MICROFILM DIVIDER

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

ROLL NUMBER

DESCRIPTION

1305

2001 HOUSE JUDICIARY

HB 1305

2001 HOUSE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. HB 1305

House Judiciary Committee

☐ Conference Committee

Hearing Date 02-05-01

Tape Number	Side A	Side B	Meter #
TAPE I	x		01 to 6249
TAPE I		x	01 to 3393
Committee Clerk Signature	Joan Dietz		

Minutes: Chairman DeKrey opened the hearing on HB 1305. Relating to conduct of poker under the games of chance laws.

Rep Delmore: District 43, SW Grand Forks. Introduced the bill This gives flexibility, removes the limitation of two times a year. Explains the guidelines that are in statute. The Administrative Rules Committee still has oversite.

Rick Stenseth: Representing Charitable Gaming in North Dakota. (see attached testimony) The industry is in a down turn and are looking for ways to revitalize the industry. One of the ways is the game of poker. Asking for flexibility and are willing to work with the gaming commission with the new games. Gives the Gaming Commission the same power over the game as other games. The colored page shows what has been happening over the last two years.

Rep Eckre: On page three, what is the reason for the decline.

Rick Stenseth: We don't know.

Rep Klemin: How would this work in games against the house?

Rick Stenseth: He gives examples of how it would work.

Rep Klemin:Games against the house, asks for some more clarification.

Rick Stenseth: Give the clarification with some examples of different games of poker.

Rep Klemin: Asks about a specific game of poker.

Rick Stenseth: Gives examples, and says that they have just begun to explore what is available.

Rep Klemin: The fiscal note shows an amount that he considered a small return.

Rick Stenseth: Mr Keller talked about how he determined that number, based on a five per cent gaming tax.

Rep Klemin: Would that be state wide.

Rick Stenseth: The is correct.

Vice Chr Kretschmar: Are you aware of studies that are being taken in other states?

Rick Stenseth: Yes, there are some, I have the numbers.

Rep Kenner: District 31. Introduced the bill as a primary sponsor who introduced the bill on behalf of the Charitable Gamers in North Dakota.

Rick Stenseth: How the survey results compare to other states, we have a 3.8 weekly gamblers, that ranks second to last in the states surveyed. There are 14 states in the study, South Dakota being the only state that is lower. The higher ones are New York and Mississippi. Our problems are less then states that have broader gambling.

Rep Disrud: Could you review, how before gambling did the charities survive?

Rick Stenseth:Gave examples such as bake sales, bingo etc.Charitable gaming is not the only source for charities.

Rep Wrangham: Eligible uses have been funded by gambling, in present day, the purpose was not to fund state government and not to establish a gaming industry , it was to fund those eligible uses. Do you know is there is anything that shows good and great things that the money goes to. He asks the group to put together such information.

Rick Stenseth: Thank you for your thoughts, we now have a webb site to give you information.

Chairman Dekrey: Thank you for appearing.

Rick Stenseth: I have some amendments and explains them.

Rep Disrud: Do you have the webb site address with you.

Rick Stenseth: Webb site is egand.com.

Rep Klemin: In regard to the amendment, asks for clarification.

Rick Stenseth: Gives the clarification.

Rep Hawken: District 46. Sponsor on the bill. Spoke in support of HB 1305 and HB 1306. Although this bill was sponsored by gaming association, it was the actual charities that contacted me. By making the changes they will be able in increase the amount that will go to the charities.

Todd Kranda: lobbist for Charitable Gaming Association, spoke in support of HB 1305.

Bill Shalhoob: North Dakota Hospitality Association, spoke in support of HB 1305.

Chuck Keller Chief Auditor of the Gaming Commission, from the Attorney General Office. Reviewed the fiscal note and stated that it was a very conservative estimate, he explained what other states that were contacted and how they arrived at the figure in the fiscal note. Explained about the use of poker tables. Handed out three handouts to clarify a point.

Chairman DeKrey: When did the Indian Casinos come into play here.

Chuck Keller: I believe that the first year was 1991.

Rep Delmore: The religious uses, bingo in the churches, who are we looking at.

Chuck Keller: There are several churches that are licensed, primarily bingo.

Rep Delmore: Can you tell me how many sites, and how many churches are involved.

Chuck Keller: I don't have that information but I can obtain that for you.

Rep Klemin: Asks for clarification on one of the handouts.

Chuck Keller: The top line reflects the total proceeds of all games. Has one more hand out to give an over view by game type.

Rep Grande: Question on the income on the fiscal note, do we have any results on the cost to the state on increased welfare.

Chuck Keller:I don't have that information.

Rep Grande: Are those general fund dollars?

Chuck Keller: It is general fund money.

Rep Grande: This is only the treatment funding for gambling?

Chuck Keller: These amount reflect the gaming disbursements.

Rep Grande: The Charitable Gambling Association puts in money towards compulsive gambling.

Chuck Keller: Some do and this is reflected in this document. Besides this amount the state does appropriate $150,000.00 to compulsive gambling purposes.

Rep Grande: Your fiscal note has an increase for this bill.We are having to double the need for treatment.

Chuck Keller: The amount is based on the entire gaming industry.

Rep Delmore: That is not all the additional revenue that we are bringing in, what is the total?

Chuck Keller: The years 2001 - 2003, the bottom line including bingo is 21,210,000.00.

Rep Klemin: Asks for a clarification of the overview hand out.

Chuck Keller: He explains using the forecasted gaming activity chart.

Rep Klemin:Aska for another clarification on another point.

Chuck Keller: This over view is just an over view of certain lines.

Rep Klemin: This is a line item here.

Chuck Keller: Yes.

Rep Maragos: Based on the forecast, do you expect another drop.

Chuck Keller: Yes.

Rep Maragos: To what do you attribute the drop?

Chuck Keller: Indian casino, low Canadian tourism and reduction of the fraternal and vets organization.

Rep Klemin: Just a follow up, the line item we are missing is the allowable expenses.

Chuck Keller: Yes.

Rep Delmore: Do casinos contribute to the gaming problem?

Chuck Keller:Casinos do contribute to the state mental health department.

Rep Delmore: Could you get the amount contributed?

Chuck Keller:Yes.

Rep Grande: Would you include the gambling association how much they contribute.

Chuck Keller: That is not channeled through us.

Rich Stenseth: It is not channeled through us.

Rep Delmore: We don't get state revenue that are paid out from the casinos as we do from charitable gaming?

Chuck Keller: Indian Casino don't contribute.

Chairman DeKrey: If that is all the information that you have for us, thank you for appearing. Does Keith have some information for us.

Chuck Keller: Keith would know how much money the tribes actually disburse.

TAPE 1 SIDE B

Rose Stoller: Executive Director of the Mental Health Association. We neither support or are in opposition to the bill. I can answer your question, for the past two years the North Dakota Indian Gaming Association have provided our association with $85,000.00. This helps with our telephone help line.

Rep Delmore: What per centage of profits is put back into this do we?

Rose Stoller: I can't answer that.

Rep Klemin: What other organizations contribute.

Rose Stoller: Our association does not.

