

# MICROFILM DIVIDER

OMB/RECORDS MANAGEMENT DIVISION  
SFN 2053 (2/85) 5M



ROLL NUMBER

DESCRIPTION

13006

2001 HOUSE JUDICIARY

HB 1306

2001 HOUSE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. HB 1306

House Judiciary Committee

Conference Committee

Hearing Date 02-05-01

Tape Number	Side A	Side B	Meter #
TAPE I	x		3393 to 6255
TAPE I		x	01 to 4267
Committee Clerk Signature <i>Joan Diers</i>			

Minutes: Chairman DeKrey opened the hearing on HB 1306. Relating to the limit on wagers in the game twenty-one under the games of chance laws.

Todd Kranda: Charitable Gaming Association of North Dakota. Rep Reaner and Rep Hawken spoke on the previous bill HB 1305 as sponsors of HB 1306. Introduced the amendments with a handout. He refers to the colored handout from the previous bill. The amendments deal with the rent issue allowing the increase of the table rent.

Rep Klemin: Can you tell me, why the decrease in gaming in North Dakota?

Keith Lauer: I don't think there is less gambling in North Dakota, the weekly gamblers were gambling less then before, that doesn't mean that the total number is less.

Rep Klemin: Are the Indian casino's drawing more people away?

Keith Lauer: There certainly is a drop in the charitable gaming, it show that.

Rep Klemin: All it shows is that there is a drop in revenue.

Keith Lauer: If you walk in any casino you will see that, it is public information.

Rep Klemin: There is evidence of the decrease, we just can't see it.

Keith Lauer: Exactly.

Rep Maragos: I didn't see the gaming report, of the 5,000 what per cent had gained?

Keith Lauer: I will have to go back to the report for the numbers.

Rep Maragos: What per cent have never gambled?

Keith Lauer: I'm sure there is, I believe 19%.

Rep Onstad: What percent is addiction is directly related to Indian Casino and what to charitable gaming.

Chairman DeKrey: I can get the committee a copy of the report. He gives information from the report. The problem is identified as male and native American and in those counties closest to the reservations.

Rep Onstad: They are contributing a small portion back to the gambling addiction problem, are they contributing back to the state in direct portion as to whose causing the problem.

Todd Kranda: The compacts now are negotiating that involved some funding for treatment, but I am not familiar with that.

Rep Delmore: When you renegotiating with the compacts, did you have an expansion.

Todd Kranda: I don't know the increase in the different types of games. SEGAN was there maybe they can answer that.

Rick Stenseth: The last compact doubled all the numbers for the Indian Casinos.

Keith Lauer: They added crap, roulette and poker, plus some new games, also and increase in electronic games.

Rep Delmore: In light of this information, we have to take into consideration of what you are asking, and portion of what was given.

Todd Kranda: Please do. We think it would be appropriate.

Rep Klemin: Do you know about the \$85,000.00 a year given to the Mental Health and what they are doing with it, anything else?

Todd Kranda: I don't know that answer.

Rep Klemin: It doesn't sound that they are doing much.

Rep Disrud: Have the psychologists been involved in these studies, the addictive studies?

Todd Kranda: I am not sure who is involved.

Rick Stenseth: In reference to the study, the pathological gamblers are most likely to use other substance abuses and they are also more likely to be compulsive in other areas.

Rep Gunter: Could you explain the chart.

Rick Stenseth: He explains the chart that Chuck Keller handed out.

TAPE II SIDE A

Rick Stenseth continues his testimony on the chart. He gave the reasons why the dollar amount was picked.

Rep Disrud: When was the \$25.00 chip implanted?

Rick Stenseth: I don't know when the paddle wheel statute was enacted.

Rep Disrud: Has there been more gambling problems as a result?

Rick Stenseth: I don't know the impact.

Chairman DeKrey: If there are no further questions, thank you for appearing.

Rick Stenseth: We are dealing with the facts, they are in the study, and make them available so that you can study them.

Bill Shalhoob: representing the Hospitality Association spoke in support of HB 1306.

Chairman DeKrey: We will continue with those who are in favor of HB 1306.

Gary Fonya: Greater Grand Forks Visitors Bureau, spoke in support of HBO 1306. His reasons for the decline 1) economy 2) lack of Canadian visitors 3) proliferation of other gaming opportunities and 4) loss of population. We know from word of mouth that people are going to the native American casinos. His reasons for support of this bill 1) people will be staying with local gaming instead of driving distances, 2) value of the dollar 3) expenses exceed what the charities make now and 4) tourism.

Rep Disrud: Is there a limit at the casino.

Gary Fonya: \$60.00 on craps and higher than that at black jack, two tables of \$250.00

Rep Klemin: I do remember the reason for higher limits at the Indian Casinos and now we want higher limits want higher limits, aren't we just going in a circle?

Gary Fonya: I can't speak to that.

Rep Klemin: If you reduce your expense, are you thinking of cutting back on the number of tables to reduce your expenses?

Gary Fonya: Our expenses are as low as they can get. Rep Delmore: Can you see any reasons why the Indian casinos are as far ahead?

Gary Fonya: No.

Chairman DeKrey: Do you have any fears, that we have two class of gamblers. Those that like to casino and those that like charitable gambling.

Gary Ponya: There are always fears in this business, but I feel that most people will not pay any attention.

Chairman DeKrey: Are there any further questions, if not thank you for appearing.

Joseph Dirk: from the Moose organization, spoke in support of HB 1306.

Vickie Wagner: from the Bismarek VFW, spoke in support of HB 1306

Rep Maragos: Is there anything that will preserve the right for the veterans to stay that low.

Vickie Wagner: I don't see that it will change.

Chairman DeKrey: Vice Chr Kretschmar has pointed out to me that it is in the law to \$1.00 the bet. We will move to the opposition.

Governor Link:Chairman of the North Dakota Council on Gambling Problems (see attached testimony)

Chairman DeKrey: Just a note, when they purposed and approved the first gambling compact, the Legislature had no input, so we changed the law accordingly.

Governor Link: Wasn't that a nice day.

Chairman DeKrey: There is frustration from the legislature too.

Rep Disrud: What has been done to train the people at the tables to identify the people with gaming problems?

Governor Link: I don't know.

Rep Disrud: Anything on gambling addiction?

Governor Link: I can't answer.

Rep Maragos: You brought up suicide, are you aware of any increase since we have had charity gaming?

Governor Link: It is recognized as an end result, but I have no numbers, no.

Rep Maragos: I understand the concern.

Governor Link: I don't know if there is a connection.

Chairman DeKrey: No further questions, thank you for appearing.

Warren DeKrey: Spoke in opposition to HB 1306. He has appeared many times to oppose this bill.

Rep Klemin: When you were at the hearing, was the charitable gaming people there?

Warren DeKrey: I am not sure, I can't answer.

Chairman DeKrey: If there are no further questions, thank you for appearing.

Warren Wenzel: United Methodist Pastor, Fairmount ND, spoke in opposition to HB 1306.

Rep Maragos: Can you tell us why Governor Schafer allowed the gaming compact to raise the limit?

Warren Wenzel: It was a puzzle to me. He was surrounded by high pressure people to accomplish the higher limits.

Rep Maragos: What about our arm twisters?

Warren Wenzel: The way I see it, but I don't see a lot of other people that have an economic self interest to get their point across as others do.

Rep Disrud: Asks about the church and there part in the gambling issue.

Warren Wenzel: The United Methodist, ELCA and Presbyterian Church have material to reach out to those people and we have counseling. Part of our church involvement is that we are testifying here today.



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House Judiciary Committee

Bill/Resolution Number HB 1306

Hearing Date 02-05-01

Chairman DeKrey: If there are no further questions, thank you for appearing. If there is no further testimony, we will close the hearing on HB 1306.

2001 HOUSE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. Hb 1306a

House Judiciary Committee

Conference Committee

Hearing Date 02-12-01

Tape Number	Side A	Side B	Meter #
TAPE 1	X		1028 to 1840
Committee Clerk Signature <i>Jan Diers</i>			

Minutes: Chairman DeKrey called the committee to order on HB 1306.

Rep Delmore: I have some amendments. It adds the money for the rent. Rep Grande seconded the amendments.

DISCUSSION

Chuck Keller, Todd Kranda were asked questions to explain some of the reasons of the amendments.

DISCUSSION CONTINUES

Chairman DeKrey called for a voice vote on the amendments. Motion carries. What are the wishes of the committee? Rep Maragos moved a DO PASS as amend. Rep Delmore second.

DISCUSSION

Chairman DeKrey, the clerk will call the roll on a DO PASS as amend. The motion passes with 10 YES, 5 NO and 0 ABSENT. Carrier Rep Maragos.

**FISCAL NOTE**  
 Requested by Legislative Council  
 02/20/2001

Bill/Resolution No.:

Amendment to: HB 1306

1A. **State fiscal effect:** *Identify the state fiscal effect and the fiscal effect on agency appropriations compared to funding levels and appropriations anticipated under current law.*

	1999-2001 Biennium		2001-2003 Biennium		2003-2005 Biennium	
	General Fund	Other Funds	General Fund	Other Funds	General Fund	Other Funds
<b>Revenues</b>	\$0	\$0	\$42,000	\$0	\$67,000	\$0
<b>Expenditures</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>Appropriations</b>	\$0	\$0	\$0	\$0	\$0	\$0

1B. **County, city, and school district fiscal effect:** *Identify the fiscal effect on the appropriate political subdivision.*

1999-2001 Biennium			2001-2003 Biennium			2003-2005 Biennium		
Counties	Cities	School Districts	Counties	Cities	School Districts	Counties	Cities	School Districts
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

2. **Narrative:** *Identify the aspects of the measure which cause fiscal impact and include any comments relevant to your analysis.*

The bill would increase the maximum limit of a wager for the game of twenty-one from the present five dollars, to "twenty-five" dollars.

The bill would allow an organization to pay the owner of a gaming site up to an additional one hundred dollars of rent per month for each twenty-one table on which wagers exceeding five dollars are accepted.

3. **State fiscal effect detail:** *For information shown under state fiscal effect in 1A, please:*

A. **Revenues:** *Explain the revenue amounts. Provide detail, when appropriate, for each revenue type and fund affected and any amounts included in the executive budget.*

The bill would raise general fund revenue because the gaming tax would be applied to the adjusted gross proceeds (gross proceeds less prizes) that is forecast for the increased activity of the game of twenty-one.

B. **Expenditures:** *Explain the expenditure amounts. Provide detail, when appropriate, for each agency, line item, and fund affected and the number of FTE positions affected.*

Not applicable

**C. Appropriations:** *Explain the appropriation amounts. Provide detail, when appropriate, of the effect on the biennial appropriation for each agency and fund affected and any amounts included in the executive budget. Indicate the relationship between the amounts shown for expenditures and appropriations.*

Not applicable

<b>Name:</b>	Charles Keller/Kathy Roll	<b>Agency:</b>	Office of Attorney General
<b>Phone Number:</b>	328-4482	<b>Date Prepared:</b>	02/21/2001

## FISCAL NOTE

Requested by Legislative Council  
01/17/2001

Bill/Resolution No.: HB 1306

Amendment to:

**1A. State fiscal effect:** *Identify the state fiscal effect and the fiscal effect on agency appropriations compared to funding levels and appropriations anticipated under current law.*

	1999-2001 Biennium		2001-2003 Biennium		2003-2005 Biennium	
	General Fund	Other Funds	General Fund	Other Funds	General Fund	Other Funds
<b>Revenues</b>	\$0	\$0	\$42,000	\$0	\$67,000	\$0
<b>Expenditures</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>Appropriations</b>	\$0	\$0	\$0	\$0	\$0	\$0

**1B. County, city, and school district fiscal effect:** *Identify the fiscal effect on the appropriate political subdivision.*

1999-2001 Biennium			2001-2003 Biennium			2003-2005 Biennium		
Counties	Cities	School Districts	Counties	Cities	School Districts	Counties	Cities	School Districts
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

**2. Narrative:** *Identify the aspects of the measure which cause fiscal impact and include any comments relevant to your analysis.*

The bill would increase the maximum limit of a wager for the game of twenty-one from five dollars to twenty-five dollars.

**3. State fiscal effect detail:** *For information shown under state fiscal effect in 1A, please:*

**A. Revenues:** *Explain the revenue amounts. Provide detail, when appropriate, for each revenue type and fund affected and any amounts included in the executive budget.*

The bill would increase General Fund revenues since the increase in adjusted gross proceeds (gross proceeds less prizes) forecast for the game of twenty-one would be subject to the gaming tax.

**B. Expenditures:** *Explain the expenditure amounts. Provide detail, when appropriate, for each agency, line item, and fund affected and the number of FTE positions affected.*

Not applicable

**C. Appropriations:** *Explain the appropriation amounts. Provide detail, when appropriate, of the effect on the biennial appropriation for each agency and fund affected and any amounts included in the executive budget. Indicate the relationship between the amounts shown for expenditures and appropriations.*

Not applicable

<b>Name:</b>	Charles Keller/Kathy Roll	<b>Agency:</b>	Office of Attorney General
<b>Phone Number:</b>	328-4482	<b>Date Prepared:</b>	01/29/2001

VR  
2/14/01

**HOUSE AMENDMENTS TO HB 1306 HOUSE JUDICIARY 02-15-01**  
Page 1, line 1, after "53-06.1-10" insert "and subsection 5 of section 53-06.1-11"

Page 1, line 2, after "twenty-one" insert "and rent limits"

Page 1, after line 16, insert:

**"SECTION 2. AMENDMENT.** Subsection 5 of section 53-06.1-11 of the North Dakota Century Code is amended and reenacted as follows:

5. For a site where bingo is not the primary game:
  - a. If twenty-one or paddlewheels is conducted, the monthly rent may not exceed two hundred dollars multiplied by the necessary number of tables based on criteria prescribed by gaming rule. For each twenty-one table with a wager greater than five dollars, an additional amount up to one hundred dollars may be added to the monthly rent. If pull tabs is also conducted involving a jar bar or dispensing device, but not both, the monthly rent for pull tabs may not exceed an additional one hundred seventy-five dollars. If pull tabs is conducted involving both a jar bar and dispensing device, the monthly rent for pull tabs may not exceed an additional two hundred dollars.
  - b. If twenty-one and paddlewheels are not conducted but pull tabs is conducted involving a jar bar or dispensing device, but not both, the monthly rent may not exceed two hundred seventy-five dollars. If pull tabs is conducted involving both a jar bar and dispensing device, the monthly rent for pull tabs may not exceed three hundred dollars."

Renumber accordingly

Date: 02-14-01  
Roll Call Vote #: 1

2001 HOUSE STANDING COMMITTEE ROLL CALL VOTES  
BILL/RESOLUTION NO. HB 1306

House JUDICIARY Committee

Subcommittee on \_\_\_\_\_  
or  
 Conference Committee

Legislative Council Amendment Number \_\_\_\_\_

Action Taken Do Pass as amend

Motion Made By Rep Maragos Seconded By Rep Delmore

Representatives	Yes	No	Representatives	Yes	No
CHR - Duane DeKrey	✓				
VICE CHR -- Wm E Kretschmar	✓				
Rep Curtis E Brekke		✓			
Rep Lois Delmore	✓				
Rep Rachael Disrud	✓				
Rep Bruce Eckre	✓				
Rep April Fairfield		✓			
Rep Bette Grande		✓			
Rep G. Jane Gunter	✓				
Rep Joyce Kingsbury		✓			
Rep Lawrence R. Klemin		✓			
Rep John Mahoney	✓				
Rep Andrew G Maragos	✓				
Rep Kenton Onstad	✓				
Rep Dwight Wrangham	✓				

Total (Yes) 10 No 5

Absent 0

Floor Assignment Rep Maragos

If the vote is on an amendment, briefly indicate intent:



**REPORT OF STANDING COMMITTEE**

**HB 1306: Judiciary Committee (Rep. DeKrey, Chairman) recommends AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO PASS** (10 YEAS, 5 NAYS, 0 ABSENT AND NOT VOTING). HB 1306 was placed on the Sixth order on the calendar.

Page 1, line 1, after "53-06.1-10" insert "and subsection 5 of section 53-06.1-11"

Page 1, line 2, after "twenty-one" insert "and rent limits"

Page 1 after line 16, insert:

**"SECTION 2. AMENDMENT.** Subsection 5 of section 53-06.1-11 of the North Dakota Century Code is amended and reenacted as follows:

5. For a site where bingo is not the primary game:
  - a. If twenty-one or paddlewheels is conducted, the monthly rent may not exceed two hundred dollars multiplied by the necessary number of tables based on criteria prescribed by gaming rule. For each twenty-one table with a wager greater than five dollars, an additional amount up to one hundred dollars may be added to the monthly rent. If pull tabs is also conducted involving a jar bar or dispensing device, but not both, the monthly rent for pull tabs may not exceed an additional one hundred seventy-five dollars. If pull tabs is conducted involving both a jar bar and dispensing device, the monthly rent for pull tabs may not exceed an additional two hundred dollars.
  - b. If twenty-one and paddlewheels are not conducted but pull tabs is conducted involving a jar bar or dispensing device, but not both, the monthly rent may not exceed two hundred seventy-five dollars. If pull tabs is conducted involving both a jar bar and dispensing device, the monthly rent for pull tabs may not exceed three hundred dollars."

Renumber accordingly

2001 SENATE JUDICIARY

HB 1306

2001 SENATE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. 1306

Senate Judiciary Committee

Conference Committee

Hearing Date March 19th, 2001

Tape Number	Side A	Side B	Meter #
1	x		24.2-end
		x	0-30.1
Committee Clerk Signature			

Minutes: **Senator Traynor**, opened the hearing on HB 1306.

**Rep. Hawken**, representing district 46, asks for favorable consideration on 1306. Have a tremendous number of casinos in ND. This gaming hurts our local communities. This industry is taxed and helps generate our general revenue. In casinos the limit is \$100 dollars. This is a reasonable bill.

**Todd Kranda**, representing Charitable Gaming Association of ND, testifies in support of HB 1306. 1306 is a simple bill, it increases the wager max. Rent increase is a reasonable amount. Rent increase coincides with the possible increase of wager. Allows charitable gaming organizations to continue in ND. The entire state of ND was effected by the Tribal compacts. We want to level the playing field with them. (Handout attached regarding HB 1306 and 1305) We think this is a reasonable amount for gaming going on in ND. Projected tax revenue is going down significantly.

**Senator Trenbeath**, how would your organization fell about tracking on the tribal compact.

Page 2

Senate Judiciary Committee

Bill/Resolution Number 1306

Hearing Date March 19th, 2001

**Todd Kranda**, we thought about adopting the tribal compact. They have more games than we do, so it wouldn't help much.

**Senator Trenbeath**, your answer shows my ignorance of gaming.

**Senator Traynor**, are the tribal casinos limited to what they can do?

**Todd Kranda**, I'm not familiar with how they operate other than the compacts.

**Senator Nelson**, when they play 21, if you had these tables once a month, are you saying the rent depends on who you're renting them to?

**Todd Kranda**, this bill doesn't give us more games.

**Senator Nelson**, how do you tax a machine?

**Rick Stensa**, represents charitable organization, (background attachment). Our industry does a lot of good in our state. The \$25 increment we came up with is reasonable. The last time there was a change in this was in 1989.

**Senator Traynor**, what projections do you have of the revenue for charities?

**Rick Stensa**, relatively small, we are being conservative. This will provide jobs for people.

**Senator Nelson**, what kind of tips do they get?

**Rick Stensa**, it depends on the location.

**Senator Nelson**, how much does the IRS estimate?

**Rick Stensa**, about 100%.

**Senator Watne**, the raise for rent is other than bingo sites?

**Rick Stensa**, that basically disclosed bingo halls because they don't have black jack tables.

**Bill Shalhoub**, representing the ND Hospitality Association, testifies for the bill. Negotiated amount between bar owner and others. Our feeling is a site is worth as much as it is producing.

Only so many sites receive the maximum rent. Wagering on line 9-10. Even at \$25 a table, a

player can bet a dollar amount. At a \$250 table the range may be from 5 to 250 dollars. Players discretion.

**Senator Dever**, what is the rationale of estimates with legislating rent?

**Bill Shalhoub**, in the late 70's, busloads would come into Fargo to gamble. Rents are now the issue.

**Artis Olson**, from Danton County, asking to improve the standards of gaming. Asks the committee to support the bill.

**Senator Bercler**, do you think the gaming sites that are tribal have brought revenue into ND?

**Artis Olson**, for the Hotel industry.

**Terry Foriege**, bringing people from out of state has helped gaming in the towns. It has helped ND.

**Kevin Myer**, teamsters organization from Fargo, gives money in scholarships to students and this will decline. We want to increase our gambling.

**Senator Dever**, do you know what MN does? Does Moorehead have gambling?

**Kevin Myer**, no.

**Mona Dietrich**, executive director of Fort Abraham Lincoln Foundation. We are very pleased with this bill. The money we generate from gaming helps us out to provide for charity and maintain our foundation. Helps us operate Fort Lincoln and the surrounding historical native sites. We need language to have gaming dollars. Our gaming revenues are down 40%. I don't see this bill as competing with the Native American Casinos.

**Vicky Wagner**, secretary for veterans organization, we have seen our gross proceeds decline. It has had an effect on our charitable organizations. We would like to keep our revenues up.

**Governor Link**, (testimony attached), opposes the bill.

Page 4  
Senate Judiciary Committee  
Bill/Resolution Number 1306  
Hearing Date March 19th, 2001

**Rick Fosno**, from Bismarek, testifies against the bill. (testimony attached)

**Warren Dekrey**, opposed to the bill. Doesn't create any new wealth. Moves money around.

Recommend a pause in gambling. We hear about the benefits of gambling. We used to solicit money from those who can afford it. This is an expansion of gambling. Players will lose. We are asking people to gamble more.

**Rickard Unkenholz**, opposed to the bill. What is the message we are sending to our children.

**Sophia Prezle**, opposes the bill.

**Steve Wistoff**, opposed to raising the limit on gambling. Competition will rise. (Testimony attached on behalf of a Reverend).

**Senator Traynor**, closed the hearing on HB 1306.

**SENATOR WATNE MOTIONED TO DO PASS, SECONDED BY SENATOR DEVER.**

**VOTE INDICATED 6 YEAS, 0 NAYS AND 0 ABSENT AND NOT VOTING. SENATOR LYSON VOLUNTEERED TO CARRY THE BILL.**



**REPORT OF STANDING COMMITTEE (410)**  
March 20, 2001 2:50 p.m.

Module No: SR-48-6189  
Carrier: Lyon  
Insert LC: . Title: .

**REPORT OF STANDING COMMITTEE**

**HB 1306, as engrossed: Judiciary Committee (Sen. Traynor, Chairman) recommends DO PASS (6 YEAS, 0 NAYS, 1 ABSENT AND NOT VOTING). Engrossed HB 1306 was placed on the Fourteenth order on the calendar.**



2001 TESTIMONY

HB 1306

**INFORMATION SHEET IN SUPPORT OF  
ENGROSSED HB 1305 and HB 1306**

- Charitable gaming gross proceeds have declined every year since 1994; a total of \$45 to \$50 million in the last 6 years.
- There was \$8 million less for charities in 1999 than they received in 1993; and approximately \$1 million less in tax revenues.
- Expenses have increased, video surveillance has been required, the minimum wage has increased \$2 per hour, rent and general operating expenses have increased.
- HB1305 and HB1306 amend the maximum amount that can be wagered on 21 and poker to \$25.
- The last increase in 21 was in 1989 - 12 years ago.
- In comparison the State Indian Gaming Compacts have a maximum wager limit of \$100 with two tables at \$250 for 21.
- Since 1994 gross proceeds from the game of 21 have declined \$10 million.
- HB1305 and HB1306 are not an expansion of gaming. Both 21 and poker are already legal games played in our State for wagers much higher than the Bills propose.
- No new games of chance are allowed under HB1305 only various versions of games already allowed similar to pull tabs and bingo.
- HB1305 and HB1306 will slow the decline in charitable gaming in North Dakota and slow the decline in revenues given to charities.
- HB1305 passed the House by a vote of 64-34 & HB1306 passed the House by a vote of 63-35

**PLEASE VOTE "YES" IN SUPPORT OF HB 1305 AND HB 1306**

**INFORMATION SHEET IN SUPPORT OF  
ENGROSSED HB 1416**

- In 2000, 112 charitable organizations (almost 32%) had actual expenses which exceeded the allowable expense limit set by law.
- HB1416 increases the amount of allowable expenses that may be deducted from adjusted gross proceeds from 50% to 51%.
- If HB1416 is defeated charitable gaming organizations many of whom are fraternal and veteran's organizations, youth clubs, firemen's associations, etc., will be forced to shut down which would devastate these charities.
- If the expense rate is not increased and if charitable gaming does not slow the decline in gross proceeds charities will be forced to shut down.
- HB 1416 passed the House by a vote of 77-21

**PLEASE VOTE "YES" IN SUPPORT OF ENGROSSED HB 1416**

The renegotiated Tribal-State Indian Gaming Compact provides for these game types and wagering limits for all the tribes:

<u>Game Type</u>	<u>Wagering Limit</u>
Twenty-one	\$100, and two tables with limits of \$250
Poker	\$50, with a limit of three raises per betting round
Roulette	\$50 single bet per spin of the roulette wheel
Paddlewheels	\$50 total bet per spin of the paddlewheel
Indian Dice	\$100 multiplied by the number of players
Electronic gaming devices	\$25 total bet per each play
Craps	\$60
Sports books	No limit
Sports pools	No limit
Calcuttas	No limit
Pull tabs	No limit
Punchboards	No limit
Raffles	No limit
Keno	No limit
Pari-mutuel and simulcast	No limit

**OFFICE OF ATTORNEY GENERAL**  
**Gaming Division**  
**Eligible Use Contributions for the Fiscal Year Ended June 30, 2000**

<b>Charitable Uses:</b>	<u>Amount</u>	<u>Percent to Grand Total</u>
Abused	\$ 54,714	0.31
Alcohol and Drug Abuse	148,118	0.85
Animal Protection	308,448	1.77
Blind	14,141	0.08
Cancer	49,383	0.28
Cystic Fibrosis	128,657	0.74
Disabled	1,208,856	6.92
Heart Disease	13,922	0.08
Learning Disabilities	3,340	0.02
Mental Health	200,795	1.15
Multiple Sclerosis	142,726	0.82
Needy	112,823	0.65
Paralysis	600	0.00
Developmentally Disabled Citizens	928,616	5.31
Senior Citizens	148,124	0.85
Terminally Ill	30,673	0.18
Wildlife	182,215	1.04
Youth Activities	1,989,738	11.39
Adult Activities	168,314	0.96
Head Injuries	3,420	0.02
Home on the Range	33,494	0.19
March of Dimes	4,779	0.03
Meals on Wheels	17,381	0.10
Medical Facilities (Nonprofit)	110,151	0.63
Memorial Funds	15,726	0.09
Nursing Homes (Nonprofit)	30,225	0.17
Ronald McDonald House	7,375	0.04
Salvation Army	9,600	0.05
Special Olympics	371,114	2.12
United Fund/United Way	7,225	0.04
YMCA/YWCA	6,850	0.04
Volunteer Services	17,903	0.10
Gambling Addiction	7,900	0.05
Other	109,028	0.62
<b>Total</b>	<b>\$ 6,586,370</b>	<b>37.69</b>
<b>Religious Uses:</b>	<u>Amount</u>	<u>Percent to Grand Total</u>
Religious uses	234,185	1.34
<b>Total</b>	<b>\$ 234,185</b>	<b>1.34</b>

