

ESTIMATES OF DWI DRIVER RECIDIVISM IN MINNESOTA FATAL CRASHES

Ray Lewis, B.A.  
Research Consultant  
Minnesota Criminal Justice System DWI Task Force  
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ACQUISITIONS

Abstract- Minnesota's administrative driver license revocation for either failing (driving with an alcohol concentration of .10% or more) or refusing the alcohol concentration test provides a much more accurate statement of the relationship between DWI recidivism and alcohol-related traffic fatalities. One quarter of the drinking drivers involved in Minnesota fatal crashes in 1984 had an administrative license action under implied consent statutes since 1976. Estimates from the Fatal Accident Reporting System (FARS), which are dependent on court convictions for DWI in the three years prior to fatal crash involvement, show only a seven percent recidivism rate. Additional findings for the DWI recidivists show that 33% had two or more alcohol-related license actions on their records, and that 27% were drinking and driving without a valid license at the time of the fatal crash.

This retrospective survey of drivers license records for all drivers involved in fatal accidents was done by the Minnesota Criminal Justice System DWI Task Force in cooperation with the Minnesota Department of Public Safety.

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# ESTIMATES OF DWI DRIVER RECIDIVISM IN MINNESOTA FATAL CRASHES

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## INTRODUCTION

The purpose of this study was to answer the question: "How many drinking drivers involved in fatal accidents have had a previous contact with the criminal justice system for driving while under the influence of alcohol?" To find the rate of DWI recidivism in fatal accidents in Minnesota, the state data from the Fatal Accident Reporting System (FARS) were examined.

Existing estimates of the role of DWI recidivism among drivers in fatal alcohol-related traffic crashes are based on the national FARS data on drinking drivers with DWI convictions in the three years prior to the crash. However, the practice of plea bargaining the DWI charge to a lesser offense distorts both the individual's license record and the national estimate of DWI recidivism in fatal crashes.

### The Minnesota Administrative Revocation Process

Plea bargaining during the adjudicative process is no longer an effective method of avoiding identification as a drinking driver in Minnesota. Since 1976 Minnesota's implied consent statute has required administrative driver license revocation by the Department of Public Safety for either driving with an alcohol concentration (AC) of .10% or more, or refusing the alcohol concentration test.

Since 1982, if the driver fails or refused the test, the arresting officer takes the plastic license and issues the

"notice and order of revocation" on behalf of the Commissioner of Public Safety. The notice also serves as a seven day temporary license in order to allow requests for judicial or administrative review as required under due process [MN Supreme Court: Heddan v. Dirkswager, 1983]. If the driver pleads guilty at the first opportunity, the length of the license revocation is reduced from 90 days as required under civil law to the 30 days required under criminal law for first offense DWI.

To discourage purely dilatory legal tactics, the license revocation is not stayed pending the results of the hearing. Currently only two percent of license revocations are overturned as a result of the administrative or judicial review of the the arrest and revocation [Conference Proceedings. 1986. in press].

Because few apprehended drinking drivers are able to avoid the administrative revocation, the number of identified drinking drivers with prior revocations will be very complete. In addition, the administrative revocation time frame for this analysis includes five more years of the driver's record (1976-1984) than the FARs requirement of DWI conviction in the prior three years. Further investigation of the police officers' report of alcohol involvement in the fatal accident clarified the data by eliminating false positives and reporting alcohol concentration levels for some "unknown" or "not reported" classifications. These refinements provide a more accurate picture of the 64 repeat offenders involved in fatal crashes.

Table 1 inserted here.

## METHOD

The population for this study includes all known drivers who were eligible for a drivers licenses and had drivers license records available through the Fatal Accident Reporting System for the year 1984.

Since more than one driver is often involved in a fatal accident, the number of drivers is greater than the number of accidents or fatalities. The results below are based on the drivers involved in fatal accidents (774), not the number of fatal accidents (519), nor with the number of fatally injured individuals (584).