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

Joseph Dirk: testifying for the Moose Clubs, spoke in support of HB 1395.

Ardis Olson: Drake ND spoke in support of HB 1305. She is President of the Charitable Gaming Association of North Dakota.

Chairman DeKrey: Any questions for Ms Olson, thank you for appearing. Remi Brooke: appearing here on behalf of The Arc (see attached testimony)

Vickie Wagner: Gaming manager of the VFW in Bismarck. Spoke in support of HB 1305.

Vice Chr Kretschmar: Has the level of gaming increased or decreased.

Vickie Wagner: It has been dropping down.

Chairman DeKrey: we will take a ten minute break. Call the committee back to order with opposition to HB 1305.

Tracey Porter: Fort Abraham Lincoln Foundation. Spoke in a neutral position. The foundation gets grants to help with the costs, we wouldn't be able to get grants without help from the gaming funds.

Chairman DeKrey: Anyone wishing to testify in opposition.

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

Rep Delmore: Can you tell me the numbers for the per centage of increase of compulsive gamblers?

Governor Link: I am not sure we have those numbers.

Rep Klemin: Does the report have any conclusions as to why we have the decline in state wide gambling?

Governor Link: I am not sure.

Chairman DeKrey: Any more questions for Governor Link, if not thank you for appearing.

Warren Wenzel: Pastor of the United Methodist Church in Fairmount, North Dakota. (see attached testimony)

Chairman DeKrey: What are the religious uses of gambling money are?

Rev Wenzel: I am not sure.

Rep Klemin: They say we are losing customers to casinos,do you know any other reasons?

Rev Wenzel: I don't have any additional sources of information.

Rep Wrangham: The study shows fewer people gambling, but the hard core has gone up, does this study show who it is?

Rev Wenzel: I am not sure.

Rep Delmore: In light of the question that was just asked, I wonder if it is fair to call this an expansion to gambling.

Rev Wenzel: When you raise the betting limits etc, it seems to me that is expansion of gambling.

Rep Mahoney: Carrying that a step further, in doubling the chronic gamblers, as I recall we didn't have an expansion of gambling in North Dakota, at the same time the casinos have been growing, with that in mind, do you think that if we pass the bill, will it tie in hand in hand with this increasing number. Will this bill make it go up or down?

Rev Wenzel: If you increase gambling, you increase the addiction.

Rep Mahoney: If gambling has gone down, but the pathological numbers have increased.

Rev Wenzel: If the gambling is more accessible we will have more problem.

Rep Maragos: In your handout that has a bar graph, how do you account for hypocrisy of what they believe and what they do?

Rev Wenzel: You pose an interesting question.

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

Warren DeKrey: Spoke in opposition of HB 1305.

Rep Maragos: You made an interesting statement about skimming, do you have any evidence of that.

Warren DeKrey: when I said skimming, I was using it literally, taking care of expenses.

Rep Maragos: We understand that you are opposed to gaming, would you prefer that the citizens of North Dakota go on the reservation to game or would you prefer that they stay home in their local charities?

Warren DeKrey: There is no way that we can keep people from gambling.

Rep Maragos: I would like you to answer the question, what is your preference.

Warren DeKrey: I would rather have the local community.

Rep Disrud: The $25.00 is an issue, would you be ami enable to a lower amount?

Warren DeKrey: That might be an option.

Chairman DeKrey: If there are no further questions, we will close the hearing on HB 1305.

2001 HOUSE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. HB 1305a

House Judiciary Committee

☐ Conference Committee

Hearing Date 02-14-01

Tape Number	Side A	Side B	Meter #
TAPE I	x		01 to 1028
Committee Clerk Signature	Joan Diers		

Minutes:Chairman DeKrey called the committee to order we will take up HB 1305. This bill relates to poker under the games of chance. What are the committee wishes.

DISCUSSION

COMMITTEE ACTION

Vice Chr Kretschmar moved the amendments, seconded by Rep Grande. Further discussion on the amendments. A voice vote was taken, motion passes.

Chairman DeKrey: what are the wishes of the committee. Vice Chr Kretschmar moved a DO PASS as amend, seconded by Rep Delmore.

DISCUSSION

The clerk will call the roll on a DO PASS as amend. The motion passes with 11 YES, 4 NO and 0 ABSENT. Carrier Vice Chr Kretschmar.

FISCAL NOTE

Requested by Legislative Council
01/17/2001

Bill/Resolution No.: HB 1305

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
Revenues	$0	$0	$5,000	$0	$10,000	$0
Expenditures	$0	$0	$0	$0	$0	$0
Appropriations	$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 allow a licensed gaming organization to conduct poker tournaments and variations of the game of poker in which a player would play against the organization, rather than against the other players. The bill would allow the organization to conduct poker on more than two occasions per year.

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 revenue since the estimated increase in adjusted gross proceeds (gross proceeds less prizes) for the game of poker would be subject to the gaming tax.

Qualification: If two or more bills propose to increase gaming activity, each of the proposals may impact and interact with each other and reduce the combined fiscal effect of the bills.

   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

Name:	Charles Keller/Kathy Roll	**Agency:**	Office of Attorney General
Phone Number:	328-4482	**Date Prepared:**	02/01/2001

Proposed Amendments to House Bill No. 1305

Page 1, line 7, after "organization" insert "in traditional format."

Renumber accordingly

18300.0101
Title.0200

Adopted by the Judiciary Committee
February 14, 2001

VR
2/14/01

HOUSE AMENDMENTS TO HB 1305 HOUSE JUDICIARY 02-15-01

Page 1, line 7, after "organization" insert "in traditional format," and after "format" insert an underscored comma

Renumber accordingly

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

2001 HOUSE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. HB-1305

House JUDICIARY Committee

☐ Subcommittee on _____
or
☐ Conference Committee

Legislative Council Amendment Number _____

Action Taken Do Pass as amend

Motion Made By Vice Chr Kretschmar 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) 11 No 4

Absent Ø

Floor Assignment Vice Chr Kretschmar

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

REPORT OF STANDING COMMITTEE

HB 1305: Judiciary Committee (Rep. DeKrey, Chairman) recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO PASS** (11 YEAS, 4 NAYS, 0 ABSENT AND NOT VOTING). HB 1305 was placed on the Sixth order on the calendar.

Page 1, line 7, after "organization" insert "in traditional format," and after "format" insert an underscored comma

Renumber accordingly

2001 SENATE JUDICIARY

HB 1305

2001 SENATE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. 1305

Senate Judiciary Committee

❑ Conference Committee

Hearing Date March 19th, 2001

Tape Number	Side A	Side B	Meter #
1		x	30.2-end
2	x		0-5.1
Committee Clerk Signature			

Minutes: **Senator Traynor**, opened the hearing on HB 1305.

Rep. Delmore, district 43, urges the committee to support this bill. Charitable gaming is a source of revenue for our state. We hope to level the playing field.

Rep. Hawken, district 46, would like to add that we focus on what this bill is asking. We are not expanding gaming. This is simply looking at local charities. How can we do the best with our industry.