**Educational Uses:**

Agriculture	\$ 61,683	0.36
Arts	2,096,641	11.99
Educational Public Services	963,026	5.51
Safety	93,007	0.53
Educational Institutions and Activities	716,031	4.10
Preservation of Cultural Heritage	349,936	2.00
Scholarships	732,882	4.19
Vocational Workshops	7,666	0.04
Other	93,906	0.54
<b>Total</b>	<b>\$ 6,113,364</b>	<b>29.28</b>

**Fraternal Uses:**

Camp Grassick	\$ 33,199	0.19
Fraternal Foundations	22,272	0.13
Legion Baseball	400,365	2.29
Disabled or Injured Veteran's Assistance	43,200	0.25
Other	42,317	0.24
<b>Total</b>	<b>\$ 641,343</b>	<b>3.10</b>

**Patriotic Uses:**

Scouting Activities and Boys or Girls State	\$ 95,874	0.55
Community Bands, Color and Honor Guards, Flags, and Patriotic Celebrations	236,044	1.35
Other	60,530	0.29
<b>Total</b>	<b>\$ 382,448</b>	<b>2.19</b>

**Uses for Erection or Maintenance of Public Buildings or Works:**

Uses described above	145,047	0.83
<b>Total</b>	<b>\$ 145,047</b>	<b>0.83</b>

**Uses Lessening the Burden of Government:**

	<u>Amount</u>	<u>Percent to Grand Total</u>
Community Emergency Services such as Ambulance and Fire Departments	\$ 485,677	2.78
Disbursements Directly to a City, County, State, or U.S. Government	350,678	2.01
Improvement of Public Areas	187,718	1.07
Parks and Recreation	1,604,100	9.18
Law Enforcement	18,432	0.11
Other	14,116	0.08
<b>Total</b>	<b>\$ 2,660,720</b>	<b>15.23</b>

**Uses Benefiting a Definite Number of Persons Who are the Victims of Loss of Home or Household Possessions Through Explosion, Fire, Flood, or Storm and the losses are Uncompensated by Insurance:**

Uses described above	\$ 21,436	0.12
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OFFICE OF ATTORNEY GENERAL  
Gaming Division

Forecasted Gaming Activity for the 2001-03 Biennium  
(Excludes Pari-mutuel Wagering)  
January 15, 2001

	<u>Gross Proceeds</u>	<u>Prizes</u>	<u>Adj Gross Proceeds</u>	<u>Gross Profit %</u>
Bingo - Regular	\$ 89,286,000	\$ 68,762,000	\$ 20,524,000	23%
Bingo - Disp. Dev.	21,000	17,000	4,000	19%
Raffles	4,630,000	2,130,000	2,500,000	54%
Pull Tabs - Jars	232,614,000	184,724,000	47,890,000	21%
Pull Tabs - Disp. Dev.	101,689,000	79,732,000	21,957,000	22%
Board Games	1,428,000	1,028,000	400,000	28%
Punchboards	13,000	9,000	4,000	31%
Sports Pools	229,000	175,000	54,000	24%
Twenty-one	57,845,000	46,571,000	11,274,000	19%
Calcuttas	233,000	198,000	35,000	15%
Paddlewheels	10,714,000	7,714,000	3,000,000	28%
Poker	4,000	0	4,000	100%
Totals	<u>\$ 498,706,000</u>	<u>\$ 391,060,000</u>	<u>\$ 107,646,000</u>	22%

Add: Interest Earned	\$ 130,000
Less: ND Excise Tax	14,470,000
Federal Excise Tax	269,000
Bingo Sales Tax	<u>5,000,000</u>
Total Adjusted Gross Proceeds	\$ 88,037,000

Less: Gaming Tax	\$ 6,250,000
Allowable Expenses	<u>51,524,000</u>
Total Expenses	\$ 57,774,000

Net Proceeds \$ 30,263,000

Taxes Summary

ND 4.5% Excise Tax	\$ 14,470,000
Gaming Tax	<u>6,250,000</u>
Total	\$ 20,720,000

Other Revenue

Monetary Fines	\$ 27,000
Interest and Penalty	15,000
Gaming Stamps and License and Record Check Fees	<u>448,000</u>
Total	\$ 490,000

Total Taxes and Other Revenue (Excludes Bingo Sales Tax) \$ 21,210,000

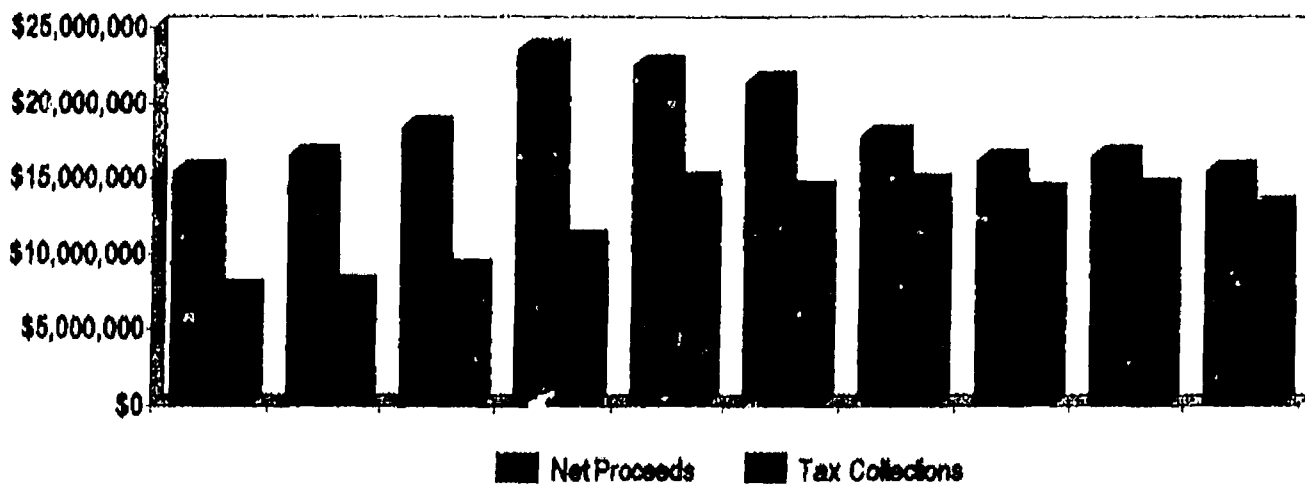


## Observations on Charitable Gaming Activity and Related Costs

There has not been any change in the maximum wager allowed at blackjack or to the kind of games that may be played in the charitable casinos in many years. The last change to the wager limits went into effect July 1, 1989. Since that time there have been many additional cost burdens placed on charitable gaming proceeds. The largest of these has been increased taxation. In the year ended June 6, 1989, the year before this chart begins; gaming tax collections were \$1,977,000.

### Net Proceeds v. Taxes 1990-1999

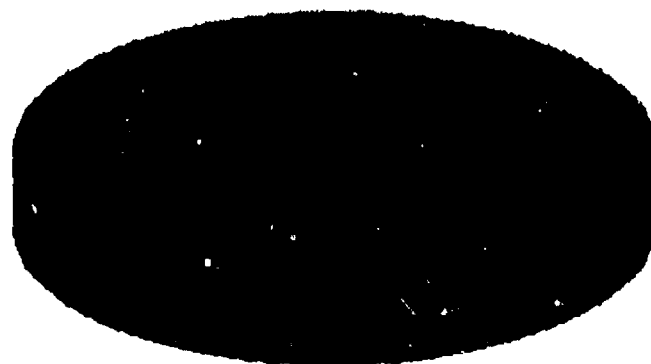
since adoption of excise tax



As you can see, the taxes collected from charitable gaming have gone from about \$2 million up to about \$14 million per year. Net Proceeds are the monies that go the organizations whose programs and services qualify as eligible uses. Today, that amount is almost equal to the revenue the state realizes from the conduct of charitable gaming. At the end of the last fiscal year, Net proceeds were \$15.5 million while tax collections were \$13.1 million, only an 8.4% difference. The same has been true for the last few years. We have become virtual partners in the charitable gaming industry.

### Net Proceeds v Taxes 7/95-6/99

**\$66,062,000 (54.1%)**  
Net Proceeds



**\$66,010,000 (45.9%)**  
Tax Collections

## **Observations on Charitable Gaming Activity and Related Costs**

As the charts on the preceding page show, taxes definitely have risen. In July 1981 the Gaming Tax was established to provide funds for the auditing, policing, and controlling of charitable gaming.

That tax was 5% of all proceeds after prizes had been paid to the player.

That tax generated just under \$1 million dollars in the first year.

In July 1989 the Excise Tax on pull-tabs was enacted. This is basically a sales tax applied to all gross sales, before prizes are paid to the players. It began as 1.96% on the gross, which translated to 5.9% of the proceeds after prizes. The proceeds after prizes were also subject to the 5% Gaming Tax already in place, bringing total tax on pull-tabs to almost 11% of the proceeds after prizes. The Gaming Tax was also collected on "21" and other games. This year Sales Tax on Bingo began to be reported.

July of 1993 brought an increase in the Excise Tax. The new rate was 4.5% of the gross, before prizes. This doubling of the tax rate meant that 18.4% of Pull-tab proceeds went into the general fund.

At the end of fiscal 1994, \$14.8 million dollars was collected in taxes from charitable gaming.

\*\*\*\*\*

### **MINIMUM WAGE INCREASES**

The second biggest cost to our industry is wages. The gaming business is very labor intensive. Dealers, Jar Operators, Pit Bosses, Count Team Members, Auditors, and Accountants are those who we employ. The minimum wage in 1989, after the last wagger increase and before the Excise Tax, was \$3.15 per hour.

In April of 1990 it went up to \$3.80 per hour. In April of 1991 it went up again to \$4.15 per hour.

The wage was revisited again in 1996 and increased to \$4.75 per hour.

The latest increase came on September 1, 1997 with the wage going to \$5.15 per hour.

The exact cost impact of this is not readily available, but it is hard to imagine that any business or organization could absorb such an increase without somehow raising revenues. It is also quite likely that we will see another \$1 increase be approved very soon and while it may be a needed change, no gaming organization is looking forward to any such change.

### **VIDEO SURVIELLENCE**

In 1994 the legislature enacted legislation that required organizations conducting \$5 blackjack to put in video surveillance systems that would record all activity on the tables. This was intended to stop and deter any cheating on the "21" tables. This capitol investment was not small. The cost for installing video surveillance a "21" table ran from \$3,000 to \$4,000 per blackjack table. We were told to that our revenue would increase as cheating decreased, therefore recouping our investment. This did not happen and today we have state of the art systems in place that make our table games very secure, but have not done anything to enhance our revenues. These systems are designed, and of such quality, that they can be applied to any new applications be they new games or increased wagers. The security is there to be used.

### **RENT TO LESSORS**

Most organizations pay a monthly rent amount to the business that owns the establishment where gaming is conducted. The rental amounts have been established by statute and have been fairly consistent for the last ten years. A lessor may receive up to \$200 per month for each "21" or Paddlewheel table and \$175 per month for the jar bar. There is additional rent available to those sites where only dispensing devices are in play. While the lessor is certainly entitled to rental payments for the value of the space they give to the gaming operator, rent is still a regular expense, in some cases a substantial expense.

## IN SUPPORT OF HB1305 & HB1306

- 1) Comparing 1994 to the years since, there has been a decline in charitable gaming gross proceeds each year. The decline has been steadily increasing. 1995 was down 14.5 million, 1996 down 7.7 million, 1997 down 23 million, 1998 down the same 28 million, and 1999 down 43 million from the gross in 1994.
- 2) There has been a 35% drop in the net charitable gaming proceeds from 1993 to 1999. This amounts to almost 8 million dollars less for charities in 1999. This is also a disturbing trend.
- 3) The game of "21" has had a decline of 10 million dollars of gross proceeds since 1994. This is a 23% decrease. The same 23% decrease is seen in the adjusted gross.
- 4) This decline, especially in the game of "21" has resulted in a corresponding loss of jobs throughout the industry.
- 5) Gaming Tax collections have also been negatively affected. This amounts to approximately 1 million dollars per year, a 23.9% decrease.
- 6) This IS NOT an expansion of gaming. The games and limits allowed under HB1305 and HB1306 are already legal games, in play in our state, for wagers much higher than the bills propose. This legislation will slow the downward trend in charitable gaming, the only type of gaming the legislature has supported.
- 7) No new games of chance are allowed under these bills. Only various versions of games already allowed under charitable gaming statute would be considered. Pull-tabs and Bingo are conducted this way today, with many different types of games being played.
- 8) Passage of these bills provides only the possibility of game variations currently allowed. Any such game proposed would need approval of the Gaming Commission, after public hearing, with input from the Gaming Advisory Board and the Attorney General's Office, and with oversight by the Legislative Administrative Rules Committee.
- 9) Neither of these bills authorizes or allows electronic or video games or a lottery.

## EXCERPTS FROM GAMBLING AND PROBLEM GAMBLING IN NORTH DAKOTA: A REPLICATION STUDY, 1992 TO 2000

These are results taken directly from the study conducted by Gemini Research, Ltd. and presented to the Governor on January 15, 2000. The sample for the 1992 study was 1,517 people vs. 5,002 for the 2000 study. This study was done to examine changes in ND Gaming since the 1992 study.

It is important to note that all of the Native American Casinos in ND became operational after the completion of the baseline study in 1992.

The percentage of North Dakotans who gamble once per week or more often;	<b>1992 result – 12.3%</b>
	<b>2000 result – 4.3%</b>

### Defining the Patterns of Participation

**Non-Gamblers** who have never participated in any type of gambling (19% of sample)

**Infrequent Gamblers** who participated in one or more type of gambling, but not in the past year (11% of sample)

**Past Year Gamblers** who participated in one or more types of gambling in the past year but not on a weekly basis (65% of sample)

**Weekly Gamblers** who participate in one or more types of gambling on a weekly basis (4% of sample)

Weekly gamblers in ND are significantly more likely to be male, age 30-54, Native American, divorced or separated and working full-time. Non-gamblers in ND are more likely to be over 65, widowed, retired, and have annual household incomes of under \$25,000.

Problem gamblers are significantly more likely than non-problem gamblers to smoke daily, to drink alcohol once a week or more often, and to use marijuana or cocaine on a monthly basis. They also are more likely to report their problems and to have sought help for abuse problems.

The combined prevalence of problem and pathological gambling did not change significantly in ND between 1992 and 2000. The Lifetime Combined percentage of those in the sample that gambled showed a **1992 number of 3.5%** and a **2000 number of 3.8%**. The Current Combined percentages showed a **1992 result of 2.0%** and a **2000 result of 2.1%** of those who gambled.

### Definitions:

Problem gambling is a broad term that refers to all of the patterns of gambling behavior that compromise, disrupt or damage personal, family or vocational pursuits.

Lifetime Problem gamblers were 2.5% of the sample in 1992 and 2.0% in 2000

Current Problem gamblers were 1.3% of the sample in 1992 and 0.7% in 2000

Pathological gambling lies at one end of a continuum of problematic gambling involvement.

These gamblers are problem gamblers who are more likely to require professional treatment.

Pathological gambling is a treatable disorder characterized by loss of control over gambling, chasing of losses, lies and deception, family and job disruption, financial bailouts and illegal acts.

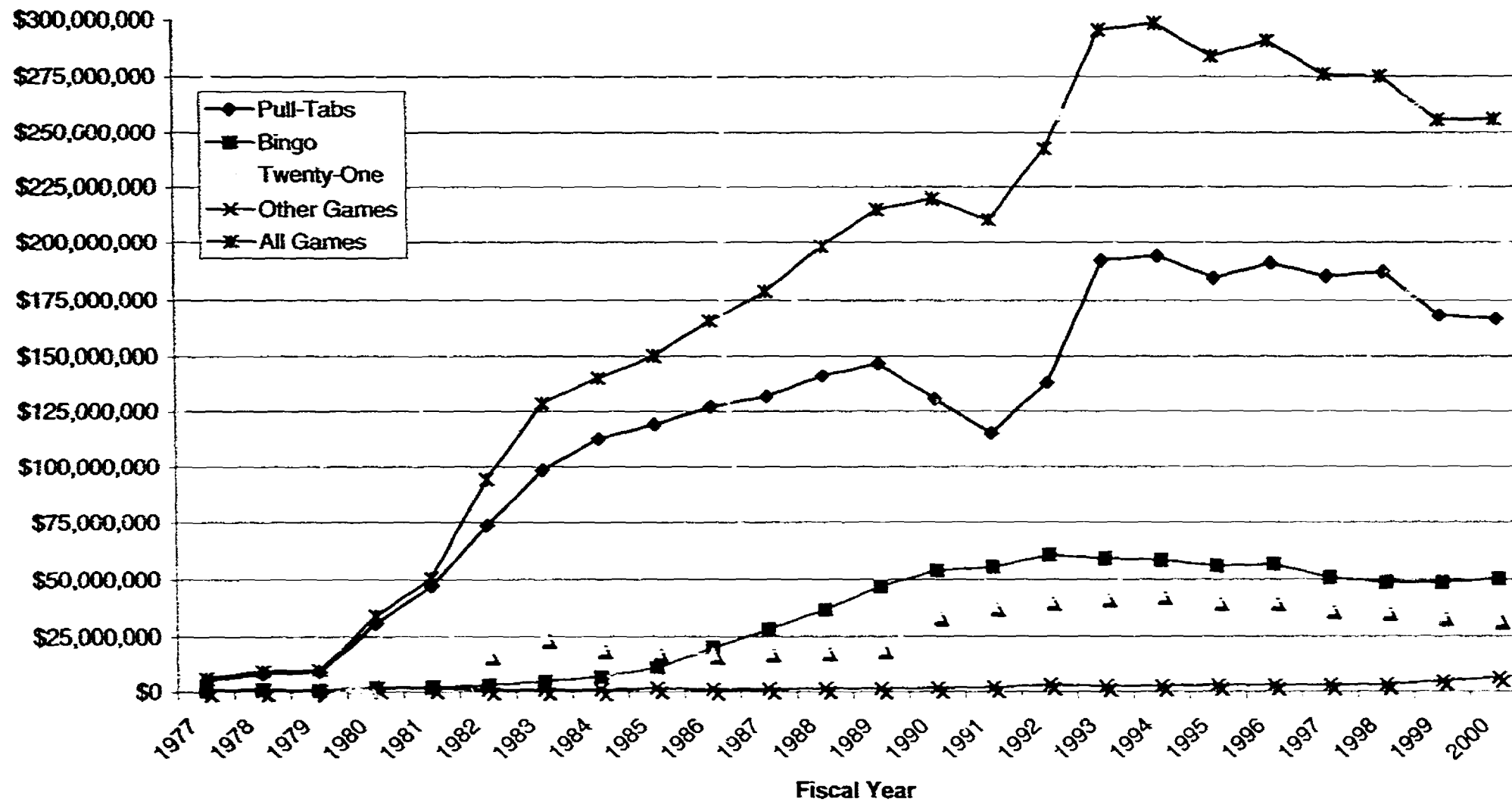
Lifetime Probable Pathological gamblers were 1.0% in 1992 and 1.8% in 2000

Current Probable Pathological gamblers were 0.7% in 1992 and 1.4% in 2000

Based on the results of the study, it is estimated that North Dakota should plan to provide problem gambling treatment services to between 130 and 270 individuals per year.

Office of Attorney General  
Gaming Division  
January 19, 2001

Gaming Gross Proceeds  
Fiscal Years 1977 Through 2000



# North Dakota Council on Gambling Problems

Arthur A. Link  
Chairman

February 5, 2001

Re: H.B. No. 1306

Chairman Representative Duane DeKrey  
and members of the House Judiciary Committee,

My name is Arthur Link, Chairman of the North Dakota Council on Gambling Problems, which opposes expansion of gambling in North Dakota.

House Bill No. 1306 would amend Section 53-06-10 of the North Dakota Century Code relating to the game of twenty-one under the games of chance laws.

The present maximum wager limit is five dollars and the amendment provides a twenty-five dollar maximum limit.

This 400 percent increase is designed to entice more participants betting more money in an attempt to achieve greater profits. It would no longer be recreational or low stakes.

This would break faith with the people of North Dakota who accepted gambling on condition that wagers would be limited and designed for recreation and charity.

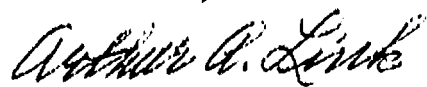
On January 25, 2001, Governor John Hoeven and Carol K. Olson, Executive Director of the North Dakota Department of Human Services, released the report on Gambling and Problem Gambling in North Dakota: a Replication Study, 1992 to 2000. The study shows a decline in gambling statewide but pathological gambling has risen since 1992.

I quote from the report: "Pathological gambling -- the worst form of problem gambling -- doubled from 0.7 percent to 1.4 percent of the population between 1992 and 2000. Pathological gambling is characterized by loss of control over gambling, chasing of losses, lies and deception, family and job disruption, financial bailouts and illegal acts."

We can not ignore this report!

Passage of H.B. 1306 would only add to these problems. Please stop this proposal to increase gambling and vote NO on H.B. 1306.

Thank you,



Arthur A. Link  
Chairman

February 5, 2001

House Bill 1305 & 1306

Chairman DeKrey and Members of the House Judiciary Committee:

Gambling is a camel that got its nose under the tent over 20 years ago in North Dakota. And ever since has worked its way into the tent more and more. It started as help for charities. But more than help for charities it was an effort by some to introduce gambling for gambling sake. We as a state have become addicted to gambling. I have provided a chart of the progress of gambling addiction. One of the factors is **tolerance** (Needs to gamble with increasing amounts of money in order to achieve the desired excitement).

House Bill No. 1305 and House Bill No. 1306 are evidence of our addiction. If these betting limits are approved the next step is sure to come in the next session to raise them even more. It's time to say NO to increases in bet limits and gambling in general. The recently released study of gambling has shown that problem gambling has doubled in the last 8 years and among the lower income groups in our state it has grown even more than double. There are big scandals that we could point to and there are many little ones going on in homes, in businesses, and schools, yes teen-age gambling is real, because of gambling, all across our state.

I helped pull together statements on gambling from many religious groups in our state. The attached statement from the North Dakota Conference of Churches is the result of that work. We are a religiously diverse society but not on gambling. We all agree on the destructive nature of gambling in our society. The increases asked for in these bills, HB1305 & HB 1306, go against the grain of all the religious groups in the State of North Dakota. Up to a few years ago the Catholic Church gave its blessing to some forms of gambling if it was done in moderation but now they have joined in opposing the expansion of gambling that is going on in our state. We are not talking about religious radicals here. These concerns are coming from the main stream. We see the problems when they happen. Society wants to cover them up. The gamblers are the best at denial. The cancer is here and it wants to grow. You can stop some of that growth by rejecting these increases, by saying a loud NO to these bills. Your job is to act in the common good. These bills may be good for a few but are not in the interest of the common good. That's is why I see the religious groups united on this issue.

Dr. Valerie Lorenz, Executive Director of Compulsive Gambling Center, Baltimore, Maryland, one of the leading experts on the effects of gambling said, "If together we can prevent the expansion of gambling, then we will be able to prevent the expansion of gambling addiction, and that benefits all of us."

Your vote is very important in stopping the growth of gambling addiction. I ask that you vote no on both of these bills. Thank you.

Rev. Warren Wenzel,

Fairmount, North Dakota

# Gambling called most compelling issue facing U.S.

■ Head of federal commission chastises public for disinterest

The Associated Press

Some people wrongly downplay gambling as a minor issue amid other American troubles like crime and homelessness, the head of a federal commission on the subject said Friday.

Kay Cole James of Richmond, Va., who has headed the National Gambling Impact Study Commission for the past two years, told an anti-gaming group meeting in Jackson to generate public debate on the impact of casinos and lotteries.

"This is the most compelling public policy issue in America today," she told the National Coalition Against Legalized Gambling.

James said the commission focused on social and economic implications of gambling. She said religious leaders now have the responsibility of addressing the moral implications.

The federal commission, created in 1996, concluded two years of work in June after holding 250 hours of hearings. James said then

that legal betting created thousands of jobs but was accompanied by troubling consequences.



James

The commission's report has been submitted to Congress, the White House, state governors and tribal leaders.

Among recommendations were a nationwide minimum age of 21 to place bets, a ban on collegiate sports betting, restrictions on campaign donations by the gambling industry, and the consideration of a moratorium on further expansion of gambling.

On Friday, James blamed gambling expansion on the lack of citizen opposition.

"Our very freedom is at stake," she said. "Not only can lives be destroyed. You can destroy an entire nation."

Mississippi has 30 casinos, including the one at the Choctaw Indian reservation near Philadelphia.

There have been no serious discussions at the state Capitol of banning new ones.