To be included in the FARS database an accident must involve a motor vehicle moving on a roadway customarily open to the the public and result in the death of a person within 30 days of the accident. Data concerning fatal motor vehicle accidents are taken from local and state source documents and coded on standard FARS forms. The state analyst is responsible for obtaining source documents (i.e. police reports, drivers license file, medical examiner reports) and codes 90 different data elements in the FARS case. The FARS report contains three sections, the accident level, the vehicle/driver level, and the person level. The fatal accident that led to the identification of the driver is not included on the driving record.

Drinking drivers are classified as drivers who: 1) were correctly described as "had been drinking" or were "under the influence" on the traffic accident report, 2) had a positive AC report on the Implied Consent Peace Officers Certificate or 3)

had an alcohol level indicated on the medical examiner's fatality report.

Driving records of surviving drivers for whom the traffic accident report indicated that the officer suspected alcohol but no test result was recorded were requested from the Driver Evaluation Division. Of the 67 records checked, 31 were recoded for this study from unknown levels of alcohol to "over .10, under the influence, refused test" or an actual alcohol level.

False positives, where police indicated drinking on the traffic accident report and later testing showed negative alcohol concentrations, were not counted as drinking drivers.

#### Drivers excluded from analysis

Thirteen drivers from the FARS database were deleted from the present analysis since their driver license records were not available. They include:

- 5 hit and run drivers
- 3 unknown drivers (uncertain who was driving),
- 4 unlicensed drivers under the age of 16,
- 1 Canadian driver

Cerrelli [1983] gives estimates of the percentages of drinking drivers to account for hit and run accidents in the executive summary of the 1980 FARS report. Using his estimate of 33% would include another 1 or 2 of the hit and run drivers as alcohol related, but they were not included in the analysis.

Unknown drivers usually result when two or more people are ejected from the vehicle but no determination can be made as to who was driving. In all three of the unknown cases, usually occurring on motorcycles, a positive alcohol level was found for both the unknown driver and the passenger. In one case, an

unknown driver was recoded as a driver since the information from the accident report stated that he had stepped out of the car in order to check the tail-lights and was then struck by another vehicle.

Four out-of-state drivers with prior convictions for DWI were be considered to have had their licenses' revoked or suspended for that offense even though FARS data does not include that fact. All four drivers show a license revocation or suspension in the previous three years, but three of the four also have other convictions which might have resulted in license suspension. As of 1982, South Dakota, Georgia, Nebraska and Wisconsin all had laws allowing for license suspension or revocation for DWI conviction and in all but South Dakota, the license action was mandatory [US DOT 1983]. Although the conviction might have have occurred in the year prior to 1982, the chances are that all four drivers had their licenses' revoked or suspended for the DWI convictions. Only one of the the four was reported as drinking at the time of the 1984 fatal accident.

#### RESULTS

Drinking drivers compose 34% of all drivers involved in fatal accidents in 1984. The drinking driver with a prior license revocation under the implied consent statute since 1976 accounts for 8% of all drivers involved in fatal accidents and 25% of the drinking driver group. One third of the recidivists (those drinking and driving with a prior alcohol related license action) had two or more alcohol related license revocations on their driving record. Twenty-seven percent of the recidivists were

driving without a valid license at the time of the fatal accident. The recidivist group also had worse driving records than drinking drivers without a prior revocation and non-drinking drivers in terms of recorded accidents and convictions for traffic offenses.

Insert figure 1 here.

In comparison to implied consent revocations in 8 years, only 13% of the Minnesota drinking drivers and 7% of all drivers in fatal accidents had a DWI conviction in the 3 years before being involved in the fatal crash. The national FARS data for 1984 show that 4.5% of all drivers involved in fatal accidents had a DWI conviction in the previous three years [FARS 1986]. However, another 4% were classified as unknown. FARS did not report DWI conviction information separately for drinking drivers.

#### Alcohol involvement in fatal accidents

The most critical piece of information needed to determine alcohol involvement in traffic accidents is the result of the alcohol concentration test. Unfortunately many drivers in fatal crashes, especially survivors, are not given an alcohol concentration test, even when alcohol is suspected.