Todd Kranda, representing Charitable Gaming Organization, likes to identify changes on 1305. This bill deals with poker. We are dealing with an increase of $5 -$25. We are not competing with the tribal issues we would like to keep individuals in our community for charitable purposes. With respect to treatment issues we would get information on that. Tribal casinos have provided funding what ND gaming is doing in ND. We don't believe this is an expansion of gaming.

Senator Trenbeath, if we are not competing with the Indians. Why is this not an attempt to expand gaming?

Todd Kranda, because we're not adding more games. We are asking to increase the wage amounts.

Senator Trenbeath, a three dollar poker game to unlimited amount, seems like an expansion to me.

Todd Kranda, we don't believe it is.

Senator Watne, on surveillance cameras, costs $12,000 dollars each. We set the smaller places didn't need them. Based on the size of the sites.

Todd Kranda, I don't recall the restrictions. What we're talking about is where they have concerns already won't be a problem. Its a mechanism for study. There are different funds available for treatment.

Senator Traynor, in addition to Rick Stensa, those same parties will support 1305.

Rick Stenseth, asking for freedom of gaming board to look at other forms of poker. There's different kinds of poker and we would like the gaming to have flexibility to decide with the Attorney General.

Bill Shalhoub, hospitality commission, like to point out 2 changes. Play a little poker at reservation. Only game where it is not against the house.

Governor Link, (testimony attached), opposed to the bill.

Rev. Warren Wenzel, we don't need to legislate morality. We are facilitating it if we put this bill into law. We are indeed expanding gambling.

Warren Dekrey, opposed to gambling because it is an expansion of gambling. It creates no new wealth. Its a drag on our economy. Gambling is done locally.

Richard Unkenhoof, rep. Self, I think that there is a something for nothing attitude.

Senator Traynor, closed the hearing on HB 1305.

SENATOR WATNE MOTIONED TO DO PASS, SECONDED BY SENATOR LYSON. VOTE INDICATED 3 YEAS, 3 NAYS AND 1 ABSENT AND NOT VOTING. SENATOR NELSON MOTIONED TO DO NOT PASS, SECONDED BY SENATOR TRENBEATH. VOTE INDICATED 4 YEAS, 3 NAYS AND 0 ABSENT AND NOT VOTING. SENATOR DEVER VOLUNTEERED TO CARRY THE BILL.

Date: 3/20/01
Roll Call Vote #: 1

2001 SENATE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. 1305

Senate Judiciary Committee

☐ Subcommittee on _____
or
☐ Conference Committee

Legislative Council Amendment Number _____

Action Taken Do Pass

Motion Made By Watne Seconded By Lyson

Senators	Yes	No	Senators	Yes	No
Traynor, J. Chairman	X		Bercier, D.		
Watne, D. Vice Chairman	X		Nelson, C.		X
Dever, D.		X			
Lyson, S.	X				
Trenbeath, T.		X			

Total (Yes) 3 No 3

Absent 1

Floor Assignment _____

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

Date: 3/20/01
Roll Call Vote #: 2

2001 SENATE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. 1305

Senate Judiciary Committee

☐ Subcommittee on _____
or
☐ Conference Committee

Legislative Council Amendment Number _____

Action Taken Do Not Pass

Motion Made By Nelson Seconded By Trenbeath

Senators	Yes	No	Senators	Yes	No
Traynor, J. Chairman		X	Bercier, D.		
Watne, D. Vice Chairman		X	Nelson, C.	X	
Dever, D.	X				
Lyson, S.		X			
Trenbeath, T.	X				

Total (Yes) 3 No 3

Absent 1

Floor Assignment _____

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

Date: 3/20/01
Roll Call Vote #: 3

2001 SENATE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. 1305

Senate Judiciary Committee

☐ Subcommittee on

or

☐ Conference Committee

Legislative Council Amendment Number

Action Taken Do Not Pass

Motion Made By Nelson Seconded By Dever

Senators	Yes	No	Senators	Yes	No
Traynor, J. Chairman		X	Bercier, D.	X	
Watne, D. Vice Chairman		X	Nelson, C.	X	
Dever, D.	X				
Lyson, S.		X			
Trenbeath, T.	X				

Total (Yes) 4 No 3

Absent 0

Floor Assignment Dever

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

REPORT OF STANDING COMMITTEE (410)
March 22, 2001 9:05 a.m.

Module No: SR-50-6361
Carrier: Dever
Insert LC: . Title: .

REPORT OF STANDING COMMITTEE

HB 1305, as engrossed: Judiciary Committee (Sen. Traynor, Chairman) recommends **DO NOT PASS** (4 YEAS, 3 NAYS, 0 ABSENT AND NOT VOTING). Engrossed HB 1305 was placed on the Fourteenth order on the calendar.

2001 TESTIMONY

HB 1305

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:

Game Type	Wagering Limit
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

Charitable Uses:		Amount	Percent to Grand Total
Abused	$	54,714	0.31
Alcohol and Drug Abuse		148,118	0.85
Animal Protection		308,446	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		142,725	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		15,725	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
Total	$	6,586,370	37.69

Religious Uses:		Amount	Percent to Grand Total
Religious uses		234,185	1.34
Total	$	234,185	1.34

Educational Uses:

Agriculture	$	61,583	0.35
Arts		2,095,541	11.99
Educational Public Services		963,025	5.51
Safety		93,007	0.53
Educational Institutions and Activities		716,031	4.10
Preservation of Cultural Heritage		349,936	2.00
Scholarships		732,682	4.19
Vocational Workshops		7,655	0.04
Other		93,905	0.54
Total	$	5,113,364	29.25

Fraternal Uses:

Camp Grassick	$	33,199	0.19
Fraternal Foundations		22,272	0.13
Legion Baseball		400,355	2.29
Disabled or Injured Veteran's Assistance		43,200	0.25
Other		42,317	0.24
Total	$	541,343	3.10

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		50,530	0.29
Total	$	382,448	2.19

Uses for Erection or Maintenance of Public Buildings or Works:

Uses described above		145,047	0.83
Total	$	145,047	0.83

Uses Lessening the Burden of Government:		**Amount**	**Percent to Grand Total**
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		14,115	0.08
Total	$	2,660,720	15.23

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	$	21,435	0.12

Uses Benefiting a Definite Number of Persons Suffering from a Seriously Disabling Disease or Injury Causing Severe Loss of Income or Incurring Extraordinary Medical Expense Which Is Uncompensated by Insurance:

Uses described above	$	729,749	4.18
Community Uses:			
Economic Development	$	301,447	1.73
Tourism		639,851	3.66
Other		118,889	0.68
Total	$	1,060,187	6.07
Grand Total	$	17,474,848	100.00

OFFICE OF ATTORNEY GENERAL
Gaming Division

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

	Gross Proceeds	Prizes	Adj Gross Proceeds	Gross Profit %
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	$ 498,706,000	$ 391,060,000	$ 107,646,000	22%

Add:	Interest Earned	$ 130,000
Less:	ND Excise Tax	14,470,000
	Federal Excise Tax	269,000
	Bingo Sales Tax	5,000,000
	Total Adjusted Gross Proceeds	$ 88,037,000
Less:	Gaming Tax	$ 6,250,000
	Allowable Expenses	51,524,000
	Total Expenses	$ 57,774,000
Net Proceeds		$ 30,263,000