**PROBLEM AND PATHOLOGICAL GAMBLING**

■ 86% of Americans report having gambled at least once in their lives.<sup>1</sup> (p. 1-1)

■ In 1998, people gambling in the U.S. lost \$50 billion in legal gambling.<sup>1</sup> (p. 1-2)

■ Problem and pathological gambling affects not only the gambler and his or her family but also broader society. Such costs include unemployment benefits, welfare benefits, physical and mental health problems, theft, embezzlement, bankruptcy, suicide, domestic violence, and child abuse and neglect.<sup>1</sup> (p. 16)

■ Problem and pathological gamblers account for 30% of all gambling venues.<sup>1</sup> (pp. 4-15,16)

■ Problem and pathological gambling estimates in 17 states where surveys have been conducted range from 1.7% all the way up to 7.3% of U.S. adults. The majority of surveys place the average in the range of 5.5% or 11 million pathological and problem gamblers in the U.S.<sup>1</sup> (p. 4-5)

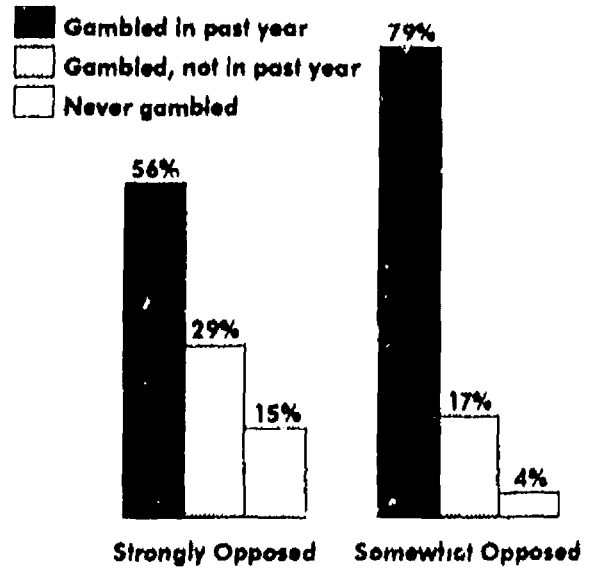
■ The National Research Council estimates that as many 1.1 million adolescents between the ages of 12 and 18 exhibited pathological gambling problems in the past year.<sup>2</sup> (p. 4-12)

■ The National Opinion Research Center estimates that the annual average costs of job loss, unemployment benefits, welfare benefits, poor physical and mental health, and gambling treatment is approximately \$1,200 per

pathological gambler and \$715 per problem gambler. They estimate that lifetime costs (bankruptcy, arrests, imprisonment, legal fees for divorce, and so forth) are \$10,550 per pathological gambler and \$5,130 per problem gambler. The annual aggregate costs caused by these factors is estimated to be approximately \$5 billion, in addition to \$40 billion in estimated lifetime costs. These estimates do not include the financial costs of any gambling-related incidences of theft, embezzlement, suicide, domestic violence, child abuse and neglect, and the non-legal costs of divorce.<sup>2</sup> (p. 4-14)

■ In a survey of 1,100 people in rescue missions across the U.S., 18% cited gambling as a cause of their homelessness.<sup>1</sup> (p. 7-27)

**GAMBLING ACTIVITY OF THOSE MORALLY OPPOSED TO GAMBLING**



Source: Minnesota State Lottery, as printed in *Beyond the Odds*, a quarterly publication of the Gambling Problems Resource Center, June 1999

■ Pathological gamblers have higher arrest and imprisonment rates than non-pathological gamblers. A third of problem and

pathological gamblers have been arrested, compared to 10% of low-risk gamblers and 4% of non-gamblers. About 23% of pathological gamblers and 13% of problem gamblers have been imprisoned.<sup>1</sup> (p. 7-14)

■ According to Tom Coates, Director of Consumer Credit Counseling Services in Des Moines, Iowa, in the late 1980s, 2-3% of the people seeking counseling had gambling-related credit problems. Today, approximately 15% of counseling goes to individuals with gambling attributed to the core of their credit problems.<sup>1</sup> (p. 7-15)

■ A National Opinion Survey Commission reported 19.2% of pathological gamblers reported filing bankruptcy.<sup>1</sup> (p. 7-16)

■ Las Vegas has the highest resident suicide rate in the nation.<sup>1</sup> (p. 7-26)

**CRITERIA FOR PATHOLOGICAL GAMBLING**

<b>Preoccupation</b>	Is preoccupied with gambling (e.g., preoccupied with reliving past gambling experiences, handicapping or planning the next venture, or thinking of ways to get money with which to gamble)
<b>Tolerance</b>	Needs to gamble with increasing amounts of money in order to achieve the desired excitement
<b>Withdrawal</b>	Is restless or irritable when attempting to cut down or stop gambling
<b>Escape</b>	Gambles as a way of escaping from problems or relieving dysphoric mood (e.g., feelings of helplessness, guilt, anxiety, or depression)
<b>Chasing</b>	After losing money gambling, often returns another day in order to get even ("chasing one's losses")
<b>Lying</b>	Lies to family members, therapists, or others to conceal the extent of involvement with gambling
<b>Loss of control</b>	Has made repeated unsuccessful efforts to control, cut back, or stop gambling
<b>Illegal acts</b>	Has committed illegal acts (e.g., forgery, fraud, theft, or embezzlement) in order to finance gambling
<b>Risked significant relationship</b>	Has jeopardized or lost a significant relationship, job, or educational or career opportunity because of gambling
<b>Bailout</b>	Has relied on others to provide money to relieve a desperate financial situation caused by gambling

Source: National Opinion Research Center at the University of Chicago, Gemini Research, and The Lewin Group. *Gambling Impact and Behavior Study. Report to the National Gambling Impact Study Commission, April 1, 1999, Table 1, p. 16.*

<sup>1</sup> Executive Summary, The National Gambling Impact Study Commission, June 1999

<sup>2</sup> Final Report, The National Gambling Impact Study Commission, June 1999

**G) Gambling.**—Gambling is a menace to society, deadly to the best interests of moral, social, economic, and spiritual life, and destructive of good government. As an act of faith and love, Christians should abstain from gambling, and should strive to minister to those victimized by the practice. Where gambling has become addictive, the Church will encourage such individuals to receive therapeutic assistance so that the individual's energies may be redirected into positive and constructive ends. Community standards and personal life styles should be such as would make unnecessary and undesirable the resort to commercial gambling, including public lotteries, as a recreation, as an escape, or as a means of producing public revenue or funds for support of charities or government.

See Social Principles, ¶ 73.G, "UMC Position on Gambling."

**The United Methodist Church's Position on Gambling**

WHEREAS, the Social Principles state in part: "Gambling is a menace to society, deadly to the best interests of moral, social, economic, and spiritual life, and destructive of good government. As an act of faith and love, Christians should abstain from gambling. . . . Community standards and personal life styles should be such as would make unnecessary and undesirable the resort to commercial gambling, including public lotteries, as a recreation, as an escape, or as a means of producing public revenue or funds for support of charities or government"; and

WHEREAS, the number of organizations and governments using lotteries, raffles, and bingo as a revenue resource has dramatically increased recently; and

WHEREAS, high-stakes gambling has led to tragedy and the disruption of community life; and

WHEREAS, raffles and other types of gambling methods are used in some United Methodist Churches; and

WHEREAS, many other Christian denominations rely heavily upon the proceeds from raffles, lotteries, and other gambling devices as means of fund raising;

*Be it therefore resolved,* that The United Methodist Church reaffirm its position on gambling; and

*Be it further resolved,* that the appropriate general agencies continue to provide material to the local churches for study and action to combat gambling and aid persons addicted to gambling.

**NORTH DAKOTA CONFERENCE OF CHURCHES**

227 West Broadway, #1 • Bismarck, North Dakota 58501 • (701) 253-0604

**STATEMENT ON GAMBLING**

In the course of human life, each individual faces normal risk-taking situations, opportunities to make prudent investments, and other ordinary choices on a regular basis. We understand gambling to be very different from these experiences. North Dakota legalized small stakes, entertainment gambling in 1977 and now has large casinos, blackjack, pull-tabs, bingo and other forms of gambling. In 1992, the amount of money spent on gambling was \$239 million. This spread of gambling in our state is alarming to the member churches of the North Dakota Conference of Churches.

The North Dakota Conference of Churches opposes gambling and further legalization of gambling in the state for the following reasons:

- \* Gambling undermines the work ethic on which our state is founded. The work ethic suggests that all should contribute to the welfare of society to the degree they are able, and be rewarded in accordance with their gifts or needs.
- \* Gambling has no long term economic benefit and creates no new wealth for our state and communities. Money spent on gambling is money that could be spent in other ways (and therefore taxed through normal channels,) or invested in other segments of the economy to create more value.
- \* Gambling promotes the untruth that an individual can "get something for nothing," and do so at the expense of a neighbor. Therefore, gambling has a corrupting effect on personal character and community spirit as it raises false hopes in the face of real needs.
- \* State sponsored gambling for the purpose of raising revenue for governmental operations is a regressive tax. It has been proven to be a larger tax on the poor than on those most able to pay the tax. It is a tax based on the weaknesses of the people. The state itself becomes a victim. The state become dependent on gambling and must begin promoting gambling among its citizens.
- \* Gambling costs our society more than it generates. Family problems, broken lives, financial crises and other human tragedies are a by-product of the abuse of gambling.

Having considered all of the evidence listed above, it is our considered judgment that the gambling industry is not in the best interest of the State of North Dakota.

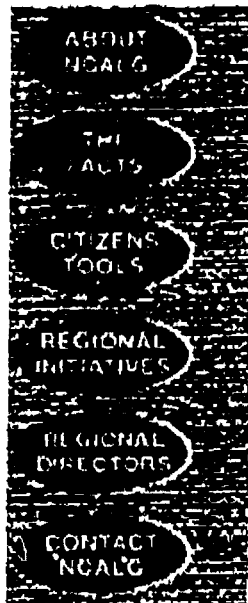
February, 1995

MEMBER DENOMINATIONS - American Baptist Churches of the North Dakota • Church of Brethren • New Day Area • Church of God • Pentecost • Episcopal Diocese of N.D. • Evangelical Lutheran Church in America • Evangelical United Brethren Church • Free Methodist Church • Methodist Church in America • Northern Presbyterian Church • U.S.A. Presbytery of the Northern Plains • Episcopal Society of Friends • United Methodist Church • Bismarck • Dickinson • Grand Forks • Minot • Fargo • Jamez • Lakota • Mandan • Moorhead • Williston • Wounded Knee • U.S. Conference • United Methodist Church • U.S. Conference

ASSOCIATE MEMBERS - American Family Service of North Dakota • Christian Community • Christian Community of Bismarck • Christian Community of Fargo • Christian Community of Grand Forks • Christian Community of Minot • Christian Community of Williston • Christian Community of Wounded Knee • Christian Community of Bismarck • Christian Community of Fargo • Christian Community of Grand Forks • Christian Community of Minot • Christian Community of Williston • Christian Community of Wounded Knee • Christian Community of Bismarck • Christian Community of Fargo • Christian Community of Grand Forks • Christian Community of Minot • Christian Community of Williston • Christian Community of Wounded Knee

**National  
Coalition  
AGAINST  
Legalized  
Gambling**

**Internet Resource Center**



**THE CASE AGAINST LEGALIZED GAMBLING**

Gambling costs far more than it benefits. Studies show that for every dollar gambling produces for a regional economy, three dollars are lost because of the economic and social costs of gambling. When government legalizes more gambling, taxpayers lose -- whether they gamble or not.

Gambling cannibalizes local businesses. A hundred dollars spent in a slot machine is a hundred dollars that is not spent in a local restaurant, theater or retail store. As Donald Trump told the Miami Herald, "People will spend a tremendous amount of money in casinos, money that they would normally spend on buying a refrigerator or a new car. Local businesses will suffer because they'll lose customer dollars to the casinos."

Gambling triggers addiction. The more legalized gambling available, the more addictive behavior is triggered. In 1989, only 1.7% of Iowa's adults were gambling addicts, but after riverboat casinos were legalized, the rate of addiction more than tripled to 5.4%. The Florida Office of Planning and Budgeting conducted a study which concluded that the costs to government of gambling addiction far outweighed all revenues that might be generated by casino gambling.

Gambling addiction has become an epidemic among youth. Researchers now call gambling the fastest-growing teenage addiction, with the rate of pathological gambling among high school and college-age youth about twice that of adults. According to Dr. Howard Shaffer, Director of the Harvard Medical School Center for Addiction Studies, "Today, there are more children experiencing adverse symptoms from gambling than from drugs...and the problem is growing."

Gambling attracts crime. A comprehensive report by the

Attorney General of Maryland concludes, "Casinos would bring a substantial increase in crime to our State. There would be more violent crime, more crimes against property, more insurance fraud, more white collar crime, more juvenile crime, more drug and alcohol-related crime, more domestic violence and child abuse, and more organized crime."

Gambling victimizes the poor. The poorest citizens spend the largest percentage of their incomes on gambling. Those who can afford it the least gamble the most. Both public and private gambling businesses target advertising directly at the weakest individuals in society because they are gambling's best customers.

Gambling presents a bad example to our children. Gambling promotes the idea that luck, not education and hard work, is the key to success. Gambling produces no wealth for society, and suggests that productivity is not important. Gambling sets up artificial risks and glorifies individuals who take the biggest, most foolish risks.

Gambling corrupts government. So much money is at stake, and gambling companies are so dependent on governmental decisions for a piece of those profits, that corruption is inevitable. Wherever gambling has gone, bribery, extortion and payoffs have followed.

National Coalition Against Legalized Gambling  
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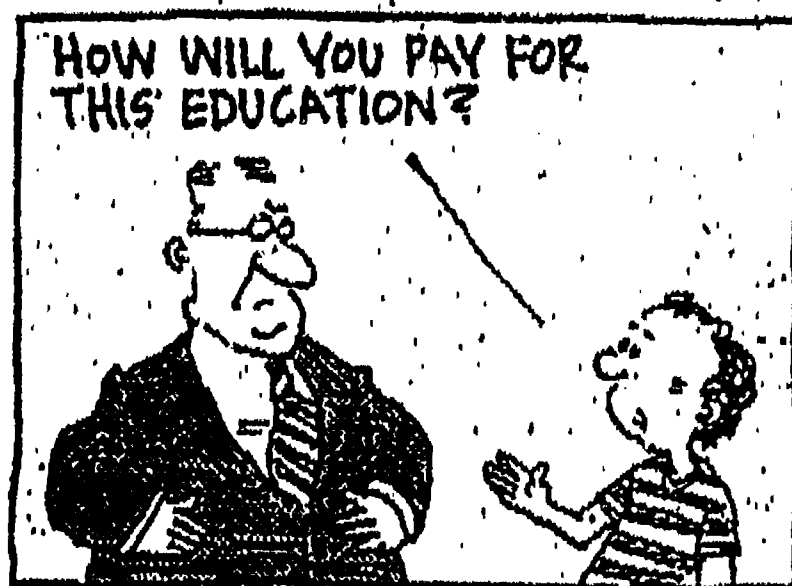
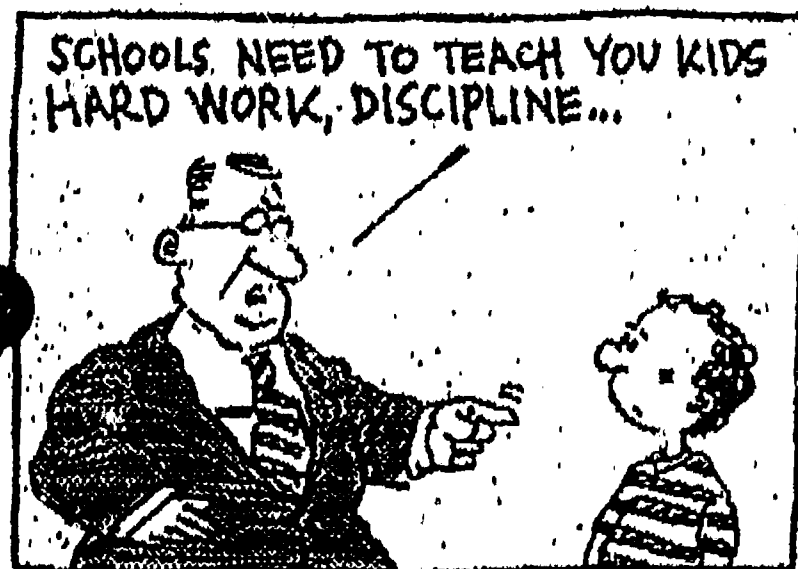
For information on NCALG, please send e-mail to [ncalg@ncalg.org](mailto:ncalg@ncalg.org), or phone our National Information Center at , 800-664-2680. Our address is 831 South King St., Suite E, Leesburg, VA 20175. Our FAX number is (703) 443-2315.

"...resist the temptation of so-called "easy money" dangled by the gambling industry."

Governor Parris N. Glendening, Maryland

"...My father taught me that hard work and a good education are the keys to success in life. In Maryland, we are doing everything in our power to instill that same philosophy in our children and give them the right start. But what example do we set for children if as policy makers we were to turn to the "easy money" that gambling lobbyists promise? What values would we teach if, despite knowing that expanded gambling brings increased crime and other social problems, we willingly chase the "easy money."

August 1997 National Gambling Impact Study Commission public hearing.



March 19, 2001

House Bills 1305 & 1306

Chairman Traynor and members of the Senate Judiciary Committee:

Gambling is a camel that got its nose under the tent over 25 years ago in North Dakota. And ever since has worked its way in more and more. More than help for charities it is driven by gambling for gambling sake. We as a state have become addicted to gambling. One of the factors of gambling addiction is tolerance or the need to gamble with increasing amounts of money in order to achieve the desired excitement.

House Bill No. 1305 and House Bill No. 1306 are evidence of our addiction. If these betting limits are approved the next step is sure to come to raise them even more. I ask you to say NO to increases in bet limits. I ask you to say NO to the deleting of the two occasions per year limit in House Bill No. 1305. This will allow licensed organizations to become full time casinos.

The recently released study of gambling problems in North Dakota has shown that problem gambling has doubled in the last 8 years. And among the lower income groups in our state it has grown even more than double. It is the nature of gamblers to deny the problems and glamorize the games. What addiction counselors know all too well is that gambling creates a dream world. Your job is to deal with reality. Reality is that the cancer is here and it wants to grow. You can stop some of that growth by rejecting these increases, by saying No to these efforts to expand gambling. These bills do not serve the common good.

Dr. Valerie Lorenz, Executive director of Compulsive Gambling Center, Baltimore, Maryland, one of the leading experts on the effects of gambling said, "If together we can prevent the expansion of gambling, then we will be able to prevent the expansion of gambling addiction, and that benefits all of us." The majority of North Dakota people have consistently said NO at the ballot box. Religious groups in North Dakota are all united in their opposition to any gambling expansion. Gambling cannibalizes local businesses, attracts crime, victimizes the poor, presents a bad example to our children and corrupts government. Gambling advertising dollars also undermines the ability of the media in our communities to tell the truth about gambling.

These bills are bad news for North Dakota. Stop the growth of gambling and gambling addiction by voting NO on both of these bills. Thank You.

Rev. Warren Wenzel  
Fairmount, North Dakota



# North Dakota Council on Gambling Problems

Arthur A. Link  
Chairman

March 19, 2001

RE: HB #1306

Senator Jack Trayner, Chairman  
and Members of the Senate Judiciary Committee,

My name is Arthur Link, Chairman of the North Dakota Council on Gambling Problems, which opposes expansion of Gambling in North Dakota.

House Bill 1306 would raise the wager limit from five dollars to twenty-five dollars on the game of Twenty-one.

This 500 percent increase is designed to entice more participants betting more money in an attempt to achieve greater profits. It would no longer be low stakes recreational gambling.

On January 25, 2001, Governor John Hoevan and Carol K. Olson, Executive Director of the North Dakota Department of Human Services released the report on Gambling and Gambling Problems in North Dakota. I quote from the report: "Pathological gambling--the worst form of problem gambling--doubled from 0.7 percent to 1.4 percent of the population between 1992 and 2000. Pathological gambling is characterized by loss of control over gambling, chasing of losses, lies and deception, family and job disruption, financial bailouts and illegal acts."

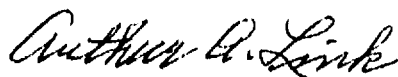
December 6, 2000 Bismarck Tribune prints "United Way survey identifies needs". One paragraph reads: "After transportation, community leaders listed the community's top problems to be needs for affordable child care and gambling intervention."

March 7, 2001, Bismarck Tribune under the headline "Gambling addicts appeal to lawmakers for more funding to pay for treatment."

When are we going to admit to gambling problems? Is our answer going to be: "Give them more gambling?" If you pass H.B.1306 that is exacty what you will be doing.

You have the opportunity to say North Dakota has enough gambling.

We respectfully ask you to vote NO on House Bill 1306.



Arthur A. Link  
Chairman

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**GAMBLING AND PROBLEM GAMBLING IN  
NORTH DAKOTA: A REPLICATION STUDY, 1992 TO 2000**

*Report to the North Dakota Office of the Governor*

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January 15, 2001

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## *Acknowledgements*

We would like to thank all of the residents of North Dakota who were interviewed for this survey. Their contribution has been vital in adding to our knowledge of changes in gambling and gambling-related problems in North Dakota. We would also like to thank the Office of the Governor of North Dakota, the North Dakota Indian Gaming Association and the North Dakota Council on Problem Gambling for funding this study. Finally, we would like to thank Cordell Fontaine and the staff of the Social Science Research Institute at the University of North Dakota, Grand Forks who conducted the interviews and collected the data as well as Robert Johnson of the National Opinion Research Center who assisted in the analysis of the data.

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## **Executive Summary**

This report presents the findings of a state-wide survey of gambling participation and gambling-related problems in North Dakota. This study is a replication of a baseline study that was carried out in North Dakota in 1992. The main purpose of this study was to examine changes in the prevalence of gambling and problem gambling in the adult population in North Dakota between 1992 and 2000. An additional purpose of this study was to identify the types of gambling causing the greatest difficulties for the citizens of North Dakota. The results of this study will be useful in documenting the impacts of legal gambling on the citizens of North Dakota and in refining the services available to individuals in North Dakota with gambling-related difficulties.

Problem gambling is a broad term that refers to all of the patterns of gambling behavior that compromise, disrupt or damage personal, family or vocational pursuits. Pathological gambling lies at one end of a continuum of problematic gambling involvement. Pathological gambling is a treatable disorder characterized by loss of control over gambling, chasing of losses, lies and deception, family and job disruption, financial bailouts and illegal acts.

### **Methods**

The present study is a replication, or repetition, of a survey carried out in North Dakota in 1992. Like the earlier survey, the 2000 survey was completed in three stages. These included developing the questionnaire and sampling frame, collecting the data, and, finally, analyzing the data and interpreting the findings. Gemini Research, Ltd. was responsible for managing the project, drafting the questionnaire and designing the sampling frame, analyzing the data and drafting this report. Data collection was carried out by the Social Science Research Institute at the University of North Dakota, Grand Forks.

The sampling strategy for this study was designed to compensate for the relatively rare occurrence of problem gambling in the general population and is known as a "two-phase probability sample." The first phase involved identifying approximately 5,000 residential households with telephones in North Dakota and selecting one eligible adult in each household to respond to a brief screening interview. The second phase involved selecting a stratified random group of 1,600 respondents from the first phase for a lengthier interview. The completion rate of 71% was excellent and the sample is representative of the adult population of North Dakota.

### **Gambling in North Dakota**

- The types of gambling that North Dakotans are most likely to have ever tried and to have tried in the past year are charitable games, gaming machines, pulltabs, lottery games and live bingo. The types of gambling that North Dakotans are most likely to engage in on a monthly basis are charitable games, pulltabs, live bingo, lottery games and blackjack. Only 4% of the adult North Dakota population gambles once a week or more often.
- Non-gamblers in North Dakota are more likely than gamblers to be over the age of 65, widowed, and retired. Non-gamblers in North Dakota are also more likely to have annual household incomes under \$25,000.
- Weekly gamblers in North Dakota are more likely than non-gamblers and less frequent gamblers to be male, aged 35 to 54, Native American, and to reside in the northwest (NW) region of the State. Weekly gamblers in North Dakota are also more likely to be divorced or separated, to be either working fulltime or to be disabled or unemployed, and to have annual household incomes between \$20,000 and \$25,000.

---

## Problem Gambling in North Dakota

- Two different screens were used to identify problem and pathological gamblers in North Dakota. The South Oaks Gambling Screen (SOGS) is the same screen used in the earlier North Dakota gambling survey in 1992. The NODS is the problem gambling screen developed for use in the recent U.S. national gambling survey and is based on the most recent psychiatric criteria for pathological gambling.
- Based on the SOGS, the combined lifetime prevalence of problem and pathological gambling in North Dakota is 3.8% and the combined past year prevalence is 2.1%.
- Past year problem gambling prevalence rates in North Dakota are highest among adults aged 18 to 24 and among Native Americans.
- Past year problem gambling prevalence rates in North Dakota are highest among individuals who gamble weekly or more often and among past year horse race bettors, among past year players of casino table games such as roulette or keno, and among past year players of blackjack and other card games.

## Comparing Non-Problem and Problem Gamblers in North Dakota

- Comparing problem and non-problem gamblers in North Dakota, we find that problem gamblers are significantly more likely than non-problem gamblers to be male, aged 30 to 34, Native American, widowed, divorced or separated, to have less than a high school education, to be disabled or unemployed, and to have annual household incomes between \$20,000 and \$25,000.
- Problem gamblers in North Dakota are significantly more likely than non-problem gamblers to have gambled on pulltabs, blackjack, non-card casino table games, horse races and poker in the past year. Problem gamblers are significantly more likely than non-problem gamblers to gamble on blackjack, pulltabs and gaming machines on a monthly basis.
- Problem gamblers in North Dakota are significantly more likely than non-problem gamblers to have been troubled in the past year by the gambling of someone they live with, to have engaged in physical arguments about their own or another's gambling, to have filed for bankruptcy in the past year, and to have been arrested.
- Problem gamblers in North Dakota are significantly more likely than non-problem gamblers to smoke daily, to drink alcohol once a week or more often, and to use marijuana or cocaine on a monthly basis. Problem gamblers in North Dakota are significantly more likely than non-problem gamblers to report experiencing problems due to their use of alcohol and drugs and to have sought help for an emotional or substance abuse problem. Finally, problem gamblers in North Dakota are significantly more likely than non-problem gamblers to have experienced episodes of mania or depression in their lifetimes.

## Comparing the Baseline and Replication Surveys in North Dakota

- To compare the results of the present survey with those from 1992, we combined responses to questions in 1992 about gambling on instant lottery games with those involving other lottery games; we combined responses to questions about gambling on video lottery terminals (VLTs) with those involving other slot machines; finally, we combined responses to questions about gambling on sports with friends and family with those relating to gambling on sports with a bookmaker.

- 
- The sample in 1992 (N=1,517) was substantially smaller than the sample in 2000 (N=5,002). Furthermore, the sample in 2000 contains significantly more young males and Native Americans—groups that are often difficult to recruit for surveys of all kinds.
  - In spite of the inclusion of more young males (traditionally the heaviest gamblers in the general population), gambling participation dropped significantly in North Dakota between 1992 and 2000. The proportion of the adult population in North Dakota that gambles once a week or more often declined from 12% to 4%.
  - While gambling participation in general has declined, lifetime participation rates have increased significantly for gaming machines and lottery products. Similarly, past year participation rates have increased significantly for gaming machines, lottery products and casino table games such as roulette and keno.
  - The combined prevalence of problem and pathological gambling did not change significantly in North Dakota between 1992 and 2000. However, the prevalence of both lifetime and past year pathological gambling (the most severe category) has increased significantly. This suggests that problem gamblers in North Dakota are experiencing more severe problems and may be in greater need of services.
  - Problem gamblers in North Dakota in 2000 are significantly more likely than those in 1992 to be male, to be Native American and to be widowed. Problem gamblers in North Dakota in 2000 are significantly less likely than those in 1992 to be married.

#### Directions for the Future

The impacts of problem gambling can be high, families and communities as well as for individuals. Pathological gamblers experience physical and psychological stress and exhibit substantial rates of depression, alcohol and drug dependence and suicidal ideation. The families of pathological gamblers experience physical and psychological abuse as well as harassment and threats from bill collectors and creditors. Other significant impacts include costs to employers, creditors, insurance companies, social service agencies and the civil and criminal justice systems.

Given the significant increase in the prevalence of the most severe category of problem gambling in North Dakota, state legislators and other concerned parties may wish to consider a range of ameliorative measures. These include extending health insurance coverage to cover problem gambling treatment, fostering responsible gambling policies and programs by the gambling industries and developing government-industry initiatives to address this issue, expanding training opportunities for treatment professionals, establishing a gambling counselor certification program, increasing funding to the North Dakota Department of Human Services to support increased public education and prevention services as well as problem gambling treatment, and continued monitoring of gambling and problem gambling prevalence to assess the impacts of legal gambling on the residents of North Dakota.

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## INTRODUCTION

Since the rise of the "third wave" of legal gambling in the United States in the 1960s (Rose, 1986), the availability of gambling has grown tenfold. Today, a person can make a legal wager of some sort in every state except Utah, Tennessee, and Hawaii; 37 states have lotteries, 26 states have casinos and 22 states have off-track betting (National Gambling Impact Study Commission, 1999). Just as telling as the expansion of gambling into new jurisdictions is the growth of the gambling industries. Between 1975 and 1997, revenues from legal wagering in the United States grew by nearly 1,600% from \$3 billion to \$51 billion while gambling expenditures more than doubled as a percentage of personal income, from 0.30 percent in 1974 to 0.74 in 1997 (Christiansen, 1998; Kellick, Suits, Dielman & Hybels, 1976).

