



Countermeasures That Reduce Impaired Driving

Presented by:

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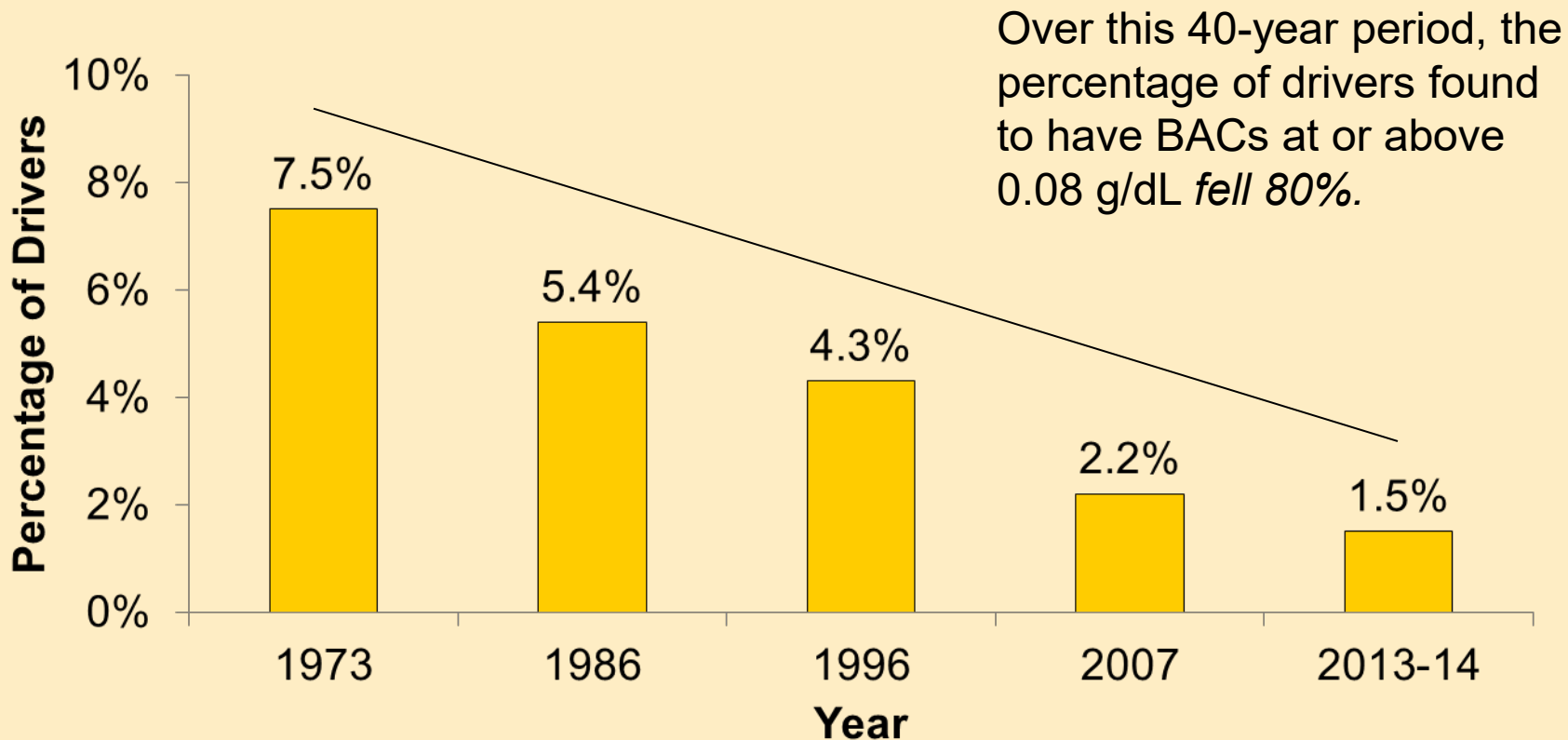
January 2025



Progress in Reducing Impaired Driving in the U.S.

- **Substantial progress** made between **1982 and 1997** as most states adopted 0.08 BAC.
- Many **DWI laws** passed in the states, and impaired driving **enforcement** was increased.
- Between **1997 and 2019**, the percent of traffic fatalities that involved an impaired driver **stagnated**.
- In **2020, 2021, and 2022**, alcohol impaired driving fatalities increased across the U.S.

Percentage of Weekend Nighttime Drivers with BACs ≥ 0.08 g/dL* in the Five National Roadside Surveys: 1973-2014



*During the period from 1973 through 1996, the States had BAC limits that ranged from 0.08 to 0.15 g/dL


Stalled Progress in Reducing Alcohol Impaired Driving Fatalities in the U.S.

Year	Total Fatality	Alcohol-Related	Percent Alcohol-Related
2019	36,096	10,142	28%
2020	39,007	11,718	30%
2021	42,939	13,384	31%

Sources: Overview of Motor Vehicle Crashes in 2020 and 2021. NHTSA (March 2022). DOT HS 813-266; NHTSA (April 2023). DOT HS 813-435.

Lack of Progress in Reducing Impaired Driving in the US

- **13,000** killed in crashes involving intoxicated drivers (BACs \geq .08 g/dL) each year.
- ~300,000 people injured in drinking driving crashes.
- **\$129.7** billion in annual costs to society.
- DUI arrests above 1,000,000 pre-COVID fell to **646,607 in 2020**.



Progress in Reducing Impaired Driving in the US

**Every BAC Level in Fatal Crashes
Show the Same Pattern and the
Same Trend**