Taxes Summary

ND 4.5% Excise Tax	$ 14,470,000
Gaming Tax	6,250,000
Total	$ 20,720,000

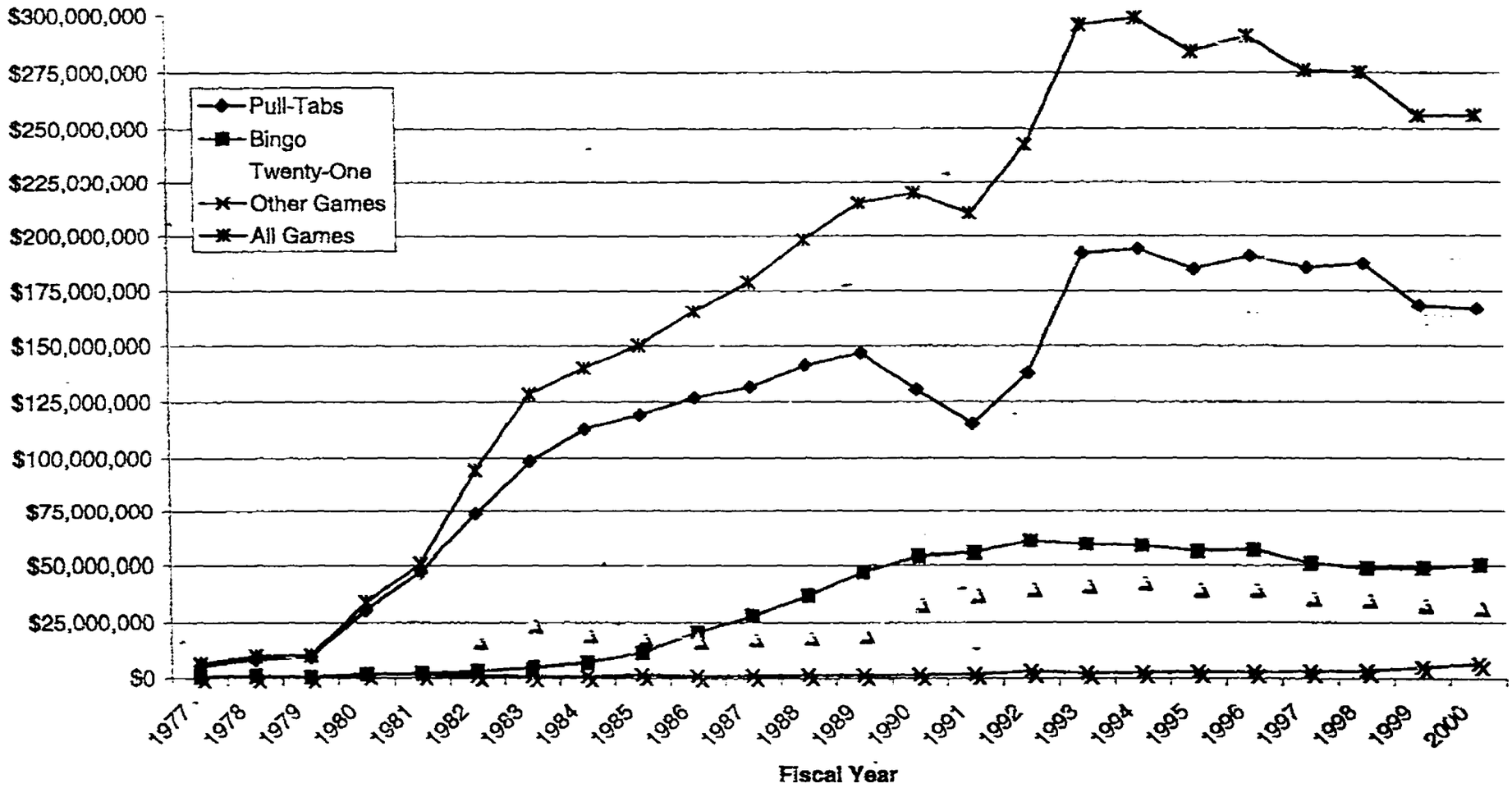
Other Revenue

Monetary Fines	$ 27,000
Interest and Penalty	15,000
Gaming Stamps and License and Record Check Fees	448,000
Total	$ 490,000

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

Office of Attorney General
Gaming Division
January 19, 2001

Gaming Gross Proceeds
Fiscal Years 1977 Through 2000

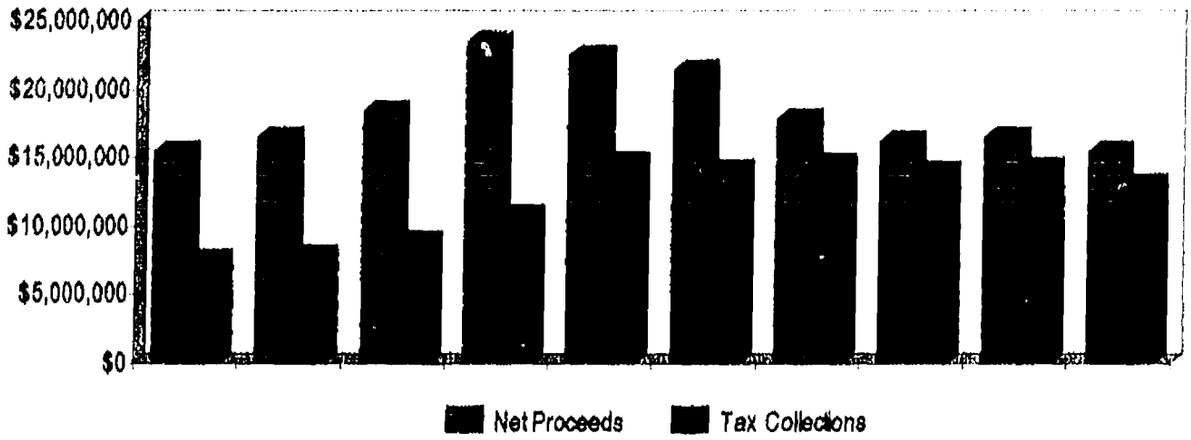


Observations on Charitable Gaming Activity and Related Costs

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.