In the 1970s and 1980s, gambling legalization proceeded with little consideration of the potentially harmful impacts that gambling can have on individuals, families and communities. In the 1990s, however, prevalence surveys have become an essential component in the establishment and monitoring of legal gambling in the United States and internationally (Abbott & Volberg, 2000; Bondolfi, Oslak & Ferrero, 2000; Gerstein, Volberg, Harwood, Christiansen et al, 1999; Productivity Commission, 1999; Rönnerberg, Volberg, Abbott, Munck et al, 1999; Shaffer, Hall & Vander Bilt, 1999; Sproston, Erens & Orford, 2000; Volberg, 1996).

The main purpose of this study, funded by the North Dakota Office of the Governor, the North Dakota Indian Gaming Association, and the North Dakota Council on Problem Gambling, is to examine changes in gambling participation and the prevalence of gambling-related problems in North Dakota between 1992 and 2000. An additional purpose of this study is to identify the types of gambling causing the greatest difficulties for the citizens of North Dakota. The results of this study will be useful in documenting the impacts of legal gambling on the citizens of North Dakota and in refining the services available to individuals in North Dakota with gambling-related difficulties.

This report is organized into several sections for clarity of presentation. The *Introduction* includes a definition of the terms used in the report while the *Methods* section addresses the details of conducting the survey. The next four sections present findings from the survey in the following areas:

- gambling in North Dakota in 2000;
- prevalence of problem gambling in North Dakota in 2000;
- comparing non-problem and problem gamblers in North Dakota in 2000; and
- comparing the baseline and replication surveys in North Dakota.

### **Background**

In 1992, when the first survey of gambling and problem gambling was carried out in North Dakota (Volberg & Silver, 1993), there were already substantial legal gambling opportunities available to the state's citizens. Although there was no state lottery operating in North Dakota, charitable organizations were permitted to offer live bingo, pulltabs, blackjack and poker games, and off-track wagering on horse races in bars, restaurants, lounges and fraternal organizations throughout the state.

In the wake of the Indian Gaming Regulatory Act of 1988, several Native American tribes in North Dakota established compacts with the state government to operate casinos on their reservations. All of these casinos became operational after the completion of the baseline problem gambling prevalence survey in North Dakota. There are presently five Native American casinos operating in North Dakota. All of these casinos are authorized to run craps and roulette, card games



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including blackjack and poker, and slot machines. Tribal casinos are also permitted to offer pari-mutuel and simulcast wagering on horse races taking place both in and outside of North Dakota.

There have also been substantial increases in legal gambling opportunities throughout the region. To the north, the Canadian provinces of Saskatchewan and Manitoba offer North Dakota residents a range of gambling opportunities, including charitable casinos, large-scale bingo halls, and a complete range of lottery products, including sports, bingo and keno games. To the south, video poker machines owned by the South Dakota Lottery are widely available at bars, taverns and restaurants as well as at Native American tribal casinos operating across the border from North Dakota. To the west, Montana offers video gaming machines similar to those in South Dakota as well as pari-mutuel and charitable wagering. Finally, to the east, Minnesota is home to a mature state lottery as well as numerous Native American casinos.

### Problem Gambling Services in North Dakota

Services for problem gamblers in North Dakota consist, for the most part, of meetings of the self-help fellowship, Gamblers Anonymous, and a few professional treatment providers. Gamblers Anonymous chapters meet regularly in Bismarck, Devil's Lake, Dickinson, Fargo, Grand Forks, Minot and Williston. Gam-Anon chapters (for family members and friends of problem gamblers) meet in Bismarck, Dickinson and Fargo. Outpatient treatment for individuals with gambling problems is available from a small number of treatment professionals in Bismarck, Fargo, Grand Forks and Minot. These programs offer individual and group counseling sessions, some couples and family therapy and aftercare.

Approximately 50 mental health and addictions treatment professionals in North Dakota have received training in the assessment, diagnosis and treatment of problem gambling. However, because insurance reimbursement for problem gambling treatment is rare, few of these individuals offer treatment for problem gambling. The North Dakota Council on Problem Gambling has been active for several years raising public awareness of problem gambling and working to develop services for problem gamblers and their families in the State. Finally, the helpline operated by the North Dakota Mental Health Association receives funding from the North Dakota Council on Problem Gambling and the North Dakota Indian Gaming Association to provide crisis intervention for problem gamblers as well as information and referrals.

### *Defining Our Terms*

Gambling is a broad concept that includes diverse activities, undertaken in a wide variety of settings, appealing to different sorts of people and perceived in various ways by participants and observers. Failure to appreciate this diversity can limit scientific understanding of gambling. Another reason to note the differences between various forms of gambling arises from accumulating evidence that some types of gambling are more strongly associated with gambling-related problems than others (Abbott & Volberg, 1999a).

People take part in gambling activities because they enjoy them and obtain benefits from their participation. For most people, gambling is generally a positive experience; however, for a minority, gambling is associated with difficulties of varying severity and duration. Some regular gamblers develop significant, debilitating problems that also typically result in harm to people close to them and to the wider community (Abbott & Volberg, 1999a).

Pathological gambling was first included in the third edition of the *Diagnostic and Statistical Manual (DSM-III)* of the American Psychiatric Association (1980). Each revision of this manual has seen changes in the diagnostic criteria for pathological gambling. The essential features of pathological gambling are presently defined by the American Psychiatric Association (1994) as:

- a continuous or periodic loss of control over gambling;
- a progression, in gambling frequency and amounts wagered, in the preoccupation with gambling and in obtaining monies with which to gamble; and
- a continuation of gambling involvement despite adverse consequences.

A formal diagnosis of pathological gambling is arrived at by an appropriately qualified and experienced clinician following an extensive clinical interview. To make a diagnosis of pathological gambling, the clinician must determine that a patient has met five or more of the ten diagnostic indicators associated with pathological gambling. Table 1 presents the diagnostic criteria for pathological gambling:

**Table 1: Diagnostic Criteria for Pathological Gambling**

Persistent and recurrent maladaptive gambling behavior as indicated by five (or more) of the following:	
Preoccupation	Preoccupied with gambling (e.g. preoccupied with reliving past gambling experiences, handicapping or planning the next venture, or thinking of ways to get money with which to gamble)
Tolerance	Needs to gamble with increasing amounts of money in order to achieve the desired excitement
Withdrawal	Restlessness or irritability when attempting to cut down or stop gambling
Escape	Gambling as a way of escaping from problems or relieving dysphoric mood (e.g. feelings of helplessness, guilt, anxiety or depression)
Chasing Losses	After losing money gambling, often return another day in order to get even ("chasing one's losses")
Lying	Lies to family members, therapists or others to conceal the extent of involvement with gambling
Loss of Control	Made repeated unsuccessful efforts to control, cut back or stop gambling
Illegal Acts	Committed illegal acts, such as forgery, fraud, theft or embezzlement, in order to finance gambling
Risked Significant Relationship	Jeopardized or lost a significant relationship, job, educational or career opportunity because of gambling
Ballout	Reliance on others to provide money to relieve a desperate financial situation caused by gambling
The gambling behavior is not better accounted for by a Manic Episode.	

The term problem gambling is used in a variety of ways. In some situations, its use is limited to those whose gambling-related difficulties are less serious than those of pathological gamblers. In other situations, it is used to indicate all of the patterns of gambling behavior that compromise, disrupt or damage personal, family or vocational pursuits (Cox, Lesieur, Rosenthal & Volberg, 1997; Lesieur, 1998). From this perspective, pathological gambling can be regarded as a sub-category, or one end of a continuum, of problem gambling. Problem gamblers, as well as individuals who score even lower on problem gambling screeners (at-risk gamblers) are of concern because they represent much larger proportions of the population than pathological gamblers. These groups are also of interest because of the possibility that their gambling-related difficulties may become more severe over time.

In considering the public health risks of problem gambling, it is important to note that not all of the features of problem or pathological gambling need be present at one point in time (Abbott & Volberg, 1999a; Gerstein et al, 1999). Some of the impacts that at-risk, problem and pathological gamblers may experience include psychological difficulties, such as anxiety, depression, guilt, exacerbation of alcohol and drug problems and attempts at suicide as well as stress-related physical illnesses such as hypertension and heart disease. Interpersonal problems include arguments with family, friends and co-workers and breakdown of relationships, often culminating in separation or divorce. Job and school problems include poor work performance, abuse of leave time and loss of job. Financial effects loom large and include reliance on family and friends, substantial credit card debt, unpaid creditors and bankruptcy. Finally, there may be legal problems as a result of criminal behavior undertaken to obtain money to gamble or pay gambling debts (Lesieur, 1998).

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## Measuring Gambling Problems

State governments began funding services for individuals with gambling problems in the 1980s. In establishing these services, policy makers sought answers to questions about the number of people who might seek help for their gambling problems and what they looked like. In responding to these questions, researchers adopted methods from the field of psychiatric epidemiology to investigate the prevalence of gambling problems in the general population.

In the 1980s, few tools existed to measure gambling problems and only one, the South Oaks Gambling Screen, (SOGS) had been rigorously developed and tested for performance (Lesieur & Blume, 1987). The SOGS was first used in a prevalence survey in New York State in 1986 (Volberg & Steadman, 1988). Since then, the SOGS and subsequent modifications<sup>1</sup> have been used in problem gambling prevalence surveys in more than 45 jurisdictions in the United States, Europe, Canada and Asia (Productivity Commission, 1990; Rönnerberg et al, 1999; Shaffer, Hall & Vander Bilt, 1999; Spirston, Erens & Orford, 2000).

With the publication of revised psychiatric criteria for pathological gambling in 1994, a number of new screens for problem gambling began development (Cunningham-Williams, Cottler, Compton & Spitznagel, 1998; Fisher, 2000; Gerstein et al, 1999; Shaffer, LaBrie, Scanlan & Cummings, 1994; Winters, Specker & Stinchfield, 1997). In part, these tools emerged in response to perceived shortcomings in the SOGS and SOGS-R. They also reflect a concern to have screening instruments based on the most recent diagnostic criteria. Despite this proliferation, the psychometric properties of most of these tools have yet to be fully examined. For example, only one has been assessed for differential performance in clinical settings and survey research (Gerstein et al, 1999).

In problem gambling prevalence surveys, individuals are generally categorized as problem gamblers or probable pathological gamblers on the basis of their responses to the questions in one of the screens developed to identify individuals with gambling-related difficulties. In this report and elsewhere, use of the term probable distinguishes the results of prevalence surveys, where classification is based on a telephone interview, from a clinical diagnosis.

## Considerations in Designing Prevalence Studies

On the face of it, finding out how many people there are in a community with serious gambling problems is straightforward. You select a random sample of people from the population, assess them using a valid problem gambling measure and carry out some elementary statistical analyses to generate a prevalence estimate. In reality, for a variety of financial and technical reasons, things are not so simple.

One concern is that the sample sizes employed in nearly all gambling surveys to date have been far too small. Large sample sizes are needed to detect differences between sub-groups in the population at greatest risk for gambling problems. With small sample sizes, the confidence intervals associated with prevalence estimates tend to be quite large. In the case of many sub-groups within these studies, these error terms may be so large that little confidence can be placed in the findings. Most gambling researchers now agree that it is essential to interview large samples of respondents to establish reliable prevalence estimates, particularly for sub-groups in the population. Another approach is to over-sample such groups to ensure that there are adequate numbers of respondents with gambling problems for analytic purposes.

Another concern is that, with the exception of the recent national survey in Sweden, *all of the* problem gambling prevalence studies conducted to date have employed complex sample designs (i.e. random selection of single respondents within randomly selected households). While this

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<sup>1</sup> The most widely used modification of the SOGS is the SOGS-R, a revised version of the original screen that assesses both lifetime and current gambling problems (Abbott & Volberg, 1996).

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approach reduces the cost of a study, it also means that the sample varies from what would be attained if truly random sampling of the population had occurred. While complex designs do not present problems for establishing point estimates such as means, medians or percentages, the confidence intervals associated with these measures are typically greatly under-estimated. This concern has led to the growing involvement of statistical experts in problem gambling prevalence surveys. Statisticians provide essential expertise in the appropriate calculation of standard errors and confidence intervals. Statisticians have also provided new tools for identifying risk factors related to gambling problems in the general population.

Finally, given uncertainty about the characteristics of individuals who choose not to participate in surveys, it is highly desirable to attain high response rates in gambling surveys. This means budgeting for and completing substantial callbacks to eligible respondents. This also means employing interviewers with demonstrated success at completing lengthy interviews and experience in converting refusals. All of these measures mean that problem gambling prevalence surveys now cost more to carry out than they have in the past and require careful planning.

## METHODS

The majority of surveys of gambling and problem gambling completed to date have been baseline surveys, assessing these behaviors in the general population for the first time. Replication surveys are used to monitor changes over time by measuring the same behaviors, using the same methods, at subsequent points in time. Replication surveys are useful in examining changes in participation in a mix of gambling activities. Replication surveys also permit more precise assessments of the impact of specific types of gambling on the prevalence of gambling-related difficulties in the general population. Finally, replication surveys provide important information for the refinement of services for individuals with gambling-related problems.

The present survey of gambling and problem gambling in North Dakota is a replication of a survey carried out in 1992 (Volberg & Silver, 1993). The present survey was completed in three stages. In the first stage of the project, Gemini Research consulted with the North Dakota Office of the Governor, the North Dakota Indian Gaming Association, and the North Dakota Council on Problem Gambling as well as the Social Science Research Institute (SSRI) at the University of North Dakota, the organization responsible for data collection, regarding the final design of the questionnaire and the sample design. In the second stage of the project, staff from SSRI completed telephone interviews with a sample of 5,002 residents of North Dakota aged 18 years and older. All interviews were completed between August 17 and October 16, 2000. SSRI then provided Gemini Research with the data for the third stage of the project which included analysis of the data and preparation of this report.

### *Questionnaire*

All respondents were administered a brief screening interview to determine their level of gambling involvement. Respondents who never gambled were asked only a few additional questions before the interview is terminated. Approximately one in four respondents who gambled but not on a regular basis were administered the full interview, as were all respondents who gambled once a week or more often.<sup>2</sup> The average administration time for the screener was 5 minutes and the average administration time for the full interview was 16 minutes. Copies of the questionnaire are available from Gemini Research.

**Screeners:** All respondents were screened to obtain information about their involvement in 14 different gambling activities as well as demographic information. For each gambling activity, respondents were asked whether they had ever participated in this activity and whether they had done so in the past year. For each activity they had done in the past year, respondents were asked whether they participated daily, 1 to 3 times a week, 1 or 2 times a month, a few days all year or only one day in the past year. Respondents who acknowledged no gambling at all were asked several questions about why they did not gamble before the interview was terminated.

**Full Interviews:** The full interview included sections on gambling participation, problem gambling, alcohol and drug use, experience of psychiatric disorders (major depression and manic episodes) and help-seeking. As noted above, the majority of problem gambling prevalence surveys carried out in the United States have used the South Oaks Gambling Screen (SOGS) to assess problem and pathological gambling. This includes the 1992 survey in North Dakota. A revised version of the SOGS (SOGS-R) which uses an expanded format to assess both lifetime and current (past year) prevalence of problem gambling has been used in most of the North American surveys completed since 1991. Like the original screen, the SOGS-R has been tested for its performance in the general population (Abbott & Volberg, 1996; Volberg, 1998).

Several researchers in the field of gambling studies recommend using more than one measure of problem gambling in surveys of the general population (Abbott & Volberg, 1999b; Gambino, 1999;

<sup>2</sup> An exception is Region 1 (NW) where faulty skip rules resulted in full interviews with 90% of the past year gamblers and 66% of the infrequent gamblers.

Shaffer, Hall & Vander Bilt, 1997). Indeed, Shaffer and his colleagues argue that the use of multiple problem gambling screens should be one measure of the quality of problem gambling prevalence studies. We noted above that several problem gambling screens based on the most recent psychiatric criteria for pathological gambling have recently been developed. However, only the NODS—developed for the recent U.S. national survey—has been tested for its performance in both clinical and survey populations (Gerstein et al, 1999).

To provide comparability with the baseline survey in North Dakota in 1992, we included the SOGS-R in the 2000 questionnaire. The NODS was also included to provide a measure of problem gambling based on the most recent psychiatric criteria as well as to provide comparability with the U.S. national survey. In administering the questionnaire, the two problem gambling screens were rotated so as to avoid an ordering effect. This is the approach taken in the recent national survey in Sweden as well as in several recent state-level prevalence surveys where two different problem gambling screens have been used (Abbott & Volberg, 1999; Rönnerberg et al, 1999).

### **Survey Design**

Since problem and pathological gambling is a relatively rare phenomenon, problem gambling surveys have typically yielded too few individuals to examine in detail the relationships between problem gambling and other variables, such as gender, age and ethnicity. There are two approaches to obtaining larger numbers of problem and pathological gamblers in a sample. The first approach is to increase the overall sample size dramatically, as was done in the recent national surveys in New Zealand and Sweden (Abbott & Volberg, 2000; Rönnerberg et al, 1999). The chief drawback to this approach is the equally dramatic increase in the cost of data collection for these studies.

The second approach is to focus on recruiting individuals into the sample who are at higher-than-usual risk for experiencing gambling problems. This can be done by interviewing individuals at gaming venues or by screening potential respondents by telephone to identify regular gamblers. The first strategy of interviewing gaming patrons was used in the recent U.S. national survey (Gerstein et al, 1999). The second strategy of screening for regular gamblers was adopted in the recent national survey in Australia (Productivity Commission, 1999) and was used for the problem gambling survey in North Dakota.

### **Sampling Approach**

Information about survey samples is helpful in assessing the validity and reliability of the results of a survey. While a fully random design is the most desirable approach to obtaining a representative sample of the population, this approach often results in under-sampling demographic groups with low rates of telephone ownership. These groups most often include young adults, minorities and individuals with low education and income. To determine how well the sample represents the total population, it is helpful to calculate the response rate for the survey as well as to examine how closely the sample matches the known demographic characteristics of the population.

The sample used in the North Dakota survey is known as a "two-phase probability sample" (Kish, 1965) or "double sample" (Cochran, 1963). The first phase involved the selection of 5,002 residential households with telephones in North Dakota and the selection of one eligible adult aged 18 or older from each selected household to respond to the screener. The second phase involved a stratified random selection of 1,609 respondents from the first phase for the full-length interview: 202 of the 549 respondents who were classified as lifetime gamblers, 1,194 of the 3,284 respondents who were classified as past year gamblers, and all of the 213 respondents who were classified as weekly gamblers were selected to receive the full-length interview.

All interviews were conducted at SSRI facilities by trained interviewers with supervision and random monitoring for technique and adherence to established procedures. Interviews were conducted afternoons and evenings on weekdays and weekends. Efforts to complete interviews with selected respondents were extensive. The number of callbacks to complete an interview with an eligible respondent ranged from 1 to 12.

### Sample Disposition and Response Rate

To obtain a representative sample for the North Dakota survey, random selection of households and random selection of respondents within households (most recent birthday) were used during the data collection process. Geographically, North Dakota was divided into four quadrants (NW, SW, NE, and SE), each combining two state planning areas (SPAs). A random sample of 10-digit telephone numbers was generated by SSRI for each quadrant utilizing Genesys Sampling Systems Random Digit Dialing software. The list from which the numbers were drawn included only actual North Dakota area codes and telephone banks (that is, blocks of 1,000 consecutive numbers within North Dakota) that had been determined to contain a threshold number of active residential numbers.

Overall, SSRI called 17,570 numbers to determine whether it was a working residential number in contrast to a non-working number, a commercial/business line, a cell phone, data or fax line, or a non-primary household telephone. SSRI classified 7,039 of these numbers as working residential numbers eligible for interview and successfully interviewed 5,002 of these households. Throughout the study, completed interviews were monitored to determine whether the quadrant samples matched population estimates in terms of gender (male/female) and the age distribution of North Dakota respondents' age 18 or older. Table 2 shows the dispositions for all of the numbers by quadrant.

**Table 2: North Dakota Quadrant RDD Sample Dispositions**

ND Region	Completed Interviews	Non-Working Numbers	Non-Primary Household	Language Barrier	Refusals	Household Contacted Not Interviewed
1 North West	904	2,316	217	23	242	147
2 North East	1,057	2,259	274	19	306	244
3 South East	1,746	2,145	301	35	380	341
4 South West	1,295	2,621	294	27	215	162
<b>Totals</b>	<b>5,002</b>	<b>9,341</b>	<b>1,086</b>	<b>104</b>	<b>1,143</b>	<b>894</b>

Response rates for telephone surveys in general have declined in recent years. These declines are related to the proliferation of fax machines, answering machines, blocking devices and other telecommunications technology that make it more difficult to identify and recruit eligible individuals. These declines are also related to the amount of political polling and market research that is now done by telephone and to the higher likelihood that eligible households will refuse to participate in any surveys.

One consequence has been that response rates for telephone surveys are now calculated in several different ways. Although all of these approaches involve dividing the number of respondents by the number of contacts believed to be eligible, there are sometimes substantial differences in response rates that result from different ways of calculating the denominator, i.e. the number of individuals eligible to respond. The most liberal approach is called the Upper Bound method and takes into account only those individuals who refuse to participate or who terminate an interview. This approach is used by the federal government because of controversies about the eligibility of numbers that could not be reached. The Upper Bound method of calculating the response rate for the North Dakota survey yields a response rate of 77%.

A more conservative approach is the method adopted by the Council of American Survey Research Organizations (CASRO). The CASRO method uses the known status of portions of the sample that are contacted to impute characteristics of portions of the sample that were not reached. The CASRO method of calculating the response rate for the North Dakota survey yields a completion rate of 71% if over-quota eligibles are assumed to qualify as "good numbers."

### Characteristics of the Achieved Sample

To determine whether the sample was representative of the population, the demographics of the sample were compared with the most recent information from the United States Bureau of the Census (U.S. Bureau of the Census, 2000). Table 3 shows key demographic characteristics of the achieved sample in North Dakota compared with estimates from the Bureau of the Census.

**Table 3: Comparing the Achieved Sample to the General Population**

	Achieved Sample %	1999 Population %
<b>Gender</b>	(N=5002)	
Male	48.6	49.2
Female	51.4	50.8
<b>Age</b>	(N=4754)	
18 - 24	13.3	14.5
25 - 44	38.3	37.0
45 - 64	29.5	29.0
65 +	18.8	19.5
<b>Ethnicity</b>	(N=4850)	
White	89.8	92.7
Native American	3.9	4.8
Hispanic	2.1	1.5
Other	1.3	1.0

Table 3 demonstrates that the achieved sample was quite representative of the total adult population in North Dakota, as estimated by the Bureau of the Census. The greatest difference between the two samples was in the proportion of Native Americans included in the final sample. Even this difference, however, was less than 1 percent.

### Weighting and Imputation

Once data collection was completed, the data were weighted to ensure that the results of the survey could be generalized to the adult population of North Dakota. Assistance in weighting the North Dakota sample was provided by Robert Johnson, Ph.D., a senior statistician working at the National Opinion Research Center (see Appendix B for a detailed discussion of the weighting and imputation procedures).

The two-phase sample used in the North Dakota survey required the construction of two sets of weights. The first set of weights (WT\_SHORT) treated the selection process for Phase One as an equal-probability selection of eligible adults in North Dakota, except that male and female adults of different ages in each of the four regions of North Dakota had different probabilities of completing the screener. The second set of weights (WT\_LONG) adjusted for both the differential probabilities of selection for the full interview based on gambling frequency, for differential non-response by region, age, and gender at Phases One and Two, and for differential non-response by gambling frequency at Phase Two.



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WT\_SHORT was used in all analyses of data from the screener. WT\_LONG was used in all analyses of data from the full interview. Since each weight was scaled to sum to the total number of respondents, the weights yield fairly accurate standard errors for analytical statistics and confidence intervals for estimated parameters.

Exceptions were the calculation of point estimates for problem gambling prevalence for the North Dakota population as a whole and the calculation of standard errors for problem gambling prevalence in specific sub-groups in the population. In determining point estimates of problem gambling prevalence for the entire sample, prevalence rates were first calculated for respondents who completed the full interview using WT\_LONG. These estimates were then multiplied by an adjustment factor that was obtained by dividing the number of respondents who ever gambled by the total number of respondents in the sample. Additionally, standard errors for problem gambling prevalence among sub-groups in the population were adjusted by a factor of 1.17 (the square root of the coefficient of variation in WT\_LONG) to account for unequal weights due to unequal probabilities of sample selection and differential non-response.

### ***Statistical Analysis***

The data were analyzed using Statistical Package for the Social Sciences, Version 10.0 (SPSS). Numerous analytical variables were constructed from the raw data, including generalized gambling participation levels, scores on the two problem gambling screens, levels of alcohol and drug use, experience of manic episodes and major depression, and help-seeking for mental health problems, alcohol or drug abuse and gambling problems. In analyzing the results of the survey and in comparing the present survey with the 1992 survey, chi-square analysis and analyses of variance were used to test for statistical significance.

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## GAMBLING IN NORTH DAKOTA

This chapter examines gambling participation in the general population in North Dakota. To assess the full range of gambling activities available to North Dakota residents, the questionnaire for the survey collected information about 14 different wagering activities. All respondents were asked if they had ever played or bet money on the following activities:

- charitable (inc. raffles, casino nights, small stakes games)
- live bingo
- pulltabs
- lottery games
- gaming machines (inc. slot machines, video poker, VLTs)
- blackjack
- poker
- casino table games (inc. roulette, keno)
- card games other than blackjack or poker
- sports betting
- betting on games of skill (inc. own performance in games of darts, pool, bowling, or golf)
- betting on horse, dog or mule races
- telephone or computer wagering
- any other type of gambling

### *Gambling in the General Population*

In every recent survey of gambling and problem gambling, the majority of respondents acknowledge participating in one or more gambling activities. Nationally, the proportion of the population that has ever gambled ranges from 81% in the Southern states to 89% in the Northeast (Gerstein et al, 1999). In 2000, 81% of the North Dakota respondents acknowledged participating in one or more of the 14 activities included in the questionnaire (see *Comparing the 1992 and 2000 Surveys* on Page 28 for further discussion).

Table 4 shows lifetime, past year, monthly and weekly participation for all of the types of gambling included in the 2000 survey. Lifetime participation among North Dakota respondents is highest for small-stakes charitable gambling, such as raffles and sweepstakes, gaming machines, and pulltabs. Between one-half and two-thirds of the respondents acknowledge having participated in these activities. Between one-quarter and two-fifths of the respondents have ever wagered on lottery games, live bingo, blackjack and sports events. Between one-tenth and one-quarter of the respondents have ever wagered on card games other than blackjack or poker, horse or dog races, games of skill, and poker. Lifetime participation rates are below 10% for all of the other types of gambling included in the survey.

The rank order of gambling activities by past year participation is similar to the rank order for lifetime participation with one exception. While lifetime participation in games of skill is ranked tenth, past year participation in these activities is ranked ninth. However, the top eight activities remain the same for both lifetime and past year participation. There are greater differences in rank order when we consider monthly gambling participation. Several activities move up in rank when we consider monthly participation, including pulltabs, lottery games, live bingo, and games of skill. Several other activities move down in rank when we consider monthly participation. These include charitable gambling and gaming machines.