In Minnesota for 1984, alcohol concentrations were reported on 61% (479) of the 774 dead and surviving drivers involved in fatal accidents. Over half of those tested had a measurable amount of alcohol. Of all drivers tested, 46% (222) were negative, 12% (56) had alcohol concentrations ranging from .01% to .09%; with 42% (201) of the drivers having alcohol concentrations over .10%. For the drivers without recorded

levels, 157 were not tested, 71 were given the test with unknown results, and 67 had unknown levels. Slightly over one quarter of all drivers involved in fatal accidents had an alcohol concentration over .10%, while 78% (50) of the recidivists were over the legal limit.

Of the 380 fatally injured drivers, 88% were tested for alcohol. The main reasons the remaining drivers were not tested include: they were under the age of 15 years, died more than four hours after the crash, received blood transfusions, or had other factors that would make the test results invalid. For the 334 driver fatalities with known alcohol levels, 41% were negative, 12% were in the .01-.09% range, and 47% were over .10%.

Alcohol levels are known for only 38% of the 394 surviving drivers. No alcohol was found for 57% of the the 148 test reports, 11% in the .01-.09% range, with 31% over .10 or refusing the test.

When the investigating police officer indicated alcohol was present and AC test results are available, there was a 5% false positive rate, where alcohol was suspected but no level was actually found. This compares to a 14% false negative rate where police indicated no alcohol during their investigation with a positive level being reported at a later time.

#### Previous Accidents

The Minnesota FARS data for 1984 show that 23% of the 774 drivers involved in a fatal accident had one or more reported accidents in the previous three years. For drivers who were not drinking at the time of the fatal accident, only 20% had prior

accidents while for the drinking drivers the percentage goes up to 29% and even further to 34% for the recidivists.

#### Convictions for driving offenses

The percentage of drivers without convictions for traffic offenses shows a pattern similar to reported accidents. Only 44% of the DWI recidivists had not been convicted of DWI, speeding, or other dangerous traffic offenses in the prior three years. This compares to 51% for the drinking drivers and 65% for the non-drinking drivers in fatal accidents.

#### Driving after revocation, suspension, or without a valid license

Twenty four of the 260 drinking drivers did not have a valid license at the time of fatal accident involvement. Most such drivers had revoked, suspended, denied or expired licenses. As might be expected, those with previous alcohol related license revocations accounted for a large portion of the group; 17 of the 24. A total of 27% of the DWI recidivists were driving without a valid license. Although this percentage closely matches the 27% of 1984 DWI recidivists who were involved in a fatal accidents within a year of their alcohol related revocation, not all revocations or suspensions were under implied consent statutes. For some vehicles, (i.e. snowmobiles and all-terrain vehicles), it is not necessary to have a valid drivers license.

#### Time between revocation and fatal accident involvement

The average length of time between license revocation for an alcohol-related driving offense since 1976 and involvement in a fatal crash was slightly over two years (26 months). The average length of time from revocation to fatal crash involvement for those who received a DWI conviction in the three years prior to

the accidents was about a year and a half (17 months).

### Age

Younger drivers (age 16-25) are disproportionately involved in fatal crashes in comparison to their percentages of all licensed drivers; 38% to 20% respectively. Older drivers (66 and over) are also over represented; 8% to 1%. The percentages of drinking drivers within each age group is highest in the 16-25 year olds at 46% and decreases fairly constantly with advancing age until slight increases in the 46-50 and 56-65 year olds.

Insert table 2 here.

### DISCUSSION

Other researchers have cautioned against using driving records of individuals since they may not be directly comparable due to jurisdictional differences in policies, practices, and attitudes of the authorities as well as being uncontrolled for driving exposure [Zylman 1972]. However driving records may still provide a gross reflection of past driving conduct, especially when administrative license action does not depend on court adjudication.

Since 1976 Minnesota's implied consent statute has included a requirement for administrative revocation of the driver's license if the alcohol concentration is .10% or higher, or if the driver refused to take the test. Currently only two percent of license revocations are overturned as a result of administrative or judicial review and the alcohol-related revocation not recorded.

One reason for the increased percentage of Minnesota

drinking drivers with DWI court convictions in the three years prior to the fatal crash (13% vs. 7%) is the incentive to plead guilty to criminal DWI charges at the first opportunity.

