



Blood Alcohol Concentration Testing and Reporting by the States

Accurate and complete data on blood alcohol concentration (BAC) levels for drivers in fatal crashes are critical in monitoring alcohol-impaired-driving rates across the country, developing alcohol-impaired-driving programs, and evaluating their effectiveness. The States, the District of Columbia, and Puerto Rico gather these data and report them to NHTSA's Fatality Analysis Reporting System (FARS). The reporting levels vary from State to State and, in some States, from year to year. In 2008, the last year for which complete data are available, BACs were known for 75.9% of fatally injured drivers and 29.3% of surviving drivers. NHTSA has suggested that States attempt to reach 80% and 60%, respectively.

This study examines how some States have maintained high BAC testing and reporting rates and how other States have made substantial progress. Table 1 shows that nationwide reporting levels improved slightly from 1997 to 2008 and 2009. Some States (25) have laws that require tests for all or almost all drivers and others (22) do not differentiate between drivers in fatal crashes and other drivers, applying the usual "probable cause" requirement for impaired driving. A few States either allow or require testing between these two extremes.

Table 2 shows that the median and average testing rates were 13-15 percentage points higher for the States with testing laws than for the probable cause States. West Virginia, however, achieved 95.3% testing without a law, while Utah tested only 44.6% with a mandatory testing law. In fact, 10 probable cause States exceeded NHTSA's 80% testing and reporting goal.

Almost one-quarter of all drivers in fatal crashes are impaired by alcohol, so States with a probable cause requirement for testing could be expected to test about 20-25% of the surviving drivers, which is consistent with the 26.2% median testing rate shown in Table 2. Half (20) of the probable cause States tested more than 26% and 9 States tested more than 50% of all surviving drivers. On the other hand, 7 probable cause States tested fewer than 10% of surviving drivers, which means they probably failed to test over half of those who were impaired by alcohol. This suggests that testing policies are even more critical for surviving drivers than for fatally injured drivers if a State wishes to achieve high testing and reporting. Reporting rates for all States, DC, and Puerto Rico are in the report for the years 1997 through 2009.

Table 1. States With Known BAC Test Results

Fatally Injured Drivers	U.S.	Highest State	Lowest State	States Over 80%
1997	68.1%	HI 96.4%	DC 9.5%	20
2008	75.9%	HI 98.6%	IA 25.0%	31
2008 annual	70.5%	ME 94.8%	AK 22.0%	22
2009 annual	71.1%	HI 97.3%	MS 21.4%	25
Surviving Drivers	U.S.	Highest State	Lowest State	States Over 60%
1997	26.0%	AK 76.1%	NC 0.1%	7
2008	29.3%	MN 91.3%	NC 1.3%	11
2008 annual	25.7%	SD 80.0%	VA 0.6%	9
2009 annual	27.2%	MN 89.4%	NC 0.6%	9

Source: FARS, 1997 and 2008 final files; 2008 and 2009 annual report file.

Table 2. State BAC Testing Rates by Law Type, 2009[‡]

Fatally Injured Drivers					
Law type	No. of States	Lowest Rate	Median Rate	Average Rate	Highest Rate
All	23	44.6%	80.9%	79.5%	94.1%
All On-Scene or Die Within 4 Hours	2	73.5%	81.5%	81.5%	89.4%
Reduced Standard*	3	31.4%	75.0%	67.9%	97.3%
Statistical [†]	1	63.1%	63.1%	63.1%	63.1%
Probable Cause	22	21.4%	66.0%	66.3%	95.3%
Total	51	21.4%	78.7%	71.1%*	97.3%
Surviving Drivers					
Law type	No. of States	Lowest Rate	Median Rate	Average Rate	Highest Rate
All	7	20.7%	57.2%	55.0%	82.6%
Reduced Standard*	2	57.9%	58.4%	58.4%	58.9%
Statistical [†]	1	32.2%	32.2%	32.2%	32.2%
Probable Cause	41	0.6%	26.2%	31.9%	89.4%
Total	51	0.6%	32.2%	27.2%*	89.4%

*Law enforcement may request a test in some circumstances without having to demonstrate probable cause.

[†]Testing authorized for statistical purposes only.

[‡]FARS testing rate and law type compiled from various State legislative documents.

Key Features

Case studies highlight the processes and procedures used in 9 States that achieved high BAC testing and reporting.