**Table 4: Gambling Participation in North Dakota**

	Lifetime Participation (5002) %	Past Year Participation (5002) %	Monthly Participation (5002) %	Weekly Participation (5002) %
Chartable	66.8	47.5	3.1	0.8
Gaming machines	55.6	36.4	2.3	0.4
Pulltabs	46.0	30.5	3.2	0.8
Lottery games	39.9	28.5	2.9	1.0
Live bingo	39.4	21.6	2.9	1.2
Blackjack	30.2	17.8	2.2	0.6
Sports	26.0	17.3	1.6	0.8
Card games other than blackjack or poker	20.1	11.8	0.8	0.3
Pari-mutuel (inc. horse, dog, mule)	16.9	3.9	0.2	0.1
Games of skill	14.8	10.3	1.4	0.8
Poker	11.6	5.8	0.3	0.2
Casino table games (inc. roulette, keno)	9.7	5.5	0.3	0.1
Internet	1.9	1.6	0.2	0.1
Other gaming activities	1.8	1.4	0.1	0.0
Total	80.8	69.8	11.0	4.3

### **Patterns of Gambling Participation**

To understand patterns of gambling participation, it is helpful to examine the demographics of respondents who wager at increasing levels of frequency. To analyze levels of gambling participation, we divided respondents into four groups:

- *non-gamblers* who have never participated in any type of gambling (19% of the total sample);
- *infrequent gamblers* who have participated in one or more types of gambling but not in the past year (11% of the total sample);
- *past year gamblers* who have participated in one or more types of gambling in the past year but not on a weekly basis (65% of the total sample); and
- *weekly gamblers* who participate in one or more types of gambling on a weekly basis (4% of the total sample).

Table 5 on the following page shows that there are numerous significant differences in the demographic characteristics of non-gamblers, infrequent gamblers, past-year gamblers and weekly gamblers in North Dakota as well as differences in the mean number of gambling activities these groups have ever tried.

**Table 5: Demographics of Gamblers in North Dakota**

		Non-Gamblers (962) %	Infrequent Gamblers (551) %	Past Year Gamblers (3275) %	Weekly Gamblers (214) %	Total (5002) %
Gender***	Male	47.5	51.4	50.7	65.4	50.8
	Female	52.5	48.6	49.3	34.6	49.2
Age***	18 - 24	11.2	12.4	15.6	13.5	14.3
	25 - 29	5.4	6.7	10.0	8.3	8.7
	30 - 34	5.4	5.5	9.5	12.2	8.4
	35 - 54	30.2	35.4	40.1	42.3	37.8
	55 - 64	10.1	11.5	12.0	11.3	11.5
	65 +	37.6	28.6	12.9	12.3	19.3
Ethnicity***	White	88.6	90.2	90.8	85.3	90.1
	Native American	3.4	4.0	4.0	7.4	4.0
	Hispanic	1.9	1.9	2.2	1.0	2.1
	Other †	6.0	3.9	3.0	6.4	3.9
Marital Status***	Married	56.4	59.4	59.3	52.3	58.5
	Widowed	19.5	13.0	6.7	8.2	9.9
	Divorced/Separated	6.9	10.6	11.1	17.1	10.5
	Never Married	17.2	17.0	22.9	22.4	21.2
Education***	Elementary / Some HS	16.1	11.0	6.5	12.8	9.0
	HS Grad	30.1	30.3	28.6	24.8	28.9
	Some College	30.4	32.9	37.7	39.5	35.9
	BA Degree	15.1	16.9	20.1	17.6	18.7
	Graduate Study	8.2	8.8	7.2	5.3	7.5
Employment***	Working Full Time	40.8	42.3	63.0	63.0	56.5
	Working Part Time	10.1	12.1	9.9	8.4	10.1
	Keeping House	9.0	11.3	5.0	2.4	6.3
	Going to School	5.4	5.1	7.2	4.6	6.5
	Retired	31.7	25.2	12.7	16.0	17.8
	Disabled / Unemployed	3.0	4.0	2.4	5.6	2.8
Income***		(602)	(407)	(2633)	(169)	(3812)
	Up to \$10,000	9.9	8.2	5.7	3.5	6.5
	\$10,000 - \$19,999	14.4	16.9	10.8	10.5	12.0
	\$20,000 - \$24,999	15.5	14.8	11.2	16.0	12.5
	\$25,000 - \$34,999	16.2	17.3	17.2	17.1	17.1
	\$35,000 - \$49,999	20.8	19.6	22.6	20.4	21.9
	\$50,000 - \$99,999	16.9	18.4	26.3	23.9	23.9
	\$100,000 and higher	6.2	4.9	6.2	8.7	6.1
Region***	North West	23.9	18.3	15.0	39.3	18.1
	North East	17.8	22.7	21.9	19.6	21.1
	South East	29.9	33.4	37.0	29.0	34.9
	South West	28.4	25.6	26.1	12.1	25.9
Mean # Lifetime Gambling Activities***		0.0	2.6	5.0	6.2	3.8

Pearson Chi-Square \* p<.05 \*\* p<.01 \*\*\* p<.001

† includes Black, Asian, and Other as well as Don't Know and Refused.

‡ includes Christian Fundamentalists and Mormons/Latter Day Saints.

Table 5 shows that, as in other jurisdictions, infrequent gamblers and non-gamblers in North Dakota are significantly older, more likely to be widowed, and more likely to be retired or keeping house than more frequent gamblers. While infrequent and non-gamblers are more likely than past year or weekly gamblers to have attended college, these respondents are less likely to have household incomes over \$25,000. Weekly gamblers in North Dakota are significantly more likely than less frequent gamblers to be male, between the ages of 30 and 54, Native American, divorced or separated and working full time. Weekly gamblers are less likely than other respondents to have attended college. Finally, the table shows that the average number of gambling activities ever tried increases significantly with the frequency of a respondent's current gambling.

There is one interesting difference in gambling involvement in North Dakota by region. While respondents from the northwest (NW) region of the State are most likely to gamble weekly, this region of the state also has the highest rate of non-gamblers in the state. In discussions with several North Dakota residents, it was suggested that the high rate of weekly gambling in the northwest of the State may be due to the large number of oil workers and military personnel residing in this region. Given the distribution of gambling outlets in this region of the State, it is possible that some of the gambling reported by these respondents is taking place in Montana or Canada where they may also be doing much of their shopping. Evidence from other jurisdictions suggests that the bi-modal distribution of gambling involvement in the northwest region of North Dakota may also be related to the sparse population and severe economic conditions in that part of the state.

### **Gambling Preferences**

For several types of gambling, respondents who acknowledged participation in the past year and who completed the full interview were asked about their preferences for particular games.<sup>1</sup> These types of gambling included live bingo, pulltabs, lottery, gaming machines, blackjack, poker and other card games, and games of skill.

**Gaming Machines:** Respondents who acknowledged playing gaming machines once a month or more in the past year (N=89) were asked where they usually went to play these machines. Three-fifths of these respondents (61%) indicated that they usually played gaming machines in North Dakota while 30% indicated that they usually played gaming machines in Minnesota or South Dakota. The few remaining respondents indicated that they usually played gaming machines somewhere else outside North Dakota, including Mississippi and Nevada.

Respondents who played gaming machines once a month or more often were also asked about the type of establishment where they usually played gaming machines. Three-quarters (72%) of these respondents indicated that they usually played gaming machines at a tribal casino either in North Dakota or out-of-state. The remaining respondents were equally likely to indicate that they usually played gaming machines at bars or taverns, at mini-casinos like those in Montana or at a commercial casino.

**Pulltabs:** Respondents who acknowledged playing pulltabs bingo once a month or more in the past year (N=125) were asked where they usually played pulltabs. The majority of these respondents (86%) indicated that they usually played pulltabs at a bar or tavern. The remaining respondents were equally likely to indicate that they usually played pulltabs at a bingo parlor, a hotel lounge or some other location, including fraternal organizations and social clubs.

**Lottery Games:** Respondents who acknowledged purchasing lottery tickets once a month or more in the past year (N=118) were asked where they usually made such purchases and what kinds of tickets they usually bought. The majority of these respondents (89%) indicated that they

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<sup>1</sup> WT\_LONG was used for analyses of gambling preferences because questions about the specifics of gambling participation were only asked of respondents who completed the full interview.

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usually purchased lottery tickets in South Dakota or Minnesota and the remaining respondents indicated that they usually purchased lottery tickets in other U.S. states.

Three-quarters of these respondents (76%) purchased tickets for multi-state or out-of-state large jackpot, or Lotto-style, games while 16% of these respondents preferred instant or scratch-off tickets and 8% preferred daily lottery games.

**Live Bingo:** Respondents who acknowledged playing live bingo once a month or more in the past year (N=93) were asked where they usually played live bingo. Just over half of these respondents (55%) indicated that they usually played live bingo in a bar or tavern while 31% indicated that they usually played in a bingo parlor or commercial bingo establishment. The remaining respondents (14%) indicated that they usually played live bingo in other establishments, including schools and social clubs.

**Blackjack:** Respondents who acknowledged playing blackjack once a month or more in the past year (N=97) were asked where they usually played blackjack. The majority of these respondents (79%) indicated that they usually played blackjack in a bar or tavern while 12% indicated that they usually played blackjack at a tribal casino. The remaining respondents were most likely to indicate that they usually played blackjack in a hotel lounge.

**Poker:** Respondents who acknowledged playing poker once a month or more in the past year (N=15) were asked where they usually played poker. Just over half of this small group of regular poker players (56%) indicated that they usually played poker in private games at someone's home. Other places where respondents played poker included at bars or taverns, at fraternal organizations or at tribal casinos.

**Other Card Games:** The majority of respondents who acknowledged playing cards games other than blackjack or poker once a month or more in the past year (N=30) indicated that they usually played such games in a private home. Small numbers of respondents indicated that they usually played card games other than blackjack or poker at a bar or tavern or at social clubs and community centers.

**Games of Skill:** Respondents who acknowledged playing games of skill once a month or more in the past year (N=45) were asked where they usually played such games. Just over half of these respondents (55%) indicated that they usually wagered on games of skill at a bar or tavern and 39% of these respondents usually wagered on games of skill somewhere else, including the golf course, pool halls and bowling alleys. Only three of these respondents usually wagered on games of skill at a tribal casino.

## PROBLEM GAMBLING IN NORTH DAKOTA

As noted in the section *Defining Our Terms* on Page 2, individuals are classified as problem gamblers or probable pathological gamblers in prevalence surveys on the basis of their responses to items included in one or more problem gambling screens. Research on the performance of the most widely-used problem gambling screen—the South Oaks Gambling Screen (SOGS)—has shown that the lifetime screen is very good at detecting pathological gambling among those who currently experience the disorder (see Appendix A for a discussion of the performance of the SOGS). However, as expected, the screen identifies at-risk individuals at the expense of generating a substantial number of false positives. The current SOGS produces fewer false positives than the lifetime measure but more false negatives and thus provides a weaker screen for identifying pathological gamblers in the clinical sense. However, the greater efficiency of the current SOGS makes it a more useful tool for detecting rates of change in the prevalence of problem and pathological gambling over time.

### *Prevalence Rates*

Prevalence rates are based on the proportion of respondents who score on increasing numbers of items that make up the lifetime and current (or past year) scale of the South Oaks Gambling Screen. Table 6 presents information about the proportion of the total sample (N=5002) who score on an increasing number of items on the lifetime and current SOGS.<sup>2</sup> For both the lifetime and current (past year) SOGS, individuals scoring 10 points or higher have been grouped together because of the small proportion of respondents in each of these groups. Table 6 also summarizes the prevalence of lifetime and current problem and probable pathological gambling based on established criteria for discriminating between respondents without gambling-related difficulties and those with moderate to severe problems (Abbott & Volberg, 1996; Lesieur & Blume, 1987).

**Table 6: Scores on Lifetime and Past Year SOGS Items**

Number of Items	Lifetime	Past Year
Non-Gamblers (lifetime)	19.2	19.2
0	54.4	67.1
1	16.2	9.2
2	6.4	2.4
Non Problem Gamblers	77.0	78.7
3	1.7	0.5
4	0.3	0.2
Problem	2.0	0.7
5	0.3	0.2
6	0.3	0.3
7	0.2	0.1
8	0.2	0.1
9	0.2	0.1
10+	0.7	0.6
Probable Pathological	1.8	1.4
Combined Problem/ProbPath	3.8	2.1

<sup>2</sup> As noted above in the section on *Weighting and Imputation*, prevalence estimates were first calculated for respondents who completed the full interview (N=1609) and then adjusted to the total sample (N=5002) in order to provide prevalence rates for the adult population of North Dakota.

According to the most recent population estimates available from the U.S. Bureau of the Census (2000), the population of North Dakota aged 18 and over in 1999 was 475,633.<sup>3</sup> Based on these figures, we estimate that between 6,700 (1.4%) and 12,400 (2.6%) North Dakota residents aged 18 and over can be classified as lifetime problem gamblers. In addition, we estimate that between 5,700 (1.2%) and 11,400 (2.4%) North Dakota residents aged 18 and over can be classified as lifetime probable pathological gamblers.

Based on current prevalence rates and confidence intervals as well as census information, we estimate that between 1,400 (0.3%) and 5,200 (1.1%) North Dakota residents aged 18 and over can be classified as current problem gamblers. In addition, we estimate that between 4,300 (0.9%) and 9,000 (1.9%) North Dakota residents aged 18 and over can be classified as current probable pathological gamblers.

### Prevalence Among Demographic Groups

As in other jurisdictions, lifetime and current prevalence rates are significantly different among sub-groups in the population in North Dakota. Because the confidence intervals around prevalence estimates for many of these sub-groups are large, most of the comparisons between groups must be considered with extreme caution. In presenting these data, we have suppressed all estimates where the confidence interval for any cell exceeds the prevalence estimate.

Table 7 presents information about the size of each group in the screened sample as well as the confidence interval for both lifetime and current prevalence rates. As in Table 6, the prevalence estimates in Table 7 were first calculated for the sample of respondents who completed the full interview and then adjusted to the total sample. A similar procedure was used to adjust the confidence intervals for these prevalence estimates. Analyses of prevalence rates among several demographic groups have been suppressed because confidence intervals exceed prevalence estimates among these small groups of respondents. All results where the confidence interval exceeds 50% of the prevalence estimate have been flagged with an asterisk.

**Table 7: Differences in Prevalence by Demographic Group**

		Group Size (Full Sample)	Lifetime Prevalence (3+)	Conf. Interval	Past Year Prevalence (3+)	Conf. Interval
Gender	Male	2540	5.2	±1.6	2.9	±1.2
	Female	2463	2.3	±1.1	*1.4	±0.8
Age	18 - 24	716	*4.8	±2.9	*4.4	±2.8
	25 - 34	854	5.5	±2.8	1.8	±1.6
	35 - 54	1889	3.8	±1.6	*2.3	±1.3
	55 +	1544	*2.2	±1.4	*1.0	±0.9
Ethnicity	White	4497	3.3	±1.0	1.6	±0.7
	Native American	200	*17.5	±10.1	*15.1	±9.5
Region	North West	904	*5.1	±2.6	*2.8	±2.0
	North East	1057	*4.1	±2.2	*2.5	±1.7
	South East	1746	3.2	±1.5	*1.9	±1.2
	South West	1295	*3.4	±1.8	*1.5	±1.2

\*Confidence interval equals or exceeds 50% of the prevalence estimate.

<sup>3</sup> Population estimates are updated by the U.S. Bureau of the Census at the end of August. The 1998 population estimates were used to establish the sampling frame for the present survey and to weight the data. The 1999 estimates, which were posted after data collection was underway, were used to estimate the numbers of problem and pathological gamblers in North Dakota. Although Census 2000 information on the total population of North Dakota has been posted, these data are not broken down by age group.



Table 7 shows that there are substantial differences in the prevalence of lifetime and current problem gambling by gender, age and ethnicity. For example, both lifetime and current prevalence rates are about two times higher among men in North Dakota than among women. While the lifetime prevalence of problem gambling is highest among respondents aged 25 to 34, current problem gambling rates are highest among respondents aged 18 to 24. Although the confidence intervals around the lifetime and current prevalence rates for Native Americans in North Dakota are relatively large, these rates are nevertheless significantly higher than the problem gambling prevalence rates among whites in North Dakota.

### Prevalence by Type of Gambling

Another approach to understanding the relationship between gambling involvement and gambling-related problems is to examine the prevalence of gambling problems among individuals who participate in specific types of gambling. Table 8 shows the current prevalence of problem and probable pathological gambling for the total sample of respondents who have gambled, for respondents who have gambled in the past year and for respondents who have participated in different types of gambling in the past year. Telephone or computer wagering and other gambling activities were not included in this table because the number of past year players was too small to yield meaningful results. Analyses of prevalence rates among past year players of games of skill and poker have been suppressed because the confidence interval exceeds the prevalence estimate among these small groups of respondents. All results where the confidence interval exceeds 50% of the prevalence estimate have been flagged with an asterisk.

**Table 8: Prevalence by Type of Gambling**

Past Year Activities	Group Size	Past Year Prevalence (3+) %	Conf. Interval
Total Gamblers	1609	2.6	±0.9
Past Year Gamblers	1387	2.6	±1.0
Weekly Gamblers	85	*12.9	±8.4
Charitable	977	2.4	±1.1
Gaming machines	729	3.0	±1.5
Pulltabs	571	*3.6	±1.8
Lottery games	551	*3.2	±1.7
Live bingo	378	*3.6	±2.2
Blackjack	332	5.1	±2.8
Sports	300	*3.8	±2.6
Card games other than blackjack or poker	181	*6.2	±4.1
Casino table games (inc. roulette, keno)	79	*11.7	±8.4
Pari-mutuel (inc. horse, dog, mule)	59	*19.9	±12.1

\*Confidence interval equals or exceeds 50% of the prevalence estimate.

Table 8 shows that the current prevalence of problem gambling among past year participants in charitable games is nearly identical to the prevalence of problem gambling among the entire group of gamblers. The prevalence of problem gambling is nearly five times higher among weekly gamblers than among less frequent gamblers. The current prevalence of problem gambling among past year players of blackjack is two times higher than among the total sample of gamblers. Current prevalence rates among past year players of card games other than blackjack or poker are more than two times higher than among the total sample of gamblers. The current prevalence rate among past year players of non-card casino table games is four times higher than among all gamblers and the current prevalence rate among past year horse race bettors is seven times higher than among other gamblers. While the small size of some groups of past year players suggests caution in interpreting these numbers, this analysis points to the importance of targeting public

education and prevention efforts in venues where card and casino table games are played and possibly in off-track betting facilities.

### Comparing North Dakota with Other States

The jurisdictions where problem gambling surveys have been done in the United States differ substantially in the types of gambling available, in levels of gambling participation and in the demographic characteristics of the general population. Figure 1 shows prevalence rates of lifetime problem and probable pathological gambling in all of the United States jurisdictions where surveys based on the South Oaks Gambling Screen have been completed since 1992 and where prevalence rates have been calculated in a comparable manner. In states where replication surveys have been completed, the most recent prevalence rates are shown.

Figure 1: Lifetime Prevalence Rates In the United States (SOGS)

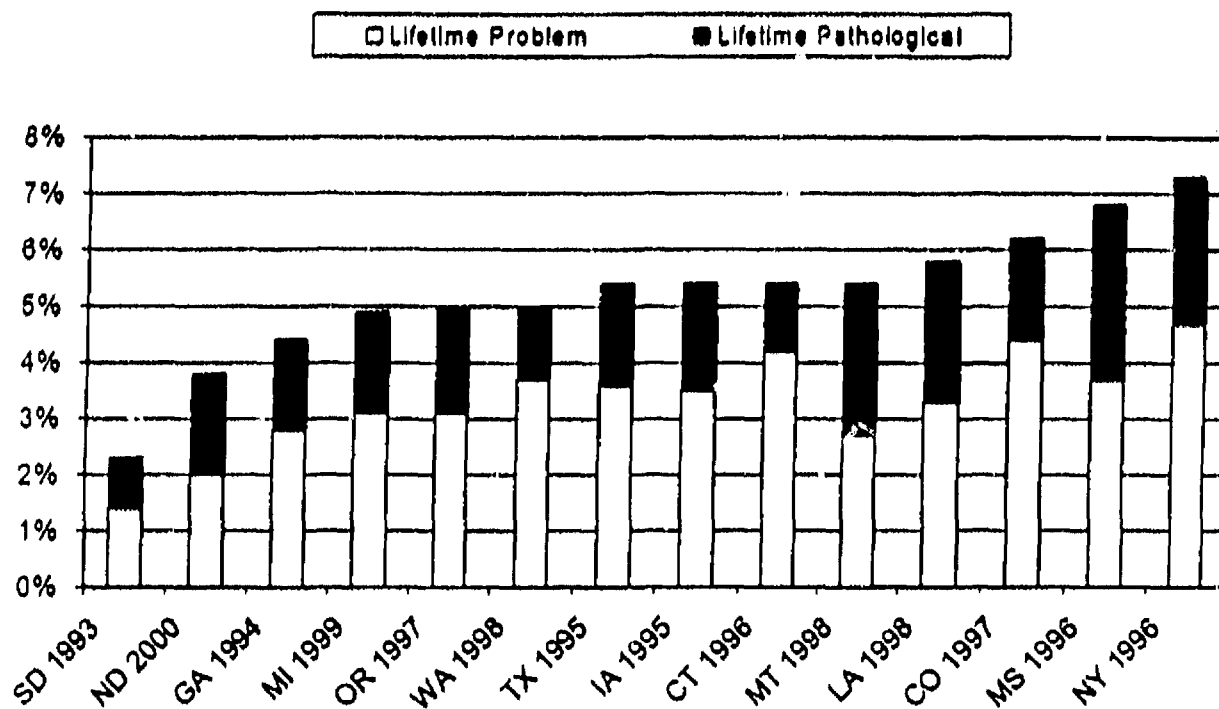
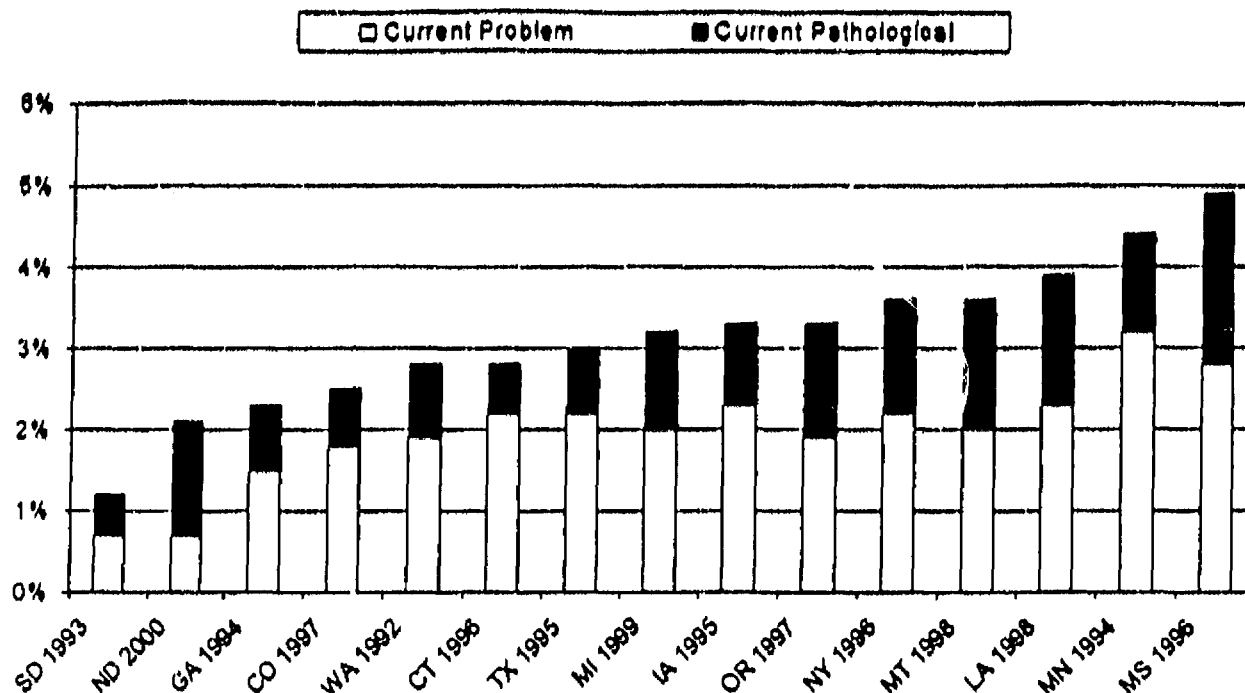


Figure 1 shows that the combined lifetime prevalence rate of problem and probable pathological gambling in North Dakota is lower than lifetime rates in most other states. The two states whose lifetime prevalence rates bracket that of North Dakota, including South Dakota and Georgia, were both surveyed before 1995. It is worth noting that although the combined lifetime prevalence rate in North Dakota is lower than the combined rates in most other states, the lifetime prevalence of probable pathological gambling in North Dakota (the black part of the bar) is equivalent to several other states with higher overall prevalence rates, including Colorado, Michigan and Oregon as well as Iowa and Texas.

Figure 2 on the following page shows prevalence rates of current problem and probable pathological gambling in all of the United States jurisdictions where surveys based on the South Oaks Gambling Screen have been completed since 1992 and where prevalence rates have been calculated in a comparable manner. Again, in states where replication surveys have been completed, the most recent prevalence rates are shown. Figure 2 shows that the combined current prevalence rate of problem and probable pathological gambling in North Dakota is lower than current prevalence rates in most other states with the exception of South Dakota. Even more striking is the clearly much higher current prevalence rate of probable pathological gambling in North Dakota (the black part of the bar) than in many other states with higher prevalence rates.

**Figure 2: Current Prevalence Rates in the United States (SOGS)**



A recent meta-analysis of problem gambling prevalence surveys in North America presented prevalence rates for several different population groups based on the South Oaks Gambling Screen (Shaffer, Hall & Vander Bilt 1997, 1999). Table 9 compares prevalence rates from the North Dakota survey with the North American prevalence rates in the meta-analysis.

**Table 9: Comparing North Dakota Nationally**

	Washington State 1998	North America†
Lifetime Problem	2.0	3.4
Lifetime Probable Pathological	1.8	1.7
Current Problem	0.7	2.2
Current Probable Pathological	1.4	1.1

† From Shaffer, Hall & Vander Bilt (1997: 38). Includes North Dakota 1992.

Table 9 shows that the lifetime and current prevalence rates of problem gambling in North Dakota in 2000 are lower than problem gambling rates averaged over approximately 30 studies in North America between 1986 and 1996. The lifetime and current prevalence rates of probable pathological gambling in North Dakota in 2000 are equal to or higher than the lifetime and current prevalence rates averaged over North America.

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## COMPARING NON-PROBLEM AND PROBLEM GAMBLERS

In considering the refinement of policies and programs for problem gamblers, it is important to direct these efforts in an effective and efficient way. The most effective efforts at prevention, outreach and treatment are targeted at individuals who are at greatest risk of experiencing gambling-related difficulties. Since the purpose of this section is to examine individuals at risk, our focus will be on differences between individuals who gamble, with and without problems, rather than on the entire North Dakota sample.