The 25% of Minnesota drinking drivers who have had a license revocation under implied consent statutes within eight years was much larger than previous estimates of the role of the repeat offender. The national data showed that 7% of drinking drivers had a DWI conviction in the three years prior to the accident. This difference in percentages may be due to two factors, the larger pool of Minnesota drinking drivers apprehended in the 1976-1984 time period and better identification of the offense on the drivers license records through administrative revocation.

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Table 1

Percent of drivers involved in fatal accidents with known BAC and 1 or more prior alcohol-related license revocations in 8 years compared to 1 or more DWI convictions in 3 years.

	<u>FARS 1980</u> (DWI in 3 yrs)	<u>MN 1984</u> (DWI in 3 yrs)	<u>MN 1984</u> (Revoked in 8 yrs)
BAC=0	.7%	4%	5%
BAC=.01-.09%	.9%	16%	18%
BAC>.10%	6%	12%	25%
BAC> .25%	NA	23%	49%
Total all drivers	4.5%	7%	8%
Total all drinkers	7% (1)	13%	25%

(1) FARS 1980 Annual Report  
Cited from: Alcohol and Highway Safety 1984: A Review of the State  
of the Knowledge. NHTSA 1985. p.34

Figure 1.  
Estimates of DWI driver recidivism in Minnesota fatal crashes.