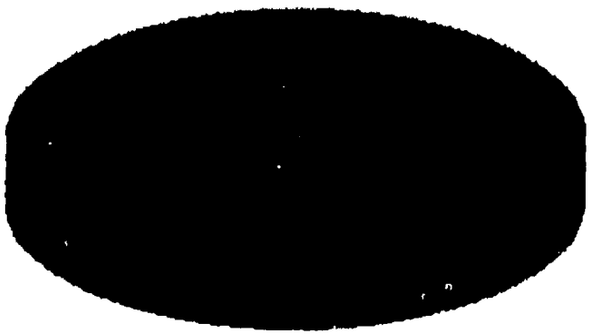
Net Proceeds v. Taxes 1990-1999

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



$56,010,000 (45.9%)

Tax Collections

$66,062,000 (54.1%)

Net Proceeds

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 wager 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; **1992 result – 12.3%** **2000 result – 4.3%**

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:

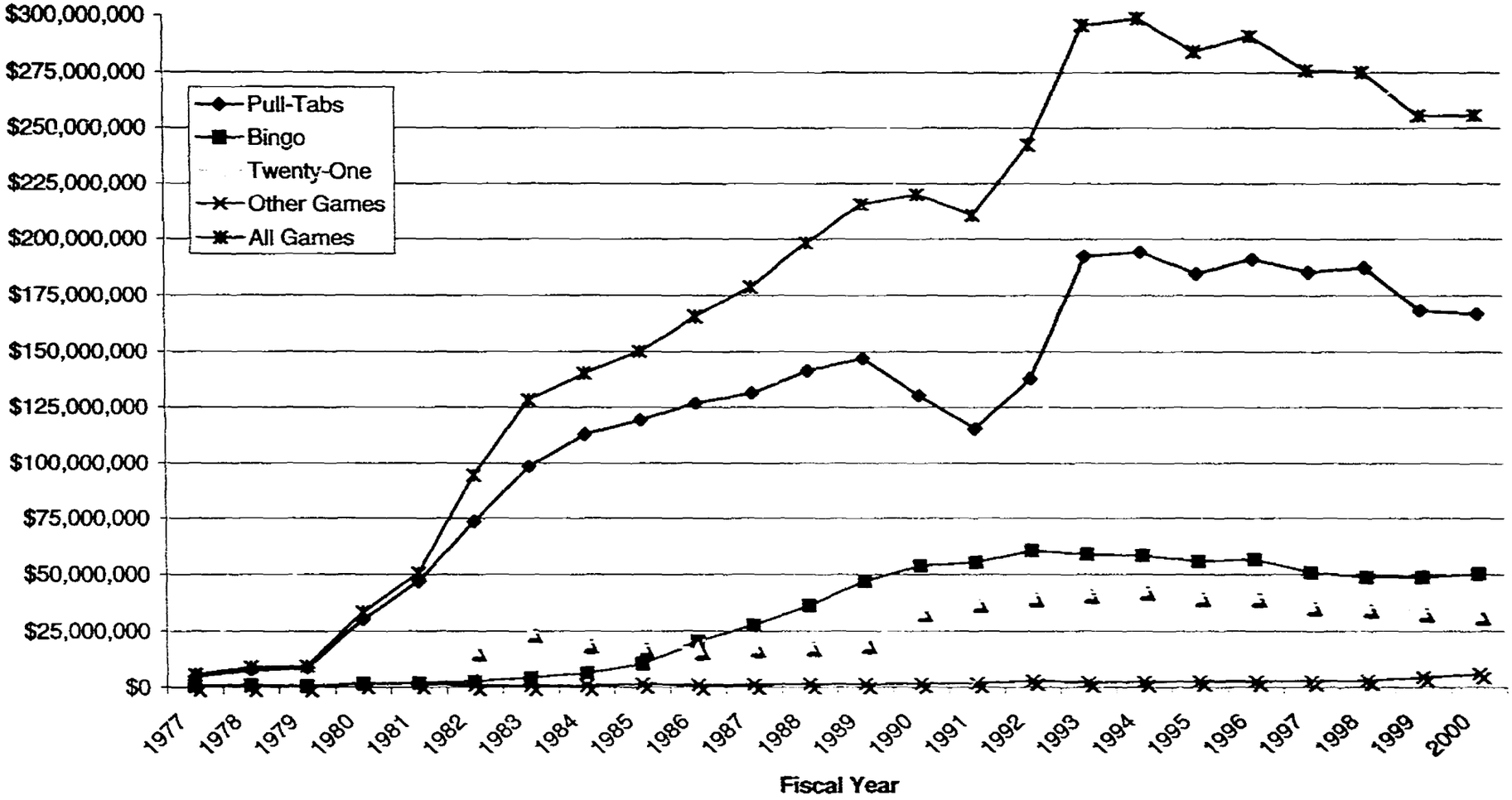
Problem gambling is a broad term that refers to all of the patterns of gambling behavior that compromise, disrupt or damage personal, family or vocational pursuits.
Lifetime Problem gamblers were 2.5% of the sample in 1992 and 2.0% in 2000
Current Problem gamblers were 1.3% of the sample in 1992 and 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



OFFICE OF ATTORNEY GENERAL
Gaming Division

Forecasted Gaming Activity for the 2001-03 Biennium
(Excludes Pari-mutuel Wagering)
January 26, 2001

	Gross Proceeds	Prizes	Adj Gross Proceeds	Gross Profit %
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%
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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	$ 498,706,000	$ 391,060,000	$ 107,646,000	22%

Add:	Interest Earned	$ 130,000
Less:	ND Excise Tax	14,470,000
	Federal Excise Tax	269,000
	Bingo Sales Tax	5,000,000
	Total Adjusted Gross Proceeds	$ 88,037,000
Less:	Gaming Tax	$ 6,250,000
	Allowable Expenses	51,524,000
	Total Expenses	$ 57,774,000
Net Proceeds		$ 30,263,000

Taxes Summary

ND 4.5% Excise Tax	$ 14,470,000
Gaming Tax	6,250,000
Total	$ 20,720,000

Other Revenue

Monetary Fines	$ 27,000
Interest and Penalty	15,000
Gaming Stamps and License and Record Check Fees	448,000
Total	$ 490,000

Total Taxes & Other Rev. (Excludes Bingo Sales Tax of $5 Million) $ 21,210,000

OFFICE OF ATTORNEY GENERAL

Overv[illegible] of Gaming Activity for 1977-2000

	Cal. Year Ended 12-77	Cal. Year Ended 12-78	Six Months Ended 6-79	Fis. Year Ended 6-80	Fis. Year Ended 6-81	Fis. Year Ended 6-82	Fis. Year Ended 6-83	Fis. Year Ended 6-84	Fis. Year Ended 6-85	Fis. Year Ended 6-86	Fis. Year Ended 6-87	Fis. Year Ended 6-88
[illegible] Tabs												
Gross Proceeds	[illegible]	$7,[illegible],000	$9,[illegible],000	$30,811,000	$46,938,000	$71,566,000	$ 96,461,000	$112,845,000	$119,213,000	$126,934,000	$131,437,000	$141,335,000
Adj. Gross Proceeds	Unavailable	Unavailable	Unavailable	Unavailable	8,304,000	12,489,000	17,174,000	19,814,000	20,669,000	21,606,000	22,072,000	23,063,000
Bingo												
Gross Proceeds	[illegible]	1,028,000	494,000	1,717,000	1,944,000	2,867,000	4,469,000	6,563,000	10,912,000	20,535,000	27,771,000	36,441,000
Adj. Gross Proceeds	Unavailable	Unavailable	Unavailable	Unavailable	489,000	830,000	1,135,000	1,567,000	2,144,000	3,167,000	4,862,000	4,962,000
Twenty-One												
Gross Proceeds	---	---	---	---	---	17,098,000	24,783,000	20,148,000	18,574,000	17,377,000	18,427,000	18,988,000
Adj. Gross Proceeds	---	---	---	---	---	4,445,000	6,444,000	5,758,000	4,948,000	4,505,000	4,793,000	4,675,000
Other Games												
Gross Proceeds	[illegible]	941,000	229,000	1,570,000	1,623,000	842,000	795,000	658,000	1,467,000	828,000	1,056,000	1,388,000
Adj. Gross Proceeds	Unavailable	Unavailable	Unavailable	Unavailable	391,000	254,000	226,000	182,000	381,000	315,000	446,000	586,000
Total Gross Proceeds	$8,986,000	$9,358,000	$ 9,833,000	$33,598,000	$50,505,000	$94,374,000	$128,508,000	$140,212,000	$150,166,000	$165,474,000	$178,741,000	$198,152,000
Adj. Gross Proceeds			$24,619,000			$18,516,000	$ 24,979,000	$ 27,321,000	$ 28,142,000	$ 29,593,000	$ 32,173,000	$ 33,286,000
Excise Tax	---	---	---	---	---	---	---	---	---	---	---	---
Gaming Tax			$ 1,186,000			$ 926,000	$ 1,249,000	$ 1,358,000	$ 1,382,000	$ 1,458,000	$ 1,591,000	$ 1,673,000
Bingo Sales Tax	---	---	---	---	---	---	---	---	---	---	---	---
Net Proceeds			$18,617,000			$11,410,000	$ 15,310,000	$ 16,673,000	$ 16,920,000	$ 15,520,000	$ 17,726,000	$ 16,511,000

