/stores/restaurants)
    ( ) Student$_{12}$
    ( ) Technical/research$_{13}$
    ( ) Other$_{14}$ (please specify)
    _____

64. What was your total household income last year?
    ( ) Less than $10,000$_1$
    ( ) Between $10,000 and 24,999$_2$
    ( ) Between 25,000 and 49,999$_3$
    ( ) Between 50,000 and 74,999$_4$
    ( ) Between $75,001 to $99,999 or$_5$
    ( ) $100,000 or more$_6$

65. Has your income decreased substantially since you sought treatment for your gambling problem?
    ( ) Yes   ( ) No
    a. If yes, how much has it decreased? $_____
    b. If yes, what was your total household income before you sought treatment?
    ( ) Less than $10,000$_1$
    ( ) Between $10,000 and 24,999$_2$
    ( ) Between 25,000 and 49,999$_3$
    ( ) Between 50,000 and 74,999$_4$
    ( ) Between $75,001 to $99,999 or$_5$
    ( ) $100,000 or more$_6$

66. What is your current marital status?
    ( ) Married$_1$
    ( ) Common-law, cohabitation$_2$
    ( ) Widowed$_3$

    ( ) Divorced$_4$
    ( ) Separated$_5$
    ( ) Never married$_6$

67. What was the last grade of school you completed?
    ( ) Elementary or some high school$_1$
    ( ) High school graduate or GED$_2$
    ( ) Some college or Associate Degree (vocational, technical or trade school)$_3$
    ( ) Bachelor's degree$_4$
    ( ) Graduate study or degree$_5$

68. Last week, were you....
    ( ) Working full-time$_1$
    ( ) Working part-time$_2$
    ( ) Going to school$_3$
    ( ) Keeping house$_4$
    ( ) Disabled$_5$
    ( ) Retired$_6$
    ( ) Unemployed$_7$

Thank you for your participation in this study.

APPENDIX B

Estimation of 1998 Louisiana Under Age Eighteen Gambling Disorder Social Costs:

The Harvard meta-analytic study of gambling disorder prevalence found substantial prevalence of gambling disorders in the under eighteen age group in multiple states and provinces in the United States and Canada.[1] One prevalence study in Louisiana found similar school age prevalence rates as the Harvard meta-analysis.   Although under age gambling is considered to be a social problem, no social cost estimates for this type of gambling have been performed.

Determining social costs of juveniles with gambling disorders is a difficult task. Some of the major categories of social costs for adults do not apply for the majority of people under age 18 whose major activities are educational, not occupational. The categories of lost productivity, unemployment, civil court procedures (divorce and civil suits over debt) and welfare, do not apply for the majority of this population. The social costs of treatment for adults with gambling disorders are minimal, therefore treatment costs of underage gamblers are also likely to be minimal. Usually those under age eighteen are not able to borrow significant amounts from normal credit sources, therefore, the social costs of bad debts would also be likely to be minimal in this age group.

The major categories of social cost for people with gambling disorders under age eighteen would be theft and criminal justice costs. Although no data on the dollar amounts of theft by juveniles to support gambling disorder, and amount of arrests, trials, and probation by juveniles with gambling disorders exists, there is some data on incarceration of juveniles with gambling disorders in Louisiana.

Two separate studies collected survey data from different juvenile criminal justice populations: the juvenile detention and the Louisiana Technical Institute (LTI) populations.

Survey questions in each study asked whether the current arrest was due to a gambling-related crime.   Gambling-related crime includes gambling offenses and crime to obtain money to finance gambling activity or to repay a gambling-related debt.

Methodology:

Separate estimates were determined for each of the two populations using 1998 statistics and this formula:

Estimate of incarceration costs = (per diem per capita cost of incarceration) X (total person days in 1998) X proportion of population incarcerated for gambling-related crime). For example, the juvenile detention costs were calculated using this equation: Cost of gambling related juvenile detention incarceration = daily cost of one person residing in juvenile detention X total day spent in 1998 in juvenile detention X % of population in juvenile detention for gambling-related crime. After total costs were calculated independently for each system, the two costs totaled to obtain a juvenile incarceration cost estimate.

The percent gambling related crime for Juvenile detention and Louisiana Technical Institute were obtained from studies of these populations performed in 1997 by the LSUMC-Shreveport Gambling Studies Unit.[2,3] LTI and juvenile detention 1998 total days and costs were obtained from the Department of Public Safety and Corrections, Office of Management and Finance, Baton Rouge, LA

Results:

J.D.	$22.00	X	105,892	X 16%	=	$372,740
LTI	$71.86	X	669,752	X 11.6%	=	$5,586,000
				Total	=	$5,958,740

Discussion:

Absent from this estimation is a very important constituent of social costs due to gambling related arrests, court trials, and probation costs. The 1998 estimate of approximately $6 million is significant, and is conservative. This cost estimate is restricted to average costs of residing in one of these public facilities. In addition to the cost of incarceration, we could append the social cost of lost productivity for the imprisoned population. The productivity costs for this population are lost education and training. Also, this incarceration estimate does not reflect the social costs of the impact of the disordered gambler's imprisonment on their families or their anticipated increased dependence on social services in the future due to poor educational or vocational achievement.

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