For a driver in a fatal crash, there are three different scenarios for BAC testing: 1) the driver dies at the scene, 2) the driver is uninjured or the injuries do not require immediate treatment at an emergency room, and 3) the driver is taken to a hospital

Table 3. BAC Testing for Fatally Injured Drivers, Case Study States, 2009 (FARS)

State	System	Law	Practice	2009 Test Rate
Alaska	med examiner	none	policy	93.9%
Hawaii	mixed	reduced stndrd	policy	97.3%*
Indiana	coroner	statistical	stndrd practice	67.6%
Kansas	coroner	caused or cited	stndrd practice	56.8%*
Maryland	med examiner	none	policy	87.3%
Missouri	mixed	die within 8 hrs	stndrd practice	80.5%
New Mexico	med examiner	none	policy	100.0%
Oklahoma	med examiner	none	stndrd practice	88.1%
South Dakota†	coroner	all	all	85.4%

*Rates may be higher in the final file if “unknown if tested” cases are resolved: 2.7% in HI, 28.0% in KS.

†In South Dakota, coroners are required to take blood samples from all fatally injured drivers as part of their investigation of a fatal crash.

and may survive or later die. Each scenario has different persons in critical roles, different barriers to obtaining a test, and different potential solutions. All States have medical examiners or coroners responsible for investigating all accidental deaths. Medical examiners typically are physicians, while coroners may be physicians or lay persons, such as law enforcement officers or morticians. When a driver dies at the crash scene, or before admittance to a hospital, law enforcement or emergency medical personnel notify the appropriate medical examiner or coroner who usually travels to the scene or to the morgue or hospital.

About half the States require the medical examiner or coroner to draw a blood sample and conduct a BAC test from all fatally injured drivers. Lacking a law, some State’s medical examiners or coroners have a statewide policy of obtaining a blood sample and BAC test whenever possible. Some medical examiners or coroners do this routinely and some do not in other States. Medical examiner systems tend to follow more consistent practices statewide than coroner systems. The 5 study States with either a law that covers all fatally injured drivers or with a medical examiner system, all tested over 85%. So did Hawaii, which has a mixed system but a policy in each jurisdiction. The 3 States with lower testing rates all have coroner systems (Missouri has medical examiners in larger counties and coroners in smaller ones). Especially in rural areas, coroners may not reach the body within the 3 to 4 hours needed for an accurate BAC reading. Some coroners may not choose to test a driver for whom there is no suspicion of alcohol involvement or when the cause of death is obvious. Others may lack the proper training or equipment for a blood draw in rural areas. Some coroners may not wish to draw blood samples if they must pay the laboratory fees.



U.S. Department of Transportation
National Highway Traffic Safety Administration
 1200 New Jersey Avenue SE., NTI-132
 Washington, DC 20590

Strategies Used by High Testing and Reporting States

1. Test as many drivers as possible.

Laws

- Require a test for all drivers in fatal crashes: useful but not necessary.
- Eliminate laws or policies that require probable cause before a surviving driver can be tested.

Policies

- Adopt policies for testing all drivers as permitted by law.
- Medical examiners and coroners should test all fatally injured drivers when possible.
- Law enforcement should test all surviving drivers when possible.

Practices

- Medical examiners and coroners may be able to use BACs from hospital records for drivers who die after admission.
- Train medical examiners, coroners, and law enforcement officers in BAC testing laws, policies, responsibilities, and practices; provide blood test kits as needed; pay testing costs.

2. Accurate and complete reporting of all test results.

- Allow medical examiners and coroners access to hospital records for drivers who die after admission.
- Establish simple and routine reporting, use standardized paper or electronic reporting forms; develop special forms if needed.
- Implement electronic reporting or electronic access to appropriate data files if possible, and consider redundant reporting methods, for example using both crash and laboratory reports.
- FARS analysts track all fatalities and follow up on all missing BACs.
- Direct follow up from FARS with person responsible for reporting (law enforcement, medical examiner, coroner) and through testing laboratory reports, death certificates, and other sources.
- Use law enforcement liaisons to track long-overdue BACs.

3. Careful management of the process.

- Establish and maintain close communication among all agencies and individuals involved in BAC testing and reporting.
- Interagency Memoranda of Understanding or cooperative agreements may be useful.
- Hold interagency meetings to address problems as needed.
- Establish and maintain a high priority for BAC testing and reporting in all agencies, and provide necessary funding and staff.
- Train all persons involved in obtaining a test: law enforcement, medical examiners, and coroners.

Download a copy of *State Blood Alcohol Concentration Testing and Reporting for Drivers Involved in Fatal Crashes* (29 pages plus case study appendices), prepared by The Preusser Research Group, from <http://www.nhtsa.gov/staticfiles/nti/pdf/811661.pdf>.

TRAFFIC TECH is a publication to disseminate information about traffic safety programs, including evaluations, innovative programs, and new publications. Feel free to copy it as you wish. If you would like to be added to an e-mail list, contact Julie Korkor, e-mail: julie.korkor@dot.gov.