	Fis. Year Ended 6-89	Fis. Year Ended 6-90	Fis. Year Ended 6-91	Fis. Year Ended 6-92	Fis. Year Ended 6-93	Fis. Year Ended 6-94	Fis. Year Ended 6-95	Fis. Year Ended 6-96	Fis. Year Ended 6-97	Fis. Year Ended 6-98	Fis. Year Ended 6-99	Fis. Year Ended 6-00
All Tabs:												
Gross Proceeds	$146,828,000	$180,345,000	$215,218,000	$137,829,000	$192,032,000	$194,081,000	$184,588,000	$190,833,000	$185,241,000	$187,200,000	$168,051,000	$166,626,000
Adj. Gross Proceeds	23,418,000	23,406,000	23,450,000	27,882,000	38,184,000	41,262,000	38,832,000	39,968,000	39,161,000	39,540,000	35,666,000	36,261,000
Bingo:												
Gross Proceeds	$[illegible],[illegible],000	$3,934,000	$5,375,000	$2,845,000	$9,157,000	$8,587,000	$6,018,000	$6,763,000	$6,901,000	$8,804,000	$8,868,000	$9,392,000
Adj. Gross Proceeds	$[illegible],[illegible],000	$1,056,000	$1,889,000	$1,365,000	$3,222,000	$1,372,000	$1,497,000	$1,804,000	$1,306,000	$1,586,000	$1,762,000	$1,279,000
Twenty-One:												
Gross Proceeds	$[illegible],[illegible],000	$6,104,000	$6,168,000	$0,709,000	$2,232,000	$3,525,000	$0,713,000	$0,576,000	$6,939,000	$6,011,000	$3,965,000	$2,565,000
Adj. Gross Proceeds	$[illegible],000	$1,074,000	$1,561,000	$1,981,000	$2,381,000	$2,378,000	$1,963,000	$1,891,000	$1,169,000	$1,947,000	$1,481,000	$1,073,000
Other Games:												
Gross Proceeds	$1,414,000	$1,546,000	$1,825,000	$1,090,000	$1,301,000	$1,535,000	$1,846,000	$1,854,000	$1,915,000	$1,151,000	$1,824,000	$1,391,000
Adj. Gross Proceeds	$[illegible],000	$[illegible],000	$[illegible],000	$[illegible],000	$[illegible],000	$1,056,000	$1,206,000	$1,279,000	$1,247,000	$1,340,000	$1,975,000	$2,421,000
Total Gross Proceeds	$[illegible],[illegible],000	$[illegible],[illegible],000	$[illegible],[illegible],000	$[illegible],[illegible],000	$[illegible],[illegible],000	$298,728,000	$284,165,000	$291,026,000	$275,996,000	$275,167,000	$255,708,000	$255,980,000
Adj. Gross Proceeds	$ [illegible],[illegible],000	$ [illegible],[illegible],000	$ 42,832,000	$ 48,146,000	$ [illegible],633,000	$ 62,068,000	$ 59,498,000	$ 60,942,000	$ 57,883,000	$ 59,413,000	$ 54,884,000	$ 56,034,000
Excise Tax	---	$ [illegible],[illegible],000	$ [illegible],258,000	$ 2,701,000	$ 3,761,000	$ 8,312,000	$ 7,950,000	$ 8,225,000	$ 7,984,000	$ 8,284,000	$ 7,286,000	$ 7,291,000
Gaming Tax	$ 1,977,000	$ 2,444,000	$ 2,726,000	$ 3,089,000	$ 3,992,000	$ 3,358,000	$ 3,192,000	$ 3,355,000	$ 3,154,000	$ 3,309,000	$ 3,039,000	$ 3,178,000
Bingo Sales Tax	---	$ 2,812,000	$ 2,687,000	$ 3,172,000	$ 3,084,000	$ 3,107,000	$ 2,971,000	$ 3,010,000	$ 2,850,000	$ 2,745,000	$ 2,769,000	$ 2,901,000
Net Proceeds	$ 17,571,000	$ 15,468,000	$ 16,562,000	$ 18,481,000	$ 23,446,000	$ 22,476,000	$ [illegible],[illegible]0,000	$ 17,835,000	$ 16,232,000	$ 16,504,000	$ 15,491,000	$ 16,054,000

Note -- Bingo sales tax is included in bingo gross proceeds

The Arc, Upper Valley

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Email thearc@arcuv.com

February 30, 2001

House Judiciary Committee
HB 1305, HB1306

Chairman DeKrey, Members of the Committee

My Name is Remi Brooke, and I am appearing here today on behalf of The Arc, Upper Valley. We are a private non-profit organization dedicated to improving the general welfare of people with mental retardation and related developmental disabilities and their families through advocacy, education, and family support services. We are a chapter member of the Arc of North Dakota and the Arc of the United States.

I am here to speak on behalf of HB1305, and HB1306. The Arc Upper Valley receives 29.9 % of its funding from Charitable Gaming for its programs ands services. Since 1993 to the present we have seen a 49.7% decrease in its net proceeds. In addition to this we have seen an increase of 26.6 % in expenses. If these trends continue we will not be able to sustain the current levels of programs and services available through our organization.

The Arc strongly encourages your support in passing these two bills.

If you have any questions I will be happy to answer them.

Thank you for your time and consideration.

North Dakota Council on Gambling Problems

Arthur A. Link
Chairman

February 5, 2001

Re: H.B. No. 1305

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. 1305 would permit licensed organizations to conduct poker without limit of occasions and increase the current maximum single bet of one dollar plus three raises to a maximum wager of twenty-five dollars.

This five-fold 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. 1305 would only add to these problems. Please stop this proposal to increase gambling and vote NO on H.B. 1305.