**All Drivers in Fatal Accidents: 1984 (N=774)**

**Non-drinking drivers: unknown or 0 (N=514)**

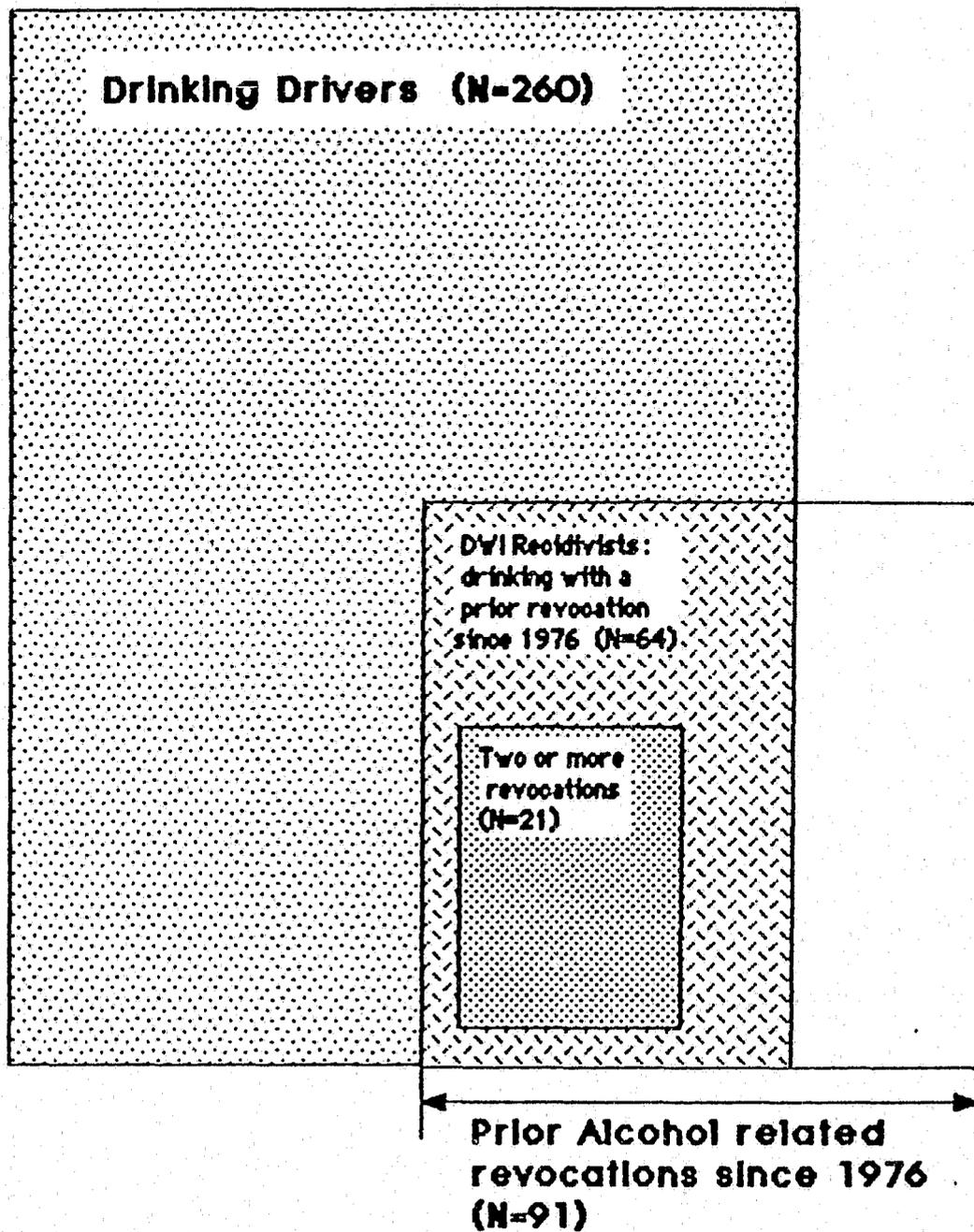


Table 2

Percentage of drivers within age groups that had been drinking before involvement in a fatal accident.

11-15	29%
16-20	44%
21-25	49%
26-30	39%
31-35	33%
36-40	25%
41-45	20%
46-50	35%
51-55	10%
56-60	24%
61-65	30%
66+	5%

	1. ALL DRIVERS		2. ROGER DRIVERS		3. DRINKING DRIVERS		4. DWI RECIDIVISTS (drinking with prior revocation or suspension since 1976)		5. PRIOR DWI REVOCATIONS SINCE 1976	
	N=774	100%	514	100%	N=260	100%	N=64	100%	N=91	100%
FATALLY INJURED DRIVERS	300	49%	183	35%	197	76%	45	70%	49	54%
SEX										
M	606	78%	373	73%	231	89%	62	97%	88	97%
F	168	22%	139	27%	29	11%	2	3%	3	3%
AGE										
11-15	7	1%	5	1%	2	1%	0	0%	0	0%
16-20	154	20%	87	17%	67	26%	8	13%	12	13%
21-25	138	18%	71	14%	67	26%	23	36%	31	34%
26-30	97	13%	60	12%	37	14%	12	19%	16	18%
31-35	90	12%	60	12%	30	12%	6	9%	9	10%
36-40	64	8%	48	9%	16	6%	3	5%	5	6%
41-45	45	6%	36	7%	9	4%	1	2%	4	4%
46-50	34	4%	22	4%	12	5%	4	6%	5	6%
51-55	30	4%	27	5%	3	1%	1	2%	3	3%
56-60	34	4%	26	5%	8	3%	5	8%	5	6%
61-65	20	3%	14	3%	6	2%	1	2%	1	1%
66+	61	8%	58	11%	3	1%	0	0%	0	0%
DAY OF WEEK										
M	95	12%	71	14%	24	9%	4	6%	7	8%
T	99	13%	76	15%	23	9%	7	11%	12	13%
W	97	13%	77	15%	20	8%	8	13%	12	13%
T	97	13%	74	14%	23	9%	5	8%	10	11%
F	121	16%	77	15%	44	17%	7	11%	8	9%
S	155	20%	79	15%	76	29%	24	38%	30	33%
Sa	109	14%	60	12%	49	19%	9	14%	12	13%
TIME OF CRASH										
Day (6 AM-6 PM)	338	44%	305	59%	33	13%	15	23%	29	32%
Night (6 PM-6 AM)	424	55%	206	40%	218	84%	46	72%	58	64%
Unknown	12	2%	3	1%	9	4%	3	5%	4	4%