In addition to looking only at respondents who gamble, our analysis in this section is limited to differences between non-problem gamblers and lifetime problem and probable pathological gamblers. Both the lifetime and current South Oaks Gambling Screen measures are important tools but they have rather different uses (see Appendix A for an explanation of some of the methodological issues related to the SOGS). For reasons related to different rates of classification errors by the lifetime and current SOGS, the lifetime measure is better than the current measure at detecting pathological gambling among those who currently experience the disorder.

Since the lifetime South Oaks Gambling Screen is the more accurate method for identifying at-risk individuals in the general population, consideration of respondents who score as lifetime problem and pathological gamblers is most appropriate when evaluating the characteristics of individuals most in need of help with their gambling-related difficulties. Further, respondents who score as lifetime problem gamblers and those who score as lifetime probable pathological gamblers are treated as a single group and are referred to as problem gamblers in this section. This approach is based on discriminant analysis that has established a strong and significant separation between non-problem gamblers and those who score as problem and probable pathological gamblers (Abbott & Volberg, 2000; Volberg & Abbott, 1994).

### *Demographics*

Table 10 on the following page shows that, as in other jurisdictions, problem gamblers in North Dakota are demographically distinct from non-problem gamblers in the sample. Problem gamblers in North Dakota are significantly more likely than non-problem gamblers to be male, to be Native American, to be widowed, separated or divorced, and to be disabled or unemployed. Problem gamblers in North Dakota are significantly less likely than non-problem gamblers to have graduated from high school but are also significantly less likely to have annual household incomes under \$25,000.

**Table 10: Demographics of Non-Problem and Problem Gamblers**

		Non-Problem Gamblers (1534) %	Problem Gamblers (75) %	Sig
Gender	Male	50.6	69.3	.001
	Female	49.5	30.7	
Age	18 - 24	14.6	17.3	.226
	25 - 29	9.1	9.3	
	30 - 34	9.4	16.0	
	35 - 64	39.4	36.7	
	65 - 64	12.6	12.0	
	65 +	14.9	6.7	
Ethnicity	White	90.9	80.0	.000
	Native American	3.1	17.3	
	Hispanic	1.4	0.0	
	Other*	4.6	2.7	
Marital Status	Married	62.3	44.3	.000
	Widowed	6.2	12.9	
	Divorced/Separated	9.8	22.9	
	Never Married	21.7	20.0	
Education	Elementary / Some HS	5.4	14.3	.018
	HS Grad	29.0	22.9	
	Some College	36.6	40.0	
	BA Degree	20.3	12.9	
	Graduate Study	8.7	10.0	
Employment	Working Full Time	60.8	62.2	.002
	Working Part Time	8.9	8.1	
	Keeping House	5.9	4.1	
	Going to School	7.1	8.1	
	Retired	14.6	8.1	
	Disabled / Unemployed	2.7	9.5	
Income	Up to \$10,000	5.7	11.1	.001
	\$10,000 - \$19,999	9.9	11.1	
	\$20,000 - \$24,999	10.1	27.8	
	\$25,000 - \$34,999	18.8	14.8	
	\$35,000 - \$49,999	24.2	16.7	
	\$50,000 - \$99,999	26.6	18.5	
	\$100,000 and higher	6.7	0.0	
Region	North West	16.3	24.0	.291
	North East	22.3	24.0	
	South East	36.1	29.3	
	South West	25.2	22.7	
Religion	Protestant	44.6	39.2	.038
	Catholic	32.5	27.0	
	Fundamentalist**	7.5	6.8	
	Other	10.9	23.0	
	None	4.5	4.1	

\*Includes Black, Asian, and Other as well as Don't Know and Refused.

\*\*Includes Christian Fundamentalists and Mormons/Latter Day Saints.

Pearson Chi-Square \* p<.05 \*\* p<.01 \*\*\* p<.001

While information about the demographic characteristics of problem gamblers is useful in designing prevention and treatment services, it is also helpful to understand differences in the gambling behavior of non-problem and problem gamblers. Information about the behavioral correlates of problem gambling can help treatment professionals effectively identify at-risk individuals, provide

appropriate treatment measures and establish accessible programs. This information is also useful to policymakers and gaming regulators in developing measures to mitigate the negative impacts of gambling legalization.

### **Gambling Participation**

Behavioral correlates of problem gambling include regular gambling and involvement with continuous forms of gambling (Dickerson, 1993a; Ladouceur, Gaboury, Dumont & Rochette, 1988; Walker, 1992). Continuous forms of gambling are characterized by rapid cycles of play as well as the opportunity for players to immediately reinvest their winnings. Most of the legal forms of gambling in North Dakota are continuous, including pulltabs, live bingo, gaming machines, card games including blackjack and poker, other casino table games such as craps and roulette, and pari-mutuel wagering on horse and dog races.

**Lifetime:** Problem gamblers in North Dakota are significantly more likely than non-problem gamblers to have ever tried most of the different types of gambling included in the survey. These include live bingo, pulltabs, blackjack, poker, other casino table games such as craps or roulette, card games other than poker or blackjack, sports betting, pari-mutuel wagering on horse races, and betting on the Internet. Non-problem and problem gamblers are equally likely to have ever participated in small-stakes charitable gambling and lottery games (all of which are out-of-state). Non-problem and problem gamblers are just as likely to have ever wagered on gaming machines and games of skill.

**Past Year:** Table 11 shows differences in past year involvement in different types of wagering by non-problem and problem gamblers in North Dakota. Only those types of gambling for which past year participation among problem gamblers is 10% (N=7) or higher are shown.

**Table 11: Past Year Activities of Non-Problem and Problem Gamblers**

Past Year Activities	Non-Problem Gamblers (1534) %	Problem Gamblers (75) %	Sig.
Charitable	60.5	65.3	NS
Gaming machines	44.7	58.7	.012
Pulltabs	34.6	54.7	.000
Lottery games	33.8	44.0	.046
Blackjack	19.8	39.5	.000
Live bingo	23.0	32.0	.052
Sports	18.4	22.7	NS
Card games other than blackjack or poker	10.8	20.0	.016
Casino table games (inc. roulette, keno)	4.2	20.0	.000
Pari-mutuel (inc. horse, dog, mule)	2.9	17.3	.000
Poker	4.4	16.0	.000
Games of skill	8.0	10.7	NS
Average # of past year activities	2.7	4.1	.000

Chi-square = Fisher's Exact Test

Mean = ANOVA

Table 11 shows that problem gamblers in North Dakota are significantly more likely than non-problem gamblers to have wagered in the past year on gaming machines, pulltabs, blackjack, poker, card games other than blackjack or poker, casino table games such as craps or roulette, and on pari-mutuel events. All of these activities are continuous types of gambling that are legally available in North Dakota.

**Monthly:** Table 12 shows differences in monthly involvement in different types of wagering by non-problem and problem gamblers in North Dakota. As with past year participation, only those types of gambling for which past year participation among problem gamblers is 10% (N=7) or higher are shown.

**Table 12: Monthly Gambling of Non-Problem and Problem Gamblers**

Monthly Activities	Non-Problem Gamblers (1534) %	Problem Gamblers (75) %	Sig.
Blackjack	5.2	21.3	.000
Pulltabs	7.1	20.0	.000
Gaming machines	4.9	17.3	.000
Charitable	7.6	14.7	.031
Live bingo	5.5	12.0	.026
Sports	2.9	12.0	.001
Average # of Monthly Activities	0.4	1.4	.000

Chi-square = Fisher's Exact Test  
Mean = ANOVA

Table 12 shows that problem gamblers in North Dakota are significantly more likely than non-problem gamblers to wager on a monthly or more frequent basis on blackjack, pulltabs, gaming machines and sports. While the differences between non-problem and problem gamblers in monthly participation in small-stakes charitable gambling and live bingo achieve statistical significance, the size of these groups suggests caution in interpreting these results.

**Weekly:** In contrast to many other jurisdictions and to the baseline survey in North Dakota (see *Comparing the 1992 and 2000 Surveys* on Page 28), problem gamblers in North Dakota in 2000 participate in very few types of gambling on a weekly basis. While problem gamblers in North Dakota are significantly more likely than non-problem gamblers to play pulltabs, blackjack, poker and bet on sports on a weekly or more frequent basis, the number of individuals involved is extremely small and the analysis subject to large confidence intervals.

### **Other Significant Differences**

In addition to their demographic characteristics and gambling involvement, there are other significant differences between non-problem and problem gamblers in North Dakota. These include differences in respondents' perceptions of their gambling careers and involvement, differences in their reasons for gambling, and differences in the impacts of their gambling on physical and mental health as well as on family, finances and community.

Table 13 shows that, in contrast to many other jurisdictions, there is no significant difference in the age at which non-problem and problem gamblers started gambling in North Dakota. This table shows that problem gamblers are significantly more likely than non-problem gamblers in North Dakota to have felt nervous about their gambling and to believe that one or both parents has had a gambling problem. Table 13 also shows that there are significant differences between non-problem and problem gamblers in North Dakota in terms of the resources that they devote to gambling. Problem gamblers are significantly more likely than non-problem gamblers to acknowledge having lost substantial amounts of money in a single day and in a single year. It is interesting to note that 15% of the problem gamblers in North Dakota deny having ever lost money over an entire year of gambling.

**Table 13: Differences in Gambling Careers and Participation**

	Non-Problem Gamblers (1534) %	Problem Gamblers (75) %	Sig.
Mean Age Started Gambling	25.0	23.3	NS
Ever Felt Nervous About Your Gambling	9.6	48.6	.000
Parent Ever Have Gambling Problem	4.0	18.7	.000
Usually Gamble With			
Alone	12.2	16.7	.002
Spouse/Partner	30.8	9.7	
Other Family	14.3	18.1	
Friends / Co-workers / Other	42.6	55.6	
Largest Amount Lost in One Day			
Less than \$100	82.3	37.7	.000
\$100 - \$999	16.7	55.1	
\$1,000 or more	0.9	7.2	
Largest Amount Lost in One Year			
Never lost money	7.1	14.9	.000
Less than \$1,000	89.0	82.7	
\$1,000 or more	3.9	22.4	

Chi-square = Pearson.

Table 14 shows differences in the reasons that non-problem and problem gamblers in North Dakota endorse for gambling. Problem gamblers in North Dakota are significantly more likely than non-problem gamblers to say that excitement and challenge, winning money and entertainment are very important reasons for gambling. Problem gamblers are also significantly more likely than non-problem gamblers to say that socializing with friends and family and being around other people are important or very important reasons for gambling. Finally problem gamblers are significantly more likely than non-problem gamblers to say that distraction from everyday problems is an important or very important reason to gamble.

**Table 14: Differences in Reasons for Gambling**

		Non-Problem Gamblers (1534) %	Problem Gamblers (75) %	Sig.
Socializing w/friends or family	*	44.7	59.5	.013
To be around other people	*	30.6	60.8	.000
Excitement or challenge	**	7.4	25.3	.000
To win money	**	19.4	50.0	.000
For entertainment or fun	**	31.5	53.3	.001
Distraction from everyday problems	*	6.4	31.1	.000

\*Proportion endorsing reason as "Important" or "Very Important."

\*\*Proportion endorsing reason as "Very Important."

Chi-square = Pearson.

Table 15 presents differences between non-problem and problem gamblers on several health-related dimensions. Table 15 shows that problem gamblers are significantly more likely than non-problem gamblers in North Dakota to identify their physical health status as poor or fair, rather than as good or excellent. Problem gamblers are also significantly more likely than non-problem gamblers in North Dakota to acknowledge that they are presently very troubled by their



\*emotions, nerves or mental health\* and to acknowledge that they have experienced symptoms of a manic episode or major depression at some time in their lives.

**Table 15: Differences in Physical and Mental Health**

	Non-Problem Gamblers (1534) %	Problem Gamblers (75) %	Sig.
<b>Health Status</b>			
Physical health status fair or poor	14.1	28.4	.001
Very troubled by emotions, nerves, MH	1.1	8.1	.000
Manic episode (ever)	8.1	14.7	.007
Depression (ever)	25.7	45.3	.000
<b>Alcohol / Drug Use</b>			
Daily tobacco use	24.3	45.2	.000
Weekly alcohol use	30.2	50.7	.000
Monthly marijuana use	2.2	13.7	.000
Monthly cocaine use	0.7	6.8	.001
Illicit drug use (ever)	0.7	6.8	.001
Problems due to alcohol in past year	9.6	40.0	.000
Problems due to drugs in past year	0.4	8.0	.000
<b>Help-Seeking</b>			
Help sought for MH problem in past year	9.2	22.7	.001
Help sought for alcohol or drugs (ever)	3.7	17.6	.000
Help sought for gambling (ever)	0.3	18.7	.000

Chi-square = Pearson.

Table 15 also shows that problem gamblers are significantly more likely than non-problem gamblers in North Dakota to use tobacco on a daily basis, to consume alcohol once a week or more often, to use marijuana and cocaine at least once a month, and to have ever used other illicit drugs. Problem gamblers are also significantly more likely than non-problem gamblers in North Dakota to have experienced a variety of problems in the past year related to their consumption of alcohol and drugs. These difficulties include drinking or using drugs more often or in larger amounts than intended, spending increasing amounts of time obtaining alcohol or drugs or getting over their effects, making ineffective efforts to stop drinking or using, missing important personal and social obligations and experiencing emotional and health problems due to alcohol or drug consumption.

Finally, Table 15 shows that problem gamblers are significantly more likely than non-problem gamblers in North Dakota to have ever sought help for an alcohol or drug problem as well as for a gambling problem. Problem gamblers are also significantly more likely than non-problem gamblers in North Dakota to have sought help from a clinic or counselor for a mental health problem. Together, these data suggest that a substantial number of problem gamblers in North Dakota have experienced mental health or substance abuse problems and have accessed the health care system in a variety of ways.

Table 16 on the following page shows differences in the impacts of gambling on family, finances and the criminal justice system among non-problem and problem gamblers in North Dakota. Problem gamblers are significantly more likely than non-problem gamblers to have argued with someone in the past year about their own gambling and, interestingly, to say that they have been troubled in the past year by the gambling of someone with whom they live. While the small number of respondents who acknowledge such situations makes it difficult to test statistically, problem gamblers are most likely to identify this person as a spouse; non-problem gamblers are

more likely to identify this person as a parent, child or some other person. Furthermore, of the 12 individuals who acknowledged that one or more of these arguments about gambling became physical, 1 scored as a problem gambler and 10 scored as probable pathological gamblers. These data point to the need for research on the relatively unexplored relationship between problem gambling and domestic violence.<sup>4</sup>

**Table 16: Differences in Family, Financial and Criminal Justice Impacts**

	Non-Problem Gamblers (1834) %	Problem Gamblers (76) %	Sig.
<b>Family Impacts</b>			
Argued about own gambling in past year	0.4	16.2	.000
Troubled by gambling of someone R lives with	2.9	14.7	.000
<b>Financial Impacts</b>			
Ever filed for bankruptcy	4.1 (61)	18.7 (14)	.000
Bankruptcy due to gambling	8.2	71.4	.000
Filed for bankruptcy in past year	18.0	73.3	.000
<b>Criminal Justice Impacts</b>			
Ever arrested or detained	7.7 (115)	24.0 (18)	.000
Arrested due to gambling	1.8	56.6	.000
Ever incarcerated	50.4	72.2	NS
Incarcerated due to gambling	35 (5%)	61.5 (13)	.000

Chi-square = Pearson.

Problem gamblers are significantly more likely than non-problem gamblers in North Dakota to acknowledge that they have filed for bankruptcy at some time in their lives. Again, although the numbers are too small to provide statistically robust information, it is worth noting that all of the 14 bankruptcy filings among problem gamblers were for liquidation or consolidation of personal debt. In contrast, one-fifth of the 61 bankruptcy filings among non-problem gamblers were for business debt. It is also interesting that nearly three-quarters of the problem gamblers who ever declared bankruptcy had done so in the past year compared to only one-fifth of the non-problem gamblers.

Finally, Table 16 shows differences between non-problem and problem gamblers in North Dakota in their impacts on the criminal justice system. Problem gamblers are significantly more likely than non-problem gamblers in North Dakota to have ever been arrested or incarcerated. It is worth noting that 10 of the 18 problem gamblers who acknowledged having been arrested felt that gambling had been a significant factor in their arrest. Although the numbers are again too small to provide statistically robust information, it is interesting that nearly three-quarters of the problem gamblers who had ever been arrested had been incarcerated, compared to half of the non-problem gamblers.

<sup>4</sup> Although very little research has been done on the relationship between problem gambling and domestic violence, a recent survey of problem gamblers in self-help and professional treatment programs in Montana found that one-third of "extreme" problem gamblers (those with scores of 7+ on the Fisher Screen) reported gambling-related domestic violence (Polzin et al, 1998).

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## COMPARING THE 1992 AND 2000 SURVEYS

A critical purpose of replication studies is to determine whether gambling participation and problem gambling prevalence rates have changed over time in a given jurisdiction. Since 1993, a growing number of surveys that replicate baseline studies of gambling and problem gambling have been carried out in the United States. However, it is difficult to evaluate changes across these jurisdictions because of variations in the intervals between studies, the sample sizes, the demographic characteristics of the population and the availability of legal gambling in these jurisdictions.

In this section, we examine changes in gambling involvement and gambling-related problems in North Dakota to determine whether enough statistical evidence exists to conclude that gambling involvement and gambling-related problems have changed significantly in North Dakota between 1992 and 2000. In examining the evidence, we employ a general procedure called hypothesis testing.

The tables in this section present several comparisons of the data from the two gambling surveys in North Dakota. These include comparisons of the samples, of gambling involvement, of problem gambling prevalence rates and of lifetime problem gamblers. In presenting these data, we have adopted the convention of presenting the descriptive data for each sample, then the direction of any statistically significant change with the alpha set relatively high at a 90% confidence interval (rather than the more conventional 95% confidence interval) and then the specific results of a one-tail test of significance.

### *Comparing the Surveys in North Dakota*

The baseline survey in North Dakota was carried out in November and December, 1992 by Gemini Research and Precision Marketing, Inc. (Volberg & Silver, 1993). In this section, we address several important differences in how the two surveys were carried out. These include differences in the questionnaire, in the sampling frame and design, and in the completion rate for the two surveys. To summarize, the 2000 problem gambling survey in North Dakota included a larger sample of respondents, achieved a better response rate, and provided a great deal more information on the impacts of problem gambling in North Dakota than the baseline survey in 1992.

### *Comparing the Questionnaires*

In the *Methods* section, we noted that the questionnaire for the 2000 survey consisted of a brief screening interview for gambling involvement and demographics, administered to 5,002 North Dakota adults, and a full interview, including two problem gambling screens as well as sections on alcohol and drug use, psychiatric disorders, social impacts of gambling, and help-seeking, administered to 1,609 infrequent, past year and weekly gamblers. In contrast, the 1992 survey in North Dakota included only three major sections—gambling involvement, the lifetime and current South Oaks Gambling Screen and demographic questions—administered to 1,517 residents of North Dakota aged 18 and over.

Particular care was taken in designing the 2000 questionnaire to ensure that respondents' gambling participation could be compared with the earlier survey. However, there were several changes made to the types of gambling included in the 1992 and 2000 surveys. Table 17 on the following page shows differences between the 1992 and 2000 surveys in the section of the questionnaire about gambling involvement.

In 1992, several types of gambling, including lottery games, gaming machines and sports betting, were each assessed with two sets of questions. In 2000, these types of gambling were assessed with a single set of questions. Additional detail on geographic location and type of venue was

obtained from monthly lottery and gaming machine players. In addition, questions about speculative stock or commodity investments were dropped in the 2000 survey and questions about gambling on games of skill for money and telephone or computer wagering on the Internet were added.

**Table 17: Comparing Types of Gambling in 1992 and 2000**

1992	2000
Raffles, casino nights and other small stakes games sponsored by schools, clubs or other organizations	Raffles, casino nights and other small stakes games sponsored by schools, clubs or other organizations
Live bingo	Live bingo
Pulltabs	Pulltabs
Instant lottery games	Lottery games including instant or scratch tickets, daily numbers games or large-jackpot games
Other lottery games	
Video lottery such as bingo, poker or blackjack	Slot machines, poker machines and other gaming machines that pay out tickets or cash
Slot machines and other gaming machines not including video lottery	
Blackjack	Blackjack
Poker	Poker
Any card or dice games at out-of-state casinos	Dice or other games played at a casino, including craps, roulette or keno
Card games other than poker played with friends or relatives for money	Card games other than blackjack or poker played with friends or relatives for money
Outcome of sports or other events with friends or coworkers	Outcome of sports or other events with friends or coworkers, in formal sports pools or with a bookmaker
Sports with a bookie	
Any type of horse, dog or mule races	Any type of horse, dog or mule races
	Games of skill for money, such as darts, pool, bowling, or golf
	Placed wagers via computer on the Internet and World Wide Web
Speculative investments including the stockmarket and commodities	
Any other gaming activities	Any other gaming activities

Two changes were made to the demographic section of the questionnaire for the 2000 survey. One change was to use slightly different categories for income. The other change had to do with the way in which ethnicity was determined. In the mid-1990s, the federal government instituted changes in the way in which data on race and ethnicity are collected. Prior to this change, a single question was used to determine whether an individual was White, Black, Hispanic, American Indian or Asian. Survey researchers now use two questions, one to determine whether an individual is Hispanic or non-Hispanic and a second to determine whether the individual is White, Black, American Indian or Asian. In the 1992 North Dakota survey, only one question was used to assess respondents' ethnicity. In 2000, two questions were used, one to assess "Hispanicity" and the other to assess "racial background." This change was made to conform with the revised federal standards.

### Comparing the Samples

In 1992, based on information from the 1990 census, we estimated that the population aged 18 and over in North Dakota was 463,048. The most recent estimate from the Bureau of the Census shows an increase in the adult population of approximately 10,000 individuals in North Dakota. In comparing the results of the two surveys in North Dakota, it is first helpful to consider differences in data collection and response rates. In 1992, data collection was carried out by Precision Marketing, Inc., a Fargo-based private survey research organization. Although the response rate

for the 1992 survey was an acceptable 65%, it is unclear which method was used to calculate this response rate. In 2000, data collection was carried out by the Social Science Research Institute, a branch of the University of North Dakota based in Grand Forks. Depending on which of the two standard methods is used, the response rate for the 2000 survey was 71% or 77%.

Table 18 compares the demographic characteristics of the 1992 sample and the weighted 2000 samples. In 1992, we noted differences greater than 5% between the population and the achieved sample for gender and age. There was no attempt to weight the 1992 North Dakota sample; instead readers were cautioned that the prevalence estimates presented in the report were likely to be conservative because of the under-representation of young males (Volberg & Silver, 1993). In 2000, while there were some differences between the achieved sample and the population, none of these were larger than 3% and all of these differences were adjusted through the use of post-stratification weights (see *Weighting and Imputation* on Page 9 as well as Appendix B).

**Table 18: Comparing Samples in 1992 and 2000**

		1992 (1517) %	2000 (5002) %	Direction (ps. 10)	p-value (1-tail)
Gender	Male	40.9	50.8	+	.000
	Female	59.1	49.2	-	.000
Age	18 - 24	6.6	14.3	+	.000
	25 - 29	8.3	8.7		.325
	30 - 34	11.3	8.4	-	.000
	35 - 54	38.0	37.8		.429
	55 - 64	12.1	11.5		.289
	65 +	23.7	19.3	-	.000
Ethnicity	White	96.6	90.1	-	.000
	Native American	2.2	4.0	+	.001
	Hispanic	0.1	2.1	+	.000
	Other*	1.1	3.9	+	.000

\*Includes Black, Asian and Other as well as Don't Know and Refused.

Table 18 shows that, as expected, the weighted 2000 sample includes significantly more males and young adults than the 1992 sample. The weighted 2000 sample also includes significantly more Native Americans and persons from non-Caucasian groups. While not presented in the table, there are several additional differences in the demographic characteristics of the 1992 sample and weighted 2000 sample. The weighted 2000 sample includes significantly more respondents who are divorced, separated or never married compared to the 1992 sample. The weighted 2000 sample also includes significantly more respondents attending school compared to the 1992 sample. These differences are predictable given the greater proportion of young adults in the 2000 sample. There are also significantly more respondents with college degrees and significantly more respondents with annual household incomes over \$35,000 in the weighted 2000 sample compared to the 1992 sample. These differences are at least partly explained by improvements in economic conditions nationally between 1992 and 2000.

## Changes in Gambling Participation

There have been substantial changes in gambling participation in North Dakota between 1992 and 2000. Table 19 provides an overview of these changes and clearly shows a significant increase in the proportion of respondents who have not gambled in the past year or do not gamble on a weekly basis. There is a concomitant and significant decrease in the proportion of respondents who acknowledge gambling on one or more activities once a week or more often.

**Table 19: Changes in Gambling Involvement, 1992 and 2000**

	1992 (1817) %	2000 (6002) %	Direction (p < .10)	p-value (1-tail)
Non-Gamblers	18.5	19.2		
Infrequent Gamblers	9.4	11.0	+	.033
Past Year Gamblers	59.8	65.5	+	.000
Weekly Gamblers	12.3	4.3	-	.000

\*Does not include participation in speculative investments for the 1992 sample.

This pattern of substantial declines in gambling participation has been noted in several other jurisdictions. In New Zealand, for example, the proportion of the population participating weekly in continuous forms of gambling fell from 18% to 10% between 1991 and 1999 although there was no change in the proportion of the population that gambled weekly on non-continuous forms of gambling (Abbott & Volberg, 2000). In Washington State, weekly gambling participation fell from 27% to 20% between 1992 and 1998 (Volberg & Moore, 1999a). In Louisiana, weekly gambling participation declined from 37% to 20% between 1995 and 1998 (Volberg & Moore, 1999b).

There are several possible explanations for the substantial drop in weekly gambling participation in North Dakota between 1992 and 2000. Since different individuals were interviewed in the two surveys and given the differences in the demographic characteristics of the achieved samples, part of the difference is likely due to sampling errors inherent in all survey research. It is also possible that respondents may have been differentially affected in 1992 and 2000 by the social stigma or desirability associated with different gambling activities (Sudman, Bradburn & Schwarz 1996).

Another likely explanation is that the market for legal gambling in North Dakota, as in the United States more generally and even internationally, has matured and that the public appetite for many types of commercial gambling is satisfied (Christiansen, 1999). The baseline survey in North Dakota was carried out in 1992, some years after live bingo, pulltabs, blackjack and poker and pari-mutuel wagering were legalized for charitable purposes but prior to the beginning of tribal casino operations in North Dakota. It is likely that some of the decline in gambling involvement in North Dakota between 1992 and 2000 reflects early experimentation with new types of gambling followed by declining interest and participation. Since many North Dakota residents likely participated in these activities only a few times, responses in the 2000 survey may also reflect a common type of response bias known as "recall decay," or a decline in the ability to recall an infrequent event as it recedes in time (Johnson, Gerstein & Rasinski, 1998).

Table 20 on the following page provides a more detailed picture of how gambling involvement has changed in North Dakota between 1992 and 2000. Table 20 shows changes in lifetime participation for all of the types of gambling included in the two surveys. Table 20 shows that lifetime participation has increased significantly for two activities but has decreased significantly for six activities. Activities that have seen an increase in lifetime participation include lottery games and gaming machines. Activities that have seen a decrease in lifetime participation include small-stakes charitable gambling, live bingo, poker, card games other than blackjack or poker, and betting on sports and pari-mutuel events. There is no comparison possible for betting on games of skill or for telephone and computer wagering since these activities were not included in the baseline survey in 1992.