Thank you,

Arthur A. Link

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 tean-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

THE CLARION-LEDGER ■ JACKSON, MISSISSIPPI

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."

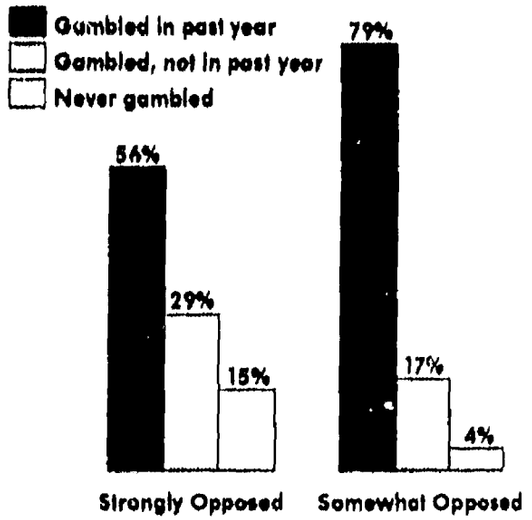
Mississippi has 30 casinos, including the one at the Choctaw Indian reservation near Philadelphia.

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

PROBLEM AND [illegible] OLOGICAL [illegible] OUND

- 86% of Americans report having gambled at least once in their lives.[1] (p. 1-1)
- In 1998, people gambling in the U.S. lost $50 billion in legal gambling.[1] (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.[1] (p. 16)
- Problem and pathological gamblers account for [illegible]-20% of all gambling revenues.[2] (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.[1] (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.[1] (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.[2] (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.[1] (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.[2] (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.[2] (p. 7-15)
- A National Opinion Survey Commission reported 19.2% of pathological gamblers reported filing bankruptcy.[2] (p. 7-16)
- Las Vegas has the highest resident suicide rate in the nation.[2] (p. 7-26)

CRITERIA FOR PATHOLOGICAL GAMBLING

Preoccupation	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
Tolerance	Needs to gamble with increasing amounts of money in order to achieve the desired excitement
Withdrawal	Is restless or irritable when attempting to cut down or stop gambling
Escape	Gambles as a way of escaping from problems or relieving dysphoric mood (e.g., feelings of helplessness, guilt, anxiety, or depression)
Chasing	After losing money gambling, often returns 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	Has made repeated unsuccessful efforts to control, cut back, or stop gambling
Illegal acts	Has committed illegal acts (e.g., forgery, fraud, theft, or embezzlement) in order to finance gambling
Risked significant relationship	Has jeopardized or lost a significant relationship, job, or educational or career opportunity because of gambling
Bailout	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.[2]

[1] *Executive Summary*, The National Gambling Impact Study Commission, June 1999

[2] *Final Report*, The National Gambling Impact Study Commission, June 1999

THE B[redacted]of DISCIPLINE of the U M C 1992

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.

THE BOOK of RESOLUTIONS of the U M C 1992
pages 412-414

NORTH DAKOTA CONFERENCE OF CHURCHES

227 West Broadway, #1 • Bismarck, North Dakota 58501 • (701) 255-0604

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

North Dakota Council on Gambling Problems

Arthur A. Link
Chairman

March 19, 2001

RE: HB 1305

Senator Jack Traynor, 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 #1305 would permit licensed organizations to conduct Poker without limit of occasions and increase the current maximum single bet of one dollar plus three raises to a wager of twenty-five dollars.

This five-fold increase is designed to entice more participants betting more money in an attempt tc 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.

Testimony presented to you on HB 1306 stated that the United Way emphasized the need for gambling intervention. The Governor's report on gambling stated that the worst kind of pathological gambling had doubled from 0.7 percent to 1.4 percent from 1992 to 2000.

Bismarck Tribune of March 7, 2001 headline states -- "Gambling addicts appeal to lawmakers for more funding to pay for treatment."

How much more evidence do we need to prove that gambling addiction is a growing problem?

Isn't it time to say "North Dakota has enough gambling?

Please vote NO on H.B. 1305

Arthur A. Link
Chairman

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.

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 1,609 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.

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. 28 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; Kallick, 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, Osiek & Ferrero, 2000; Gerstein, Volberg, Harwood, Christiansen et al, 1999; Productivity Commission, 1999; Rönnberg, 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

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 couple 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
Bailout	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 screens (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).

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[1] have been used in problem gambling prevalence surveys in more than 45 jurisdictions in the United States, Europe, Canada and Asia (Productivity Commission, 1999; Rönnberg et al, 1999; Shaffer, Hall & Vander Bilt, 1999; Sproston, 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

[1] 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).

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.[2] 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.

Screener 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 Interview 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;

[2] An exception is Region 1 (NW) where faulty skip rules resulted in full interviews with 90% of the past year gamblers and 86% 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; Rönnberg 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; Rönnberg 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 area codes 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
Totals	5,002	9,341	1,086	104	1,143	894

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 %
Gender		(N=5002)	
	Male	48.6	49.2
	Female	51.4	50.8
Age		(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
Ethnicity		(N=4850)	
	White	88.8	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.

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.

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) %
Charitable	66.6	47.6	3.1	0.8
Gaming machines	55.8	36.4	2.3	0.4
Pulltabs	46.0	30.5	3.2	0.8
Lottery games	39.9	28.6	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	6.6	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 6: Demographics of Gamblers in North Dakota

		Non-Gamblers (962) %	Infrequent Gamblers (551) %	Past Year Gamblers (3275) %	Weekly Gamblers (214) %	Total (5002) %
Gender***	Male	47.6	51.4	60.7	66.4	60.8
	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	38.4	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	10.5	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.[1] 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

[1] 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.

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.[2] 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

[2] 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.[3] 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	1689	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	±1.6	*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.

[3] 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)