**ALL DRIVERS****ROPER DRIVERS****DRINKING DRIVERS****DWI RECIDIVISTS****PRIOR DWI REVOCATIONS  
SINCE 1976****POLICE REPORTED ALCOHOL INVOLVEMENT**

no	421	54%	396	77%	25	10%	5	0%	24	26%
yes	201	26%	34	7%	167	64%	42	66%	45	49%
not reported	38	5%	23	4%	15	6%	4	6%	6	7%
unknown	114	15%	61	12%	53	20%	13	20%	16	18%

**ALCOHOL CONCENTRATION**

0	222	29%	222	43%	0	0%	0	0%	12	13%
01-04	19	3%	0	0%	19	7%	4	6%	4	4%
05-09	37	5%	0	0%	37	14%	6	9%	6	7%
10-14	52	7%	0	0%	52	20%	7	11%	7	8%
15-25	97	13%	0	0%	97	37%	21	33%	21	23%
25+	35	5%	0	0%	35	14%	17	27%	17	19%
over 10+	17	2%	0	0%	17	7%	5	8%	5	6%
no test	157	20%	157	31%	0	0%	0	0%	4	4%
unknown	138	18%	135	26%	3	1%	4	6%	15	17%

**PREVIOUS DWI CONVICTIONS (3 yrs)**

0	722	93%	497	97%	226	87%	28	44%	40	44%
1	46	6%	18	3%	28	11%	30	47%	45	50%
2	5	1%	0	0%	5	2%	5	8%	5	6%
3	1	0%	0	0%	1	0%	1	2%	1	1%

**ALCOHOL RELATED LICENSE REVOCATIONS AND SUSPENSIONS SINCE 1976**

0	681	88%	485	95%	196	76%	0	0%	0	0%
1	63	9%	24	5%	42	16%	43	67%	66	73%
2	18	2%	2	0%	16	6%	16	25%	18	20%
3	7	1%	2	0%	5	2%	5	8%	7	8%

\* Revoked or suspended under Implied Consent (over .10%, refused, or under the influence) but marked "not reported" or "unknown" on FARS report.

**ALL DRIVERS****SOBER DRIVERS****DRINKING DRIVERS****DWI RECIPIENTS****PRIOR DWI RELATED REVOCATIONS  
SINCE 1974****TOTAL PREVIOUS DWI CONVICTIONS (8 yrs)**

0	699	90%	495	96%	204	79%	10	16%	19	21%
1	54	7%	16	3%	38	15%	38	59%	53	90%
2	14	2%	2	0%	12	5%	12	19%	14	15%
3+	6	1%	1	0	5	2%	4	6%	5	6%

**PREVIOUS ACCIDENTS (3 yrs)**

0	594	77%	408	79%	185	71%	42	66%	62	68%
1	144	19%	90	17%	55	21%	17	27%	22	24%
2	28	4%	13	3%	15	6%	3	5%	4	4%
3+	8	1%	3	0%	5	2%	2	3%	3	3%

**PREVIOUS LICENSE REVOCATIONS/SUSPENSIONS (3 yrs)**

0	657	85%	458	89%	199	77%	14	22%	22	24%
1	76	10%	38	7%	38	15%	28	44%	43	47%
2	18	2%	11	2%	7	3%	7	11%	10	11%
3	8	1%	5	1%	3	1%	2	3%	2	2%
4	7	1%	0	0	7	2%	7	11%	7	8%
5+	8	1%	2	0	6	2%	6	9%	7	8%

**PREVIOUS SPEEDING CONVICTIONS (3 yrs)**

0	543	70%	349	72%	173	67%	38	59%	57	63%
1	143	19%	97	19%	47	18%	13	20%	19	21%
2	51	7%	23	4%	28	11%	9	14%	9	10%
3	20	3%	13	3%	7	3%	2	3%	3	3%
4+	17	2%	12	1%	5	2%	2	3%	3	3%

**PREVIOUS OTHER DANGEROUS MOVING VEHICLE CONVICTIONS (3 yrs)**

0	677	88%	464	90%	213	82%	42	66%	61	67%
1	77	10%	43	8%	34	13%	17	27%	23	25%
2	14	2%	4	1%	10	4%	4	6%	5	6%
3+	5	1%	2	0	3	1%	1	2%	2	2%