**Table 20: Changes in Lifetime Gambling Participation, 1992 and 2000**

	1992 (1517) %	2000 (5002) %	Direction (ps.10)	p-value (1-tail)
Charitable	70.9	66.6	-	.001
Live bingo	43.0	39.4	-	.006
Pulltabs	47.3	46.0		.198
Lottery games	31.4	39.9	+	.000
Gaming machines	42.1	55.6	+	.000
Blackjack	30.0	30.2		.431
Poker	18.9	11.8	-	.000
Casino table games (inc. roulette, keno)	9.0	9.7		.227
Card games other than blackjack or poker	23.1	20.1	-	.006
Sports	29.0	26.0	-	.011
Pari-mutuel (inc. horse, dog, mule)	19.9	16.2	-	.004
Other	1.6	1.6		.321

Table 21 shows changes in past year participation for all of the types of gambling included in the two surveys. There have been significant increases in past year participation in lottery games, gaming machines and casino table games, including roulette and keno. There have been declines in past year participation in small-stakes charitable gambling and pulltabs as well as sports betting although only the first of these meets the 5% hypothesis test.

**Table 21: Changes in Past Year Gambling Participation, 1992 and 2000**

	1992 (1517) %	2000 (5002) %	Direction (ps.10)	p-value (1-tail)
Charitable	52.3	47.5	-	.000
Live bingo	22.7	21.6		.187
Pulltabs	32.5	30.5	-	.085
Lottery games	23.7	28.5	+	.000
Gaming machines	25.8	36.5	+	.000
Blackjack	16.5	17.8		.123
Poker	6.1	5.8		.338
Casino table games (inc. roulette, keno)	2.2	5.5	+	.000
Card games other than blackjack or poker	11.8	11.8		.485
Sports	18.8	17.3	-	.097
Pari-mutuel (inc. horse, dog, mule)	4.5	3.9		.147
Other	0.9	1.4		.082

It is interesting that the proportion of the North Dakota adult population that has wagered in the past year on live bingo, blackjack, poker and other card games, and on pari-mutuel events did not change between 1992 and 2000. This suggests that there are small but loyal groups of players who engage in these activities on a regular basis.

With the exception of games of skill and telephone and computer wagering which were not assessed in 1992, there have been significant declines in weekly gambling across the board for every type of gambling included in the 1992 and 2000 surveys. With the exception of charitable gambling and blackjack, all of these declines meet the 1% hypothesis test. However, the base

rates for all of these activities in both 1992 and 2000 are extremely low and these results should be interpreted with caution.

### **Changes in Problem Gambling Prevalence**

Table 22 shows that the combined lifetime and current prevalence rates of problem and probable pathological gambling in North Dakota remained stable between 1992 and 2000. While there were declines in the lifetime and current prevalence of problem gambling, there were significant increases in the lifetime and current prevalence of probable pathological gambling. One possible explanation for the decline in problem gambling rates emerges from recent longitudinal research conducted in New Zealand. The New Zealand data suggest that individuals with less severe gambling-related difficulties may "transition," or move into and out of problem gambling status, quite rapidly. In contrast, individuals whose gambling difficulties are severe are less likely to overcome their problems with the passage of time (Abbott, Williams & Volberg, 1999).

**Table 22: Changes in Problem Gambling Prevalence, 1992 and 2000**

	1992 Prevalence (1517) %	2000 Prevalence (5002) %	Direction (p<.10)	p-value (1-tail)
Lifetime Problem	2.5	2.0	-	.096
Lifetime Probable Pathological	1.0	1.8	+	.014
<b>Lifetime Combined</b>	<b>3.5</b>	<b>3.8</b>		<b>.316</b>
Current Problem	1.3	0.7	-	.019
Current Probable Pathological	0.7	1.4	+	.019
<b>Current Combined</b>	<b>2.0</b>	<b>2.1</b>		<b>.385</b>

The increase in current probable pathological gambling in North Dakota is of particular concern for two reasons. First, this change suggests that problem gamblers in North Dakota are experiencing more severe difficulties related to their gambling. Second, individuals at the more severe end of the problem gambling "continuum" are less likely to be able to transition out of their difficulties on their own and are more likely to require professional treatment to overcome their gambling problems.

For reasons explained above and in Appendix A, it is important to focus on changes in current prevalence when considering the number of individuals in the population who are affected by gambling-related difficulties. Table 23 on the following page presents information on changes in the current prevalence of problem and probable pathological gambling by gender, age and ethnicity. Table 23 shows that the prevalence of current problem and probable pathological gambling has increased among men and among individuals aged 35 to 54. The prevalence of current problem gambling has decreased among women. None of these changes meets either the 1% or 5% hypothesis test for statistically significant change.



**Table 23: Changes in Current Prevalence by Demographic Group**

		1992 Prevalence (1517) %	2000 Prevalence (5002) %	Direction (p ≤ .10)	p-value (1-tail)
Gender	Male	1.8	2.9	+	.064
	Female	2.1	1.4	-	.068
Age	18 - 24	7.1	4.4		.121
	25 - 34	2.4	1.8		.256
	35 - 54	1.4	2.3	+	.097
	55 +	1.3	1.0		.263
Ethnicity	White	1.8	1.6		.332
	Native American	11.8	15.1		.320

### Changes in Problem Gamblers

As noted several times in this report, research on the performance of the South Oaks Gambling Screen has shown that the lifetime screen is most useful when considering the characteristics of individuals in the population who are currently experiencing severe difficulties related to their gambling while the current screen is a more useful tool for detecting changes in the prevalence of problem gambling over time.

Table 24 shows changes in the demographic characteristics of individuals with lifetime gambling problems in North Dakota between 1992 and 2000. Problem gamblers in North Dakota in 2000 are significantly more likely than problem gamblers in 1992 to be male, Native American and widowed. Problem gamblers in 2000 are significantly less likely to be female, White or married than problem gamblers in 1992. All of these changes meet the 5% hypothesis test for statistically significant change.

**Table 24: Changes in Problem Gamblers, 1992 and 2000**

		1992 Total (53) %	2000 Total (75) %	Direction (p ≤ .10)	p-value (1-tail)
Gender	Male	54.7	69.3	+	.046
	Female	45.3	30.7	-	.046
Age	18 - 24	15.7	17.3		.404
	25 - 34	27.5	25.3		.395
	35 - 54	33.3	38.7		.271
	55 +	23.5	18.7		.254
Ethnicity	White	92.5	80.0	-	.026
	Native American	7.5	17.3	+	.054
	Other	0.0	2.7		.115
Marital Status	Married	64.2	44.3	-	.014
	Widowed	0.0	12.9	+	.003
	Divorced/Separated	18.9	22.9		.296
	Never Married	17.0	20.0		.335

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The change in the proportion of male and female problem gamblers in North Dakota between 1992 and 2000 is particularly interesting. While a similar change was identified recently in Washington State (Volberg & Moore, 1999a), other replication studies have generally identified a growth in the proportion of problem gamblers who are women (Polzin et al, 1998; Volberg & Moore 1999b). We can speculate that changes in the gender and ethnicity of problem gamblers in different jurisdictions are related to changes in the types of gambling that are available and popular. Without further research, however, this remains an untested hypothesis.

## COMPARING THE SOGS AND THE NODS IN NORTH DAKOTA

In the North Dakota replication survey, a new problem gambling screen based on the most recent criteria for pathological gambling was used in addition to the South Oaks Gambling Screen (SOGS-R). The SOGS-R was used in order to obtain prevalence data comparable to the baseline survey in North Dakota in 1992. The SOGS-R was also used in order to permit comparisons of the North Dakota study with surveys in numerous other jurisdictions internationally. The NORC DSM-IV Screen for Problem Gambling (NODS) was included in the replication survey in North Dakota in order to assess pathological gambling using the most current psychiatric criteria. The NODS was also used to permit comparisons of the North Dakota study with the recent U.S. national survey of gambling behavior and impacts (Gerstein et al., 1999). While the analysis presented here does not answer questions about the validity and reliability of the NODS in relation to clinical assessments, we now have an important opportunity to understand how two different methods to identify problem and pathological gamblers in the general population operate in relation to one another.

### *The NORC DSM-IV Screen for Problem Gambling (NODS)*

The NODS is based on the most recent diagnostic criteria for pathological gambling (American Psychiatric Association, 1994). The NODS is composed of 17 items, compared to the 20 items that make up the South Oaks Gambling Screen. The maximum score on the NODS is 10 compared to 20 for the South Oaks Gambling Screen. Although there are fewer items in the NODS, and the maximum score is lower, the NODS is actually more restrictive in assessing problematic behaviors than the SOGS. A discussion of the development of the NODS is presented in Appendix A of this report.

Table 25 presents information about the proportion of the total North Dakota sample (N=5,002) who score on an increasing number of items on the lifetime and past year NODS.<sup>5</sup>

**Table 25: Scores on Lifetime and Past Year NODS Items**

Number of Items	Lifetime	Past Year
Non-Gamblers	19.2	19.2
Non Problem	74.1	76.7
1	3.9	2.2
2	1.3	0.7
At Risk	5.2	2.9
3	0.4	0.2
4	0.3	0.3
Problem	0.7	0.5
5	0.1	0.0
6	0.1	0.1
7	0.0	0.1
8	0.2	0.2
9	0.1	0.1
10	0.4	0.3
Pathological	0.8	0.7
Combined Problem/Path	1.5	1.2

<sup>5</sup> In the same way that SOGS-based prevalence rates were calculated (see discussion of *Problem Gambling in North Dakota* on Page 16), NODS-based prevalence rates were first calculated for respondents who completed the full interview (N=1609) and then adjusted to the total sample (N=5002) in order to provide NODS prevalence rates for the adult population of North Dakota.

One important difference between the NODS data from North Dakota and the U.S. national survey involved the use of an additional selection criterion in the national survey. In the U.S. national survey, the NODS was only administered to respondents who indicated (in a separate section of questions) that they had lost \$100 or more in a single day or over the course of a single year (Gerstein et al, 1999). There is a small but interesting group of respondents in the North Dakota survey who scored extremely high (8+) on the lifetime and/or past year NODS but who claimed never to have lost \$100 or more in one day or year. Further research is planned to examine the demographic characteristics, gambling involvement and gambling careers of these individuals.

Table 26 compares NODS-based prevalence rates of at-risk, problem and pathological gambling in North Dakota with those from the U.S. national survey (Gerstein et al, 1999). To permit this comparison, the North Dakota prevalence rates have been adjusted to reflect the use of the same filter for gambling expenditures used in the national survey.

**Table 26: Comparing NODS Rates for North Dakota and United States**

	North Dakota		United States	
	Lifetime	Past Year	Lifetime	Past Year
At Risk (1 - 2)	3.7	2.3	7.7	2.9
Problem (3 - 4)	0.5	0.4	1.5	0.7
Pathological (5+)	0.4	0.3	1.2	0.6

### **Statistical Properties of the NODS**

Information about the psychometric properties of the NODS among the North Dakota respondents who have ever gambled is important in assessing the relationship between the two different methods used to identify problem and pathological gamblers used in the survey. These analyses were carried out using only the sample of respondents who had ever gambled (N=1,609) because the problem gambling screens were only administered to these respondents.

The accuracy of any instrument is measured by looking at the reliability and validity of the instrument (Litwin 1995). The reliability of an instrument refers to the ability to reproduce the results of the application of the test. The validity of an instrument refers to the ability of the instrument to measure what it is intended to measure. In examining the psychometric properties of the NODS, we assess its reliability by examining the internal consistency of the screen and then analyze the individual items to determine the ability of the screen to discriminate effectively between non-problem and problem gamblers. We then examine several forms of validity for the NODS.

#### **Reliability**

The most widely accepted test of reliability is a measure of the internal consistency of an instrument. The reliability of both the lifetime and past year NODS (N=17 each) in the North Dakota sample of gamblers is excellent with Cronbach's alpha at .92 and .94 respectively. These alphas are substantially higher than the .70 that is generally accepted as representing good reliability. The reliability of the more limited set of items that are scored for the NODS (N=10 each) is only slightly lower than the full scale, with Cronbach's alpha at .88 for the lifetime screen and .92 for the past year screen.

Reliability of the lifetime and past year SOGS items (N=20 each) in the North Dakota sample of gamblers is also high, at .86 and .91 respectively. These figures are quite similar to the reliability estimates for the scored items of the NODS noted above.

In addition to testing the internal consistency of the NODS, we carried out a factor analysis of the lifetime screen to assess how the individual items cluster together. Factor analysis shows that 53% of the variance for the lifetime NODS was accounted for by one factor (eigenvalue = 5.32) among North Dakota respondents who gambled. Only one other factor with an eigenvalue over 1.0 was identified, accounting for an additional 10% of the total variance among North Dakota respondents who gambled. Table 27 presents information about how each of the scored NODS items loads on these two factors.

**Table 27: Lifetime NODS Rotated Component Matrix**

NODS Scored Items	Factor 1 Loading (Eigenvalue 5.32)	Factor 2 Loading (Eigenvalue 1.02)
Preoccupation	.21	.74
Tolerance	.26	.77
Withdrawal	.70	.40
Loss of Control	.77	.40
Escape	.54	.35
Chasing	.24	.74
Lying	.72	.41
Illegal Acts	.72	.25
Risked Significant Relationship	.81	.14
Bailout	.84	.13

### Item Analysis

Endorsement of the lifetime NODS items among North Dakota gamblers ranged from a high of 3.6% (Chasing) to a low of 0.9% (Loss of Control). It is instructive to compare positive responses to specific items by problem gamblers and non-problem gamblers to see how well the different items discriminate between these groups. For this analysis, we used the lifetime SOGS classification of non-problem and problem gamblers to prevent confusion between the method of classifying respondents and the items by which they were classified. While this analysis was completed for both the lifetime and current screens, only the lifetime results are presented here.

**Table 28: Comparing SOGS Non-Problem and Problem Gamblers**

NODS Scored Items	Non-Problem Gamblers (1534) %	Problem Gamblers (75) %	p-value*
Preoccupation	1.2	28.0	.000
Tolerance	1.0	28.0	.000
Withdrawal	0.3	20.0	.000
Loss of Control	0.1	18.7	.000
Escape	1.3	32.0	.000
Chasing	2.0	36.0	.000
Lying	0.1	24.0	.000
Illegal Acts	0.4	16.0	.000
Risked Significant Relationship	0.8	25.3	.000
Bailout	0.3	21.3	.000
Mean NODS Score	.07	2.49	.000

\* Fisher Exact Test chi-square

Table 28 shows that all of the NODS items discriminate effectively between SOGS-defined problem and non-problem gamblers in North Dakota. The most effective discriminator among the NODS items is Chasing with 36% of the SOGS lifetime problem gamblers scoring a positive response in contrast to only 2% of the non-problem gamblers. The next best discriminator is gambling to Escape, with 32% of the SOGS lifetime problem gamblers scoring a positive response compared to 1.3% of the non-problem gamblers. Table 28 also shows that there is a significant difference in mean scores on the lifetime NODS items for non-problem and problem gamblers, supporting the notion that the lifetime NODS measures something similar to the lifetime SOGS.

### Validity

There are several different types of validity that can be measured to assess the performance of an instrument. These include content, criterion, congruent and construct validity. Content validity is a subjective measure of how appropriate the items seem to a set of reviewers who have some knowledge of the subject matter. Since the NODS is so closely based on the DSM-IV criteria, and since these criteria have been shown to have good content validity, it is likely that the NODS also has good content validity (Lesieur & Rosenthal, 1991).

### Criterion Validity

Criterion validity requires that the instrument be judged against some other method that is acknowledged as a standard for assessing the same phenomenon. As a first step, we calculated the correlation coefficient between the lifetime NODS and the lifetime South Oaks Gambling Screen. The result of this analysis was statistically significant at the .01 level (Pearson correlation coefficient=.77).

To better understand how the SOGS and the NODS operate in relation to one another, it is useful to examine how respondents scored on each of these instruments in more detail. Table 29 shows the number of respondents who scored at different levels on the lifetime SOGS and the lifetime NODS.

**Table 29: Comparing Scores on the SOGS and the NODS**

SOGS	NODS				Total
	0	1 - 2	3 - 4	5+	
0	1060	23			1083
1 - 2	386	60	2	1	449
3 - 4	26	11	2		39
5+	5	9	8	14	36
Total	1477	103	12	15	1607

Table 29 shows that the lifetime NODS operates quite well in relation to the lifetime SOGS in North Dakota. Respondents who score low on the NODS also tend to score low on the SOGS and 89% of the respondents who score three or more on the NODS also score three or more on the SOGS. In contrast, only 32% of respondents who score three or more on the lifetime SOGS also score at this level or above on the lifetime NODS.

## Congruent Validity

Since several of the items on the SOGS and NODS are similar, it is possible to check whether respondents answered similar questions differently. Table 30 shows how respondents who gambled answered several similar questions from the lifetime SOGS and the lifetime NODS.

**Table 30: Comparing Scores on Similar SOGS and NODS Items**

	SOGS or NODS Item	Positive Score (1609) %
CHASING	Go back another day to win money you lost (chasing) (SOGS)	0.5
	Often return another day to get even (chasing) (NODS)	3.6
LYING	Claimed to win when in fact lost (SOGS)	3.2
	Lied three or more times to family/others about gambling (NODS)	1.3
TOLERANCE	Spend more time or money gambling than intended (SOGS)	18.0
	Need to gamble with increasing amounts to get same excitement (NODS)	2.3
LOSS OF CONTROL	Would like to stop gambling but couldn't (SOGS)	2.4
	Made 3+ attempts to stop, cut down or control gambling (NODS)	0.9

Table 30 shows that, for the most part, respondents are less likely to give an answer that scores as a positive response on the lifetime NODS questions than on the lifetime SOGS items. This is particularly the case for the items assessing Tolerance. Respondents are more likely to give a positive answer to the NODS question assessing Chasing than to the SOGS item assessing the same behavior. This analysis suggests that further research is needed on the cognitive properties of all of the problem gambling screens presently in use.

## Comparing SOGS and NODS Problem Gamblers

The lifetime prevalence of problem gambling in North Dakota, measured by the NODS, is lower than the lifetime prevalence of problem gambling identified with the South Oaks Gambling Screen. While only 0.7% of the total sample of gamblers (N=1,609) scored 3 or 4 points on the lifetime NODS, 2.4% of the total sample scored 3 or 4 points on the lifetime SOGS. While 0.9% of the total sample scored 5 or more points on the lifetime NODS, 2.2% of the total sample scored 5 or more points on the lifetime SOGS.

Table 31 on the following page compares the demographic characteristics of lifetime problem gamblers as defined by the NODS with lifetime problem gamblers as defined by the SOGS. Since both the SOGS and the NODS groups are relatively small, and since most of the NODS problem group are part of the SOGS problem group as well, no effort has been made to test the differences for statistical significance. Table 31 shows that problem gamblers identified using the lifetime NODS are more likely than problem gamblers identified using the lifetime SOGS to be under the age of 30 and Native American and less likely to be married. The small size of the group of NODS problem gamblers precludes further analysis of differences between NODS- and SOGS-identified problem gamblers.

**Table 31: Comparing Demographics of SOGS and NODS Problem Gamblers**

		SOGS Problem Gamblers (75) %	NODS Problem Gamblers (27) %
Gender	Male	69.3	72.4
	Female	30.7	27.6
Age	18 - 29	26.7	44.8
	30 - 54	54.7	37.9
	55+	18.7	17.2
Ethnicity	White	80.0	64.3
	Native American	17.3	35.7
	Hispanic	—	—
	Other †	2.7	—
Marital Status	Married	44.3	29.2
	Widowed	12.9	20.8
	Divorced/Separated	22.9	29.2
	Never Married	20.0	20.8
Education	Elementary / Some HS	14.3	14.8
	HS Grad	22.9	29.6
	Some College	40.0	33.3
	BA Degree	12.9	22.2
	Graduate Study	10.0	—



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## SUMMARY AND CONCLUSION

The main purpose of this study was to examine changes in the prevalence of gambling-related problems in the adult population in North Dakota between 1992 and 2000. An additional purpose of this study was to compare prevalence rates of problem gambling in North Dakota with prevalence rates from other jurisdictions. A third, and final, purpose of this study was to identify the types of gambling causing the greatest difficulties for the citizens of North Dakota. The results of this study will be useful in documenting the impacts of legal gambling on the citizens of North Dakota and in refining the services available to individuals in North Dakota with gambling-related difficulties.

### Summary

The types of gambling that North Dakotans are most likely to have tried are charitable games, gaming machines, pulltabs, lottery games and live bingo. The favorite types of gambling, among those who have ever gambled, are gambling machines, charitable gambling, blackjack and live bingo. Non-gamblers in North Dakota are more likely than gamblers to be over the age of 65, widowed, and retired. Non-gamblers in North Dakota are also more likely to have annual household incomes under \$25,000. Regular, weekly gamblers in North Dakota are more likely than less frequent gamblers to be male, aged 35 to 54, Native American, and to reside in the northwest (NW) region of the State. Weekly gamblers in North Dakota are also more likely to be divorced or separated, to be either working fulltime or to be disabled or unemployed, and to have annual household incomes between \$20,000 and \$25,000.

The combined lifetime prevalence of problem and pathological gambling in North Dakota is 3.8% and the combined past year prevalence is 2.1%. Past year prevalence rates are highest among adults aged 18 to 24 and among Native Americans. Past year prevalence rates are highest among individuals who gamble weekly or more often and among past year horse race bettors, among past year players of casino table games such as roulette or keno, and among blackjack and other card game players.

Further analysis shows that lifetime problem gamblers in North Dakota (those most likely to be in need of services) are significantly more likely than non-problem gamblers to be male, aged 30 to 34, Native American, widowed, divorced or separated, to have less than a high school education, to be disabled or unemployed, and to have annual household incomes between \$20,000 and \$25,000. Problem gamblers in North Dakota are significantly more likely than non-problem gamblers to have gambled on blackjack, pulltabs and gaming machines on a monthly basis.

Problem gamblers in North Dakota are significantly more likely than non-problem gamblers to have been troubled in the past year by the gambling of someone they live with, to have engaged in physical arguments about their own or another's gambling, to have filed for bankruptcy in the past year, and to have been arrested. Problem gamblers in North Dakota are significantly more likely than non-problem gamblers to smoke daily, to drink alcohol regularly, and to have used marijuana or cocaine. Problem gamblers in North Dakota are significantly more likely than non-problem gamblers to report experiencing problems due to their use of alcohol and drugs and to have sought help for an emotional or substance abuse problem. Finally, problem gamblers in North Dakota are significantly more likely than non-problem gamblers to have ever experienced an episode of mania or depression.

In spite of the inclusion of more young males (traditionally the heaviest gamblers in the general population) in the survey sample, gambling participation has dropped significantly in North Dakota between 1992 and 2000. The proportion of the adult population in North Dakota that gambles once a week or more often declined from 12% to 4%. While gambling participation in general has declined, lifetime participation rates have increased for gaming machines and lottery products.

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Similarly, past year participation rates have increased for gaming machines, lottery products and casino table games such as roulette and keno.

The combined prevalence of problem and pathological gambling did not change significantly in North Dakota between 1992 and 2000. However, the prevalence of both lifetime and past year pathological gambling (the most severe category) has increased significantly. This suggests that problem gamblers in North Dakota are experiencing more severe problems and may be in greater need of services. Problem gamblers in North Dakota in 2000 are significantly more likely than those in 1992 to be male, to be Native American and to be widowed. Problem gamblers in North Dakota in 2000 are significantly less likely than those in 1992 to be married.

### *Directions for the Future*

The impacts of gambling-related problems can be high, not only for individuals but for families and communities. Pathological gamblers experience physical and psychological stress and exhibit substantial rates of depression, alcohol and drug dependence and suicidal ideation. The families of pathological gamblers experience physical and psychological abuse as well as harassment and threats from bill collectors and creditors. Other significant impacts include costs to employers, creditors, insurance companies, social service agencies and the civil and criminal justice systems (Lesieur, 1998).

#### How Many To Plan For?

One important purpose of a prevalence survey is to identify the number of individuals in a jurisdiction who may need treatment services for gambling-related difficulties at a given point in time. Experience in many jurisdictions suggests that not all of the individuals in need of treatment for a physical or psychological problem will seek out such treatment. From a policy perspective, the question is: How many individuals should we plan to provide for?

Recently, research indicating that approximately 3% of individuals with severe alcohol-related difficulties actually seek treatment in any one year (Smith, 1993) was successfully replicated in predicting the number of problem gamblers who would seek treatment in two Australian states (Dickerson, 1997). This approach was further tested in Oregon, one of only a few jurisdictions where treatment services for problem gamblers are widely available. The results of the prevalence survey in Oregon suggested that between 600 and 1400 individuals would seek treatment per year. In fact, the problem gambling treatment programs in Oregon have an average annual enrollment of 610 problem gamblers and family members per year (Volberg, 1997).

In calculating the number of problem and pathological gamblers who might seek treatment in North Dakota, we focus on the group of individuals who score as current probable pathological gamblers (e.g. the 4,300 to 9,000 individuals represented by the confidence interval around the point estimate for current probable pathological gambling in North Dakota). Based on this approach, we estimate that North Dakota should plan to provide problem gambling treatment services to between 130 and 270 individuals per year.

#### Recommendations

Given the increase in the prevalence of probable pathological gambling and the dearth of effective services for problem gamblers, there are several steps that state legislators and other concerned parties may wish to consider implementing in North Dakota. In making such decisions, consideration could be given to developing the following services and activities:

- working with insurance companies to obtain coverage for treatment services for individuals with gambling-related difficulties;

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- refinement of *public education and prevention services* targeted toward particular at-risk groups (e.g. youth, Native Americans) as well as venues where problem gamblers are most likely to be found. These include tribal casinos and bars, taverns, restaurants and lounges where charitable gambling, such as pulltabs and blackjack, takes place;
  - support of *industry policies and programs* to minimize gambling-related difficulties among patrons;<sup>6</sup>
  - development of specific *government-industry initiatives* to address problem gambling issues in North Dakota;
  - expanding *training opportunities* to educate more mental health, alcohol and substance abuse treatment professionals in how to screen for gambling problems and pathology as well as when and where to refer such individuals for appropriate treatment;
  - establishment of a *gambling counselor certification program* to ensure that individuals seeking help for gambling-related difficulties receive appropriate and effective services;
  - an *increase* in funding to support education, prevention and treatment of problem gambling through the Department of Human Services;
  - *evaluation* of existing services as well as those established in the future; and
  - continued *monitoring* of gambling and problem gambling prevalence to assess the impacts of legal gambling on the residents of North Dakota.

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<sup>6</sup> In Washington State, for example, an industry working group, representing all of the different types of gambling available in the state, meets on a quarterly basis to address problem gambling issues.