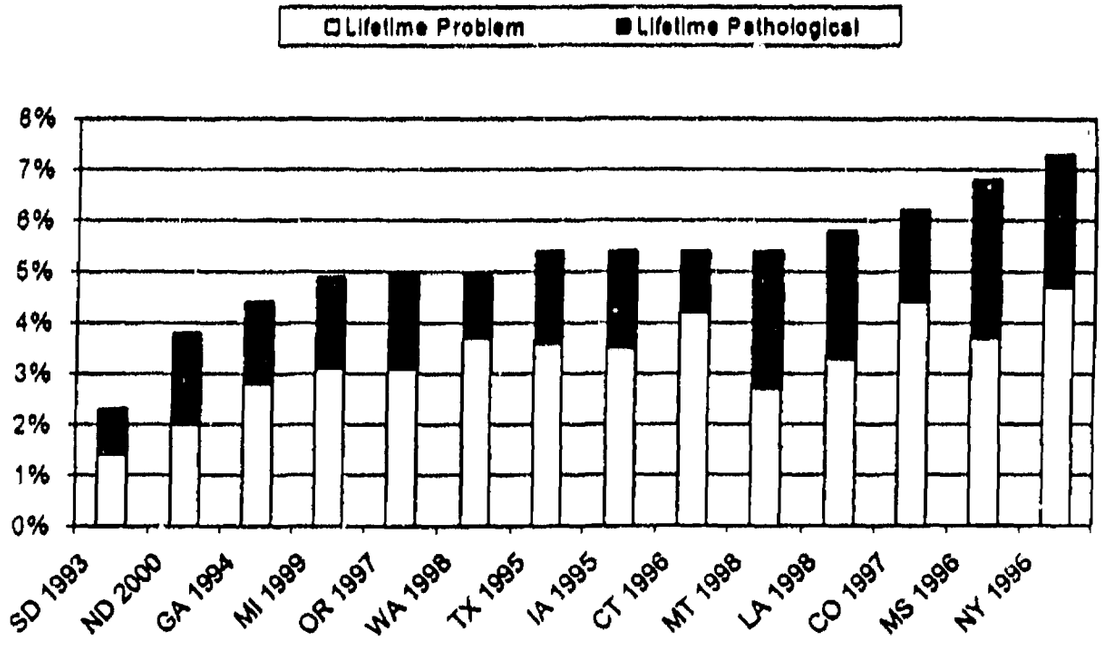
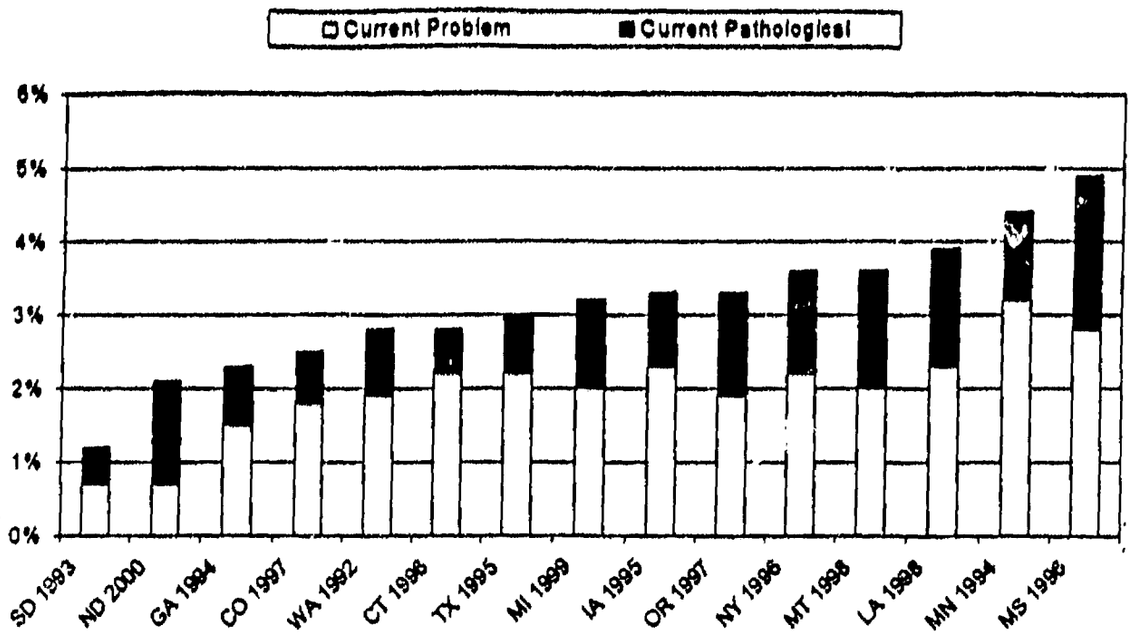


Figure 1 shows that the combined lifetime prevalence rate of problem and probable pathological gambling in North Dakota is lower than lifetime rates in most other states. The two states whose lifetime prevalence rates bracket that of North Dakota, including South Dakota and Georgia, were both surveyed 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 American†
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.

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 (1634) %	Problem Gamblers (75) %	Sig
Gender	Male	50.5	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 - 54	39.4	36.7	
	55 - 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	.016
	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	14.5	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	16.8	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	.036
	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	66.3	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	
Spouse/Partner	30.8	9.7	.002
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	
Less than $1,000	89.0	62.7	.000
$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.
Health Status			
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)	6.1	14.7	.007
Depression (ever)	25.7	45.3	.000
Alcohol / Drug Use			
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
Help-Seeking			
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 gambles 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.[4]

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

	Non-Problem Gamblers (1534) %	Problem Gamblers (75) %	Sig.
Family Impacts			
Argued about own gambling in past year	0.4	16.2	.000
Troubled by gambling of s'one R lives with	2.9	14.7	000
Financial Impacts			
Ever filed for bankruptcy	4.1	18.7	.000
	(61)	(14)	
Bankruptcy due to gambling	8.2	71.4	000
Filed for bankruptcy in past year	18.0	73.3	.000
Criminal Justice Impacts			
Ever arrested or detained	7.7	24.0	.000
	(115)	(18)	
Arrested due to gambling	1.8	55.6	000
Ever incarcerated	50.4	72.2	NS
Incarcerated due to gambling	3.5 (57)	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.

[4] 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).

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 1,809 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 Other lottery games	Lottery games including instant or scratch tickets, daily numbers games or large-jackpot games
Video lottery such as bingo, poker or blackjack Slot machines and other gaming machines not including video lottery	Slot machines, poker machines and other gaming machines that pay out tickets or cash
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 Sports with a bookie	Outcome of sports or other events with friends or coworkers, in formal sports pools or with a bookmaker
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 (p≤.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 gambled 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 (1517) %	2000 (5002) %	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 (p≤.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	11.6	-	.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	16.9	-	.004
Other	1.6	1.8		.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 (p≤.10)	p-value (1-tail)
Charitable	52.3	47.5	-	.000
Live bingo	22.7	21.6		.167
Pulltabs	32.5	30.5	-	.065
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 (ps.10)	p-value (1-tail)
Lifetime Problem	2.5	2.0	-	.096
Lifetime Probable Pathological	1.0	1.8	+	.014
Lifetime Combined	**3.5**	**3.8**		**.316**
Current Problem	1.3	0.7	-	.019
Current Probable Pathological	0.7	1.4	+	.019
Current Combined	**2.0**	**2.1**		**.386**

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	-	.041
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		.116
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		.336

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.[5]

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

[5] 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 25 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 if 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

	NODS				
SOGS	0	1 - 2	3 - 4	5+	Total
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
	65+	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	22.0	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	—

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.

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 b e 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, resea ch indicating that approximately 3% of individuals with severe alcohol-related difficulties actua:ly 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;

- 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;[6]

- 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.

[6] 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

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 & McGurrin, 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; Rönnberg 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%.

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 loansharks, 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

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, 1976; 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.

The 1998 National Survey[1]

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.[2] 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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[1] This section is based on the final report to the National Gambling Impact Study Commission (Gerstein et al, 1999).

[2] 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.

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.

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.

APPENDIX B

Constructing the Weights for the North Dakota Survey

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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, $n = 1009$. (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).

The subclasses used in the phase-2 weighting initially resulted from cross-clas 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). necessary to collapse across some weighting subclasses to produce final weighting s with sufficient numbers of cases—a minimum of 35 cases per subclass—to estimate the p 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 skew (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).