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APPENDIX A

*Methods to Assess Problem Gambling in the General Population*

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When gambling is legalized, the operation and oversight of these activities become part of the routine processes of government. Gambling commissions are established, revenues are distributed, and constituencies of customers, workers and organizations develop. Governments become dependent on revenues from legal gambling to fund essential services. Many non-gambling occupations and businesses also become dependent on revenues from legal gambling to continue to operate profitably, including convenience stores, retail operators, restaurants, hotels, social clubs and charitable organizations. Ancillary services, including legal, accounting, architectural, public relations and advertising, security and financial organizations, expand their activities to provide for the needs of gambling operations (Volberg, 1998).

A critical element in the growing legitimacy of gambling has been the "medicalization" of gambling problems and the professionalization of gambling treatment (Abt & McGurkin, 1991; Rosecrance, 1985), in other words, the acceptance of gambling problems as suitable subjects for disciplines such as psychiatry, clinical psychology, and epidemiology. A constituency of well-educated treatment professionals has emerged whose livelihoods come from providing services to governments and gaming operators. Organizations that provide services to these helping professions—hospitals, clinics, government health agencies, universities and colleges, the insurance industry—have growing interests in the development of legal gambling. These organizations are investing increasing though still relatively modest resources in training and certifying treatment professionals, in educating students, and in covering treatment for pathological gambling.

### ***The Social Construction of Psychiatric Measures***

The tools used to generate numbers are always a reflection of the work that researchers and others are doing to identify and describe the phenomena in which they are interested (Becker, 1960; Dean, 1979; Gerson, 1983). Historically, standardized measures and indices have often emerged in situations where there is, simultaneously, intense distrust and a perceived need for public action (Porter, 1995). Examples include the emergence of measures of "public utility" in France in the mid-1800s and the development of cost-benefit analysis in the United States in the mid-1900s.

There have been three "generations" of psychiatric research since the turn of the century. The third, and latest, generation of studies began around 1980 and coincided, as did the first two generations, with dramatic changes in psychiatric nomenclature (Dohrenwend, 1998). The publication of the third edition of the *Diagnostic and Statistical Manual (DSM-III)* (American Psychiatric Association, 1980), with its systematic approach to psychiatric diagnoses, led directly to the development of semi-structured interviews and rating examinations for use by clinicians. These tools were quickly adopted for epidemiological research despite the relative lack of research on the validity of these case identification procedures with general population samples (Dohrenwend, 1995).

### ***Measuring Gambling Problems: A Case Study***

With the rapid expansion of legal gambling in the 1980s, state governments began to establish services for individuals with gambling problems. In establishing these services, policy makers and program planners quickly sought answers to questions about the number of "pathological gamblers" in the general population who might seek help for their difficulties. These questions required epidemiological research to identify the number (or "cases") of pathological gamblers, ascertain the demographic characteristics of these individuals, and determine the likelihood that they would utilize treatment services if these became available.

Following the inclusion of the diagnosis of pathological gambling in the DSM-III for the first time in 1980 (American Psychiatric Association, 1980), a few researchers from a variety of scientific disciplines, including psychiatry, psychology, and sociology, began to investigate gambling-

related difficulties using various methods from psychiatric epidemiology. At this time, few tools existed to measure gambling-related difficulties. The only tool that had been rigorously developed and tested for its performance was the South Oaks Gambling Screen (SOGS).

The SOGS, closely based on the new diagnostic criteria for pathological gambling, was originally developed to screen for gambling problems in clinical populations (Lesieur & Blume, 1987). The 20 weighted items on the SOGS include hiding evidence of gambling, spending more time or money gambling than intended, arguing with family members over gambling and borrowing money from a variety of sources to gamble or to pay gambling debts. In developing the SOGS, specific items as well as the entire screen were tested for reliability and validity with a variety of groups, including hospital workers, university students, prison inmates and inpatients in alcohol and substance abuse treatment programs (Lesieur & Blume, 1987; Lesieur, Blume & Zoppa 1986; Lesieur & Klein 1985).

### Adopting the South Oaks Gambling Screen in Population Research

Like other tools in psychiatric research, the SOGS was quickly adopted in clinical settings as well as in epidemiological research. The SOGS was first used in a prevalence survey in New York State (Volberg & Steadman, 1988). By 1998, the SOGS had been used in population-based research in more than 45 jurisdictions in the United States, Canada, Asia and Europe (Abbott & Volberg, 2000; Bondolfi, Osiek & Ferrero, 2000; Gerstein et al, 1999; Productivity Commission, 1999; Rönberg et al, 1999; Shaffer, Hall & Vander Bilt, 1999; Sproston, Erens & Orford, 2000). This widespread use of the SOGS came at least partly from the great advantage of comparability within and across jurisdictions that came with use of a standard tool (Walker & Dickerson, 1996). Although there were increasingly well-focused grounds for concern about the performance of the SOGS in non-clinical environments, this tool remained the *de facto* standard in the field until the mid-1990s, when the new DSM-IV criteria were published (American Psychiatric Association, 1994; Volberg & Banks, 1990).

Like all tools to detect physical and psychological maladies, screens to detect gambling problems can be expected to generate some errors in classification. However, misclassification has very different consequences in different settings. Misclassification can occur when an individual without the malady in question is misdiagnosed as having the malady. This type of classification error is called a false positive. Misclassification can also occur when an individual with the malady is misdiagnosed as not having the malady. This type of classification error is called a false negative (see table below). While most screens to detect psychiatric disorders work well in clinical settings where the prevalence of the disorders under investigation is predictably high, the accuracy of many psychiatric screens declines when they are used among populations where prevalence is much lower, such as the general population (Dohrenwend, 1995).

Classification	Condition	
	Pathological	Non-Pathological
Pathological	True Positive	False Positive
Non-Pathological	False Negative	True Negative

Clinicians are concerned with the issue of false positives because the cost of treating someone who does not need treatment is extremely high. Clinicians are also concerned with false negatives because of the enormous impact associated with failure to correctly diagnose an individual with a disorder. In population research, where the primary concern is accurately identifying the number

of people with and without the disorder, both types of classification error are also important, but for different reasons. In population research, each type of classification error has an independent impact on the overall efficiency of the screen. Indeed, the rate of false negatives may be of principal concern in population research since even a very low rate of false negatives can have a large effect on the overall efficiency of a screen (i.e. the total proportion of individuals who are correctly classified).

Let us take as an example a group of 1,000 individuals of whom 5% are classified as pathological and 95% are classified as non-pathological. Let us assume that the rate of false positives is 50% so that 25 of the 50 pathological gamblers are misclassified. Even if the rate of false negatives were much lower, say 5%, 47 of the 950 non-pathological gamblers would be misclassified. Thus, even a very low rate of false negatives will generate a group that is nearly twice as large as the group of false positives (see table below).

	Pathological	Non-Pathological	Total
Pathological	25	25	50
Non-Pathological	47	903	950
Total	72	928	1,000

### Validating the South Oaks Gambling Screen

A national study in New Zealand in the early 1990s furnished an opportunity to examine the performance of the South Oaks Gambling Screen in the general population (Abbott & Volberg, 1992, 1996). This opportunity arose from the two-phase research design employed in the New Zealand study. This design allowed the researchers to identify true pathological gamblers among particular groups of respondents. In the New Zealand study, true pathological gamblers were identified in each of four groups included in the survey: (1) probable pathological gamblers, (2) problem gamblers, (3) regular continuous gamblers and (4) regular non-continuous gamblers. No error rate was determined for respondents in the New Zealand study who did not acknowledge gambling on a regular basis. Prevalence rates were corrected using the "efficiency approach" which involved calculating the rate of true pathological gamblers in each group and dividing this number by the total number of respondents in the sample. The efficiency approach resulted in a revised current prevalence estimate in New Zealand that was 0.1% higher than the uncorrected current prevalence rate.

This revised estimate in New Zealand rested on the conservative assumption that there were no false negatives among individuals who did not gamble regularly. While the error rates in each of the four groups have an impact on the overall prevalence rate, the size of the error rate for each group has a different impact because of the different sizes of these groups in the population. Even if the number of false negatives in the non-pathological group or among respondents who do not gamble regularly were extremely small, the relatively large size of these groups contributes to a noticeably higher overall prevalence rate. For example, if the large proportion of the population that gambles on a less than weekly basis is assumed to include a very small number of pathological gamblers (1%), the prevalence estimate increases by 0.7%.

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The New Zealand researchers concluded that the lifetime South Oaks Gambling Screen is very good at detecting pathological gambling among those who currently experience the disorder. However, as expected, the screen identifies at-risk individuals at the expense of generating a substantial number of false positives. The current South Oaks Gambling Screen produces fewer false positives than the lifetime measure but more false negatives and thus provides a weaker screen for identifying pathological gamblers in the clinical sense. However, the greater efficiency of the current South Oaks Gambling Screen makes it a more useful tool for detecting rates of change in the prevalence of problem and pathological gambling over time (Abbott & Volberg, 1996).

Although there are questions about the validity of applying results from research in New Zealand to studies in the United States, the New Zealand research does suggest that estimates of the lifetime prevalence of problem and probable pathological gambling over-state the actual prevalence of pathological gambling. However, since the lifetime South Oaks Gambling Screen does a good job of identifying pathological gamblers in the general population, information about the characteristics of these respondents is valuable in planning the implementation and development of services for pathological gamblers in the community. The New Zealand research further suggests that estimates of the current prevalence of problem and probable pathological gambling are quite accurate.

A recent study in Minnesota supports the New Zealand work on the performance of the SOGS (Stinchfield, 1997). In the Minnesota research, the SOGS and a nineteen-item version of the DSM-IV criteria (the DIGS—Diagnostic Interview for Gambling Severity) were administered to three samples, including a general population sample, a sample of callers to a gambling hotline and a sample of individuals entering treatment for a gambling problem. As in New Zealand, Stinchfield found that the accuracy of the SOGS was high among individuals who called a gambling hotline or were entering treatment but that the instrument did not perform as well in the general population. Stinchfield concluded that the SOGS had satisfactory reliability and validity in all three samples. However, he argued that the SOGS is best suited for identifying individuals at risk while the DIGS is more useful if the goal of a study is to estimate the prevalence of pathological gambling in the general population.

### Growing Concerns with the South Oaks Gambling Screen

Beginning in the early 1990s, a variety of methodological questions were raised about SOGS-based research in the general population (Culleton, 1989; Dickerson, 1993b; Lesieur, 1994; Volberg, 1994; Walker, 1992). Some of these issues, such as respondent denial and rising refusal rates, were common to all survey research. Other questions were related to the issue of how to best study gambling-related difficulties. These included reservations about the reliability and validity of the SOGS as well as challenges to assumptions about the nature of gambling problems that were built into the original version of this instrument.

What led to the growing dissatisfaction with the South Oaks Gambling Screen? One important change was the rapid expansion of legal gambling itself. This expansion led many people who had never before gambled to try these activities. As legal gambling expanded into new markets and as new types of gambling were marketed to new groups, the individuals seeking help for gambling difficulties became increasingly heterogeneous. Representatives of the gambling industries also played a role in challenging the supremacy of the South Oaks Gambling Screen through their efforts to discredit what they saw as unacceptably high prevalence rates.

Prevalence surveys in the early 1990s suggested that growing numbers of women and middle-class individuals were developing gambling problems (Volberg, 1992, 1996; Volberg & Silver, 1993). Several of the specific items included in the SOGS made little sense to these new groups or to the treatment professionals working with them. Questions about borrowing from loan sharks, for example, or cashing in stocks and bonds to get money to gamble or pay gambling debts were more relevant to the middle-aged, middle-class men most likely to seek help for gambling problems in the 1970s and early 1980s than to the young adults and middle-aged women who

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began to experience gambling problems in the 1990s. Questions about others criticizing one's gambling and feeling guilty about one's gambling were more likely to receive a positive response from low-income and minority respondents than others in the population (Volberg & Steadman, 1992). Questions about borrowing from the "household" to get money to gamble would be interpreted differently by individuals from ethnic groups where "household" may be defined as the entire extended family.

There were also multiplying needs for tools in different settings. Starting in the early 1990s, growing government resources became available for services for problem gamblers. In 1985, only three states funded services for problem gamblers. In 1996, 21 states funded an array of services for problem gamblers, including education, prevention, and referral; an increase of 600 percent in ten years (Cox et al, 1997). Along with these resources came new demands for accountability and performance. These demands drew further attention to the deficiencies of the South Oaks Gambling Screen and increased dissatisfaction with its performance in general population studies.

### Emergence of New Problem Gambling Screens

In 1994, the fourth edition of the *Diagnostic and Statistical Manual (DSM-IV)* adopted a new set of criteria for the diagnosis of pathological gambling. The changes made to the psychiatric criteria for pathological gambling incorporated empirical research that linked pathological gambling to other addictive disorders like alcohol and drug dependence (American Psychiatric Association, 1994). In developing the DSM-IV criteria, 222 self-identified pathological gamblers and 104 substance abusers who gambled socially tested the individual items (Lesieur & Rosenthal, 1991). Discriminant analysis was used to identify the items that best differentiated between pathological and non-pathological gamblers. While the results from this sample indicated that a cutoff of 4 points was appropriate, the American Psychiatric Association established a diagnostic cutoff of 5 points. Pathological gambling is now defined as persistent and recurrent maladaptive gambling behavior as indicated by five or more of ten criteria (listed in Table 1 on Page 3 of this report), with the reservation that the behavior is not better accounted for by manic episodes—a reservation added somewhat as an afterthought, as it was not part of the underlying research on which the DSM-IV criteria were based.

Most researchers conducting gambling studies and treatment professionals working with individuals with gambling problems have expressed satisfaction with the new DSM-IV criteria. Internationally, numerous researchers and treatment professionals have adopted the DSM-IV criteria in their work and these criteria are now the measure against which the performance of other instruments must be demonstrated.

There is a growing community of researchers and treatment professionals active in the gambling field and a growing number of tools to measure gambling problems for different purposes. Until 1990, only three screens existed to identify individuals with gambling problems, including the ISR screen used in the last national study; the CCSM; and the SOGS (Culleton, 1989; Kallick et al, 1978; Lesieur & Blume, 1987). Since 1990, nine screens for adults and three screens for adolescents have been developed, including two based on the SOGS and at least four based on the DSM-IV criteria. Despite this proliferation, the psychometric properties of most of these new tools remain unexamined. Even more significantly, few of these new screens have been tested for their differential performance in clinical settings, population research, and program evaluation. Another concern is how to calibrate the performance of these new screens with the results of more than a decade of SOGS-based research.

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## The 1998 National Survey<sup>1</sup>

In 1998, the National Gambling Impact Study Commission contracted with the National Opinion Research Center to collect data from a nationally representative sample of households about gambling behavior and gambling-related problems.<sup>2</sup> This was the first national survey of gambling behavior conducted since 1975. The questionnaire for the national survey supplemented demographic and geographic information with economic and family indicators. Respondents were asked highly detailed questions about their gambling behavior and about adverse consequences related to gambling. Respondents were also asked questions about their physical and mental health, about alcohol and substance use and dependence and about criminal records.

The guidelines of the National Gambling Impact Study Commission specified that the DSM-IV criteria be used to identify respondents with gambling-related difficulties in the general population. This meant that the study team could not use the South Oaks Gambling Screen since this is based on the DSM-III criteria. Instead, the study team developed a series of questions designed to match the DSM-IV criteria for diagnosing pathological gambling. This series of questions is referred to as the NODS (the National Opinion Research Center DSM Screen for Gambling Problems).

### Development of the NODS

The NODS is composed of 17 lifetime items and 17 past year items, compared to the 20 lifetime items and 20 past year items that make up the South Oaks Gambling Screen. The maximum score on the NODS is 10 compared to 20 for the South Oaks Gambling Screen. Although there are fewer items in the NODS, and the maximum score is lower, the NODS is actually more restrictive in assessing problematic behaviors than the SOGS or any other screen based on the DSM-IV criteria.

For example, several of the DSM-IV criteria are difficult to establish with a single question. In assessing these criteria (Preoccupation, Escape, Risking a Significant Relationship), two or three questions were used with respondents receiving a single point if they give a positive response to any of the questions assessing that criterion. Another complication in constructing the NODS is that two of the DSM-IV criteria (Withdrawal, Loss of Control) assume that the questioner already knows that the individual has tried to "stop, cut down, or control" her or his gambling. These criteria were assessed with the NODS by first determining whether the respondent had tried to control her or his gambling before assessing whether the respondent had felt restless or irritable during these times (Withdrawal) and, then, assessing whether the respondent had succeeded in doing so (Loss of Control).

Another decision in developing the NODS was to place definite limits on several of the criteria, in keeping with the approach taken in alcohol and drug abuse research. For example, in assessing Preoccupation, the NODS asks if the periods when respondents spent a lot of time thinking about gambling or about getting money to gamble have lasted 2 weeks or longer. Similarly, the NODS asks if respondents have tried, but not succeeded, in controlling their gambling three or more times (Loss of Control). Respondents are also asked if they have lied to others about their gambling three or more times (Lying). Only a positive response to these latter items are included in the final score for the NODS.

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<sup>1</sup> This section is based on the final report to the National Gambling Impact Study Commission (Gerstein et al, 1999).

<sup>2</sup> The National Opinion Research Center formed a study team that included Gemini Research, Ltd., the Lewin Group and Christiansen/Cummings Associates, Inc. In addition to the survey of 2406 adults, research initiatives included a national survey of 534 youths aged 16 and 17, intercept interviews with 530 adult patrons of gaming facilities, a longitudinal data base (1980 to 1996) of social and economic indicators and estimated gambling revenues in a random national sample of 100 communities and case studies in 10 communities regarding the effects of large-scale casinos opening in close proximity.

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In the national survey, NORC chose to administer the NODS only to those respondents who acknowledged ever losing \$100 or more in a single day of gambling and/or those who acknowledged that they had been behind at least \$100 across an entire year of gambling at some point in their lives. This decision was made after pretesting indicated that non-gamblers and infrequent gamblers grew impatient with repeated questions about gambling problems and after a review of other problem gambling surveys showed that persons who had never experienced significant losses were unlikely to report problems related to gambling. Further research is needed to determine whether the use of these filters in other problem gambling studies is warranted.

### **Validity and Reliability of the NODS**

In the study of clinical disorders, pathological gambling counts as a chronic rather than as an acute disorder. Once fully developed, chronic disorders leave a lifelong vulnerability. This vulnerability may be effectively treated and kept in check. However, periods when an individual is relatively free of symptoms do not mean that the person is free of the disorder. From the perspective of measuring prevalence, the strongest emphasis belongs on the determination of whether pathological gambling has developed rather than on whether its symptoms are recent or current. This is clearly reflected in the DSM-IV criteria, which focus on the accumulation of discrete symptoms through the present and do not require that specific symptoms be clustered tightly together in time.

As noted above, research on the performance of the SOGS has shown that the *lifetime* screen is very good at detecting pathological gambling among those who *currently* experience the disorder. However, the lifetime SOGS accurately identifies at-risk individuals at the expense of generating higher numbers of false positives. Based on the construction of the NODS as well as the results from the national survey, the research team believes that the specificity of the NODS will be very good, reducing the rate of false positives among those classified with the lifetime screen; and in this respect, contrasting with the performance of the SOGS.

One important step in developing the NODS was a field test with a national clinical sample of 40 individuals in outpatient problem gambling treatment programs. Based on the field test, the research team concluded that the NODS had strong internal consistency, retest reliability and good validity. The field test demonstrated that the sensitivity of the lifetime NODS in a clinical population was higher than the past year NODS. This is what one would expect if pathological gambling is appropriately conceptualized as a chronic disorder.

In the future, it will be important to examine whether the lifetime NODS, with its focus on the accumulation of symptoms over time, works better than the past year NODS, with its focus on the clustering of symptoms in time. It will also be important to calibrate the lifetime NODS with the South Oaks Gambling Screen, both lifetime and past year.

### ***Assessing Problem Gambling in the Future***

The assumption underlying all of the existing gambling research is that gambling-related difficulties are a robust phenomenon and that gambling problems exist in the community and can be measured. Despite agreement among researchers and treatment professionals at this fundamental level, there is disagreement about the concepts and measurement of gambling-related difficulties. While the ascription of "conceptual and methodological chaos" to the field (Shaffer, Hall & Vander Bilt, 1997: 8) may be an overstatement of the situation among its experienced researchers, the presence of competing concepts and methods is not uncommon among emerging and even mature scientific fields. Nevertheless disputes among experts have led to some degree of public confusion and uncertainty about the impacts of legal gambling on society.



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In the late 1990s, the issues surrounding legal gambling have become far more complex. Policy makers, government agencies, gambling regulators and gaming operators are concerned about the likely impacts of changing mixes of legal gambling on the gambling behavior of broad segments of the population as well as on the prevalence of gambling-related difficulties. Public health researchers and social scientists are concerned with minimizing the risks of legal gambling to particular subgroups in the population. Economists, financial institutions and law enforcement professionals are concerned about the relationship between legal gambling and bankruptcies, gambling and crime, and the reliance of the gaming industries on problem gamblers for revenues. Treatment professionals, government agencies and not-for-profit organizations are concerned about how to allocate scarce resources for the prevention and treatment of gambling problems (Volberg, 1998). Finally, groups opposed to the expansion of legal gambling have started working to prevent the further expansion of legal gambling or repeal existing activities.

Like much of science, measurement is a negotiable process. Instrumentation is always a reflection of the work that researchers are doing to identify and describe the phenomena in which they are interested. As research on problem gambling continues, our systems for classifying problem gamblers must change. The South Oaks Gambling Screen represents a culturally and historically situated consensus about the nature of problem gambling. As research continues and as the definitions of problem gambling change, new instruments and new methods for estimating prevalence in the general population and for testing models of gambling behavior will continue to emerge. These emerging methods must be tested against each other and against the South Oaks Gambling Screen in order to advance the field of problem gambling research in an orderly manner, ensuring the relevance of our past work as well as our work in the future.

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**APPENDIX B**

*Constructing the Weights for the North Dakota Survey*

By:

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**1. Sample and weighting overview.** The sample is a "two-phase probability sample" (Kish, 1965, Chap. 12), also called a "double sample" (Cochran, 1963, Chap. 12), of adult members of households with telephones located in North Dakota. The first phase involved the selection of residential households with telephones in North Dakota and the selection of one eligible adult aged 18 or older from each selected household to respond to the screener or "short form". The phase 1 or short form weights ("WT\_SHORT") treat the first phase selection as an equal-probability selection of eligible adults in North Dakota, except that male and female adults of different ages in each of four "regions" of North Dakota may have different probabilities of completing the screener. The second phase sample involved a stratified random selection of phase-1 respondents for the full-length interview ("long form"): 25% of short-form respondents who said they were lifetime gamblers, 25% of those who said they were past-year gamblers, 100% of those who said they were past-week gamblers, and 0% of those who said they had never gambled were selected to receive the full-length interview. (An exception is Region 1, where much higher percentages of lifetime and past-year gamblers were asked to complete the long form.) The phase 2 or long form weights ("WT\_LONG") adjust for both the differential probabilities of selection for the long form based on gambling frequency, for differential nonresponse by region, age, and gender at phases 1 and 2, and for differential nonresponse by gambling frequency at phase 2.

The following sections give details of the weights for the short and long forms, provide descriptive statistics for both weights, and discuss the implementation of the weights in analyses of the North Dakota gambling dataset.

**2. Phase-1 weights ("WT\_SHORT").** Separately within each of 48 phase-1 weighting subclasses, we calculated the phase-1 weight by (a) dividing the number of individuals who completed the short form by the corresponding number of adults in the same subclass of the North Dakota population, (b) taking the reciprocal (inverse) of the resulting ratio, and (c) standardizing the reciprocals of the ratios so that their sum across all short-form respondents equals the number of short-respondents, i.e.,  $n = 5002$ . The quantity calculated in (a) estimates the "phase-1 inclusion probability," the probability of being selected for and completing the screener. The phase-1 weight is proportional to the reciprocal of the phase-1 inclusion probability (Cochran, 1963).

The 48 subclasses that were used in the phase-1 weighting resulted from cross-classifying three variables: age (coded 18-24, 25-29, 30-34, 35-54, 55-64, and 65 and older), gender (males and females), and region (coded 1, 2, 3, and 4). A small number of missing screener responses on age—about 5%—were imputed at the mode. A printout accompanying this memorandum ("ndimpute.lst") shows the distribution of short-form respondents by phase-1 weighting subclass.

**3. Phase-2 weights ("WT\_LONG").** The long-form weights are the product of two factors: (a) the phase-1 weight ("WT\_SHORT") and (b) the "phase-2 factor," a factor which adjusts for the unequal probabilities of selecting short form respondents for the long form and for the unequal long-form completion rates of individuals of different regions, ages, genders, and gambling frequencies. Separately within each of 44 phase-2 weighting subclasses, the phase-2 factor was computed by (a) dividing the number of long-form respondents by the number of short-form respondents in the same weighting subclass and (b) taking the reciprocal inverse. The phase-2 weights ("WT\_LONG")—computed by multiplying the phase-1 weight by the phase-2 factor—were standardized so that they sum, when added up over all long-form respondents, to the number of long-form respondents,  $n = 1609$ . (Note that the long-form weights are not defined—take on missing data values—for individuals who did not complete the long form.) The quantity calculated in (a) estimates the "phase-2 inclusion probability," the conditional probability of being selected for and completing the long form, given completion of the short form. The long-form weight is proportional to the reciprocal of the product of the phase-1 and phase-2 inclusion probabilities (Cochran, 1963).

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The subclasses used in the phase-2 weighting initially resulted from cross-class variables: age (coded 18-34, 35-54, 55 and older), gender (males and female 2, 3, and 4), and gambling frequency (never, lifetime, past-year, and past-week). It was necessary to collapse across some weighting subclasses to produce final weighting subclasses with sufficient numbers of cases—a minimum of 35 cases per subclass—to estimate the probability factor: (a) we collapsed across age for all gambling subclasses, except past-year gamblers, in region 1; (b) we collapsed regions 2, 3, and 4 for nongamblers and lifetime gamblers; (c) we collapsed both age and region for past-week gamblers in regions 2, 3, and 4. A printout accompanying this memorandum ("ndimpute.lst") shows the distribution of short-form respondents by phase-2 weighting subclass.

4. *Descriptive statistics.* A printout accompanying this memorandum ("ndweight.lst") presents descriptive statistics for the two weights: WT\_SHORT and WT\_LONG. Each weight is only mildly positively skewed (skewness = 1.29 for WT\_SHORT and skewness = 0.70 for WT\_LONG) and the coefficient of variation (standard deviation divided by mean) of each weight is moderate in magnitude. These statistics suggest that the use of each weight in analysis should occasion only a modest reduction in statistical precision relative to a self-weighting sample of the same size.

5. *Implementation of the weights in analysis.* WT\_SHORT should be used in analyses of the short-form data. WT\_LONG should be used in analyses of the long-form data. Each weight is scaled to sum to the total number of respondents, so these weights should yield fairly accurate standard errors of analytical statistics and confidence intervals for estimated parameters, when applied using the WEIGHT subcommands of programs like SPSS or SAS, except that these programs make no adjustment for the clustering of phone numbers with banks (assuming that a clustered sample of phone numbers was selected in phase 1). Most analytical purposes will be well served by using these weights. Exceptions would be inferences about the total number of North Dakota adults with specified attributes or about the total number of North Dakota gamblers with specified attributes. For the latter kinds of uses, WT\_SHORT should be rescaled to sum to the number of North Dakota adults, and WT\_LONG should be rescaled to sum to the number of gamblers in North Dakota (or best available estimate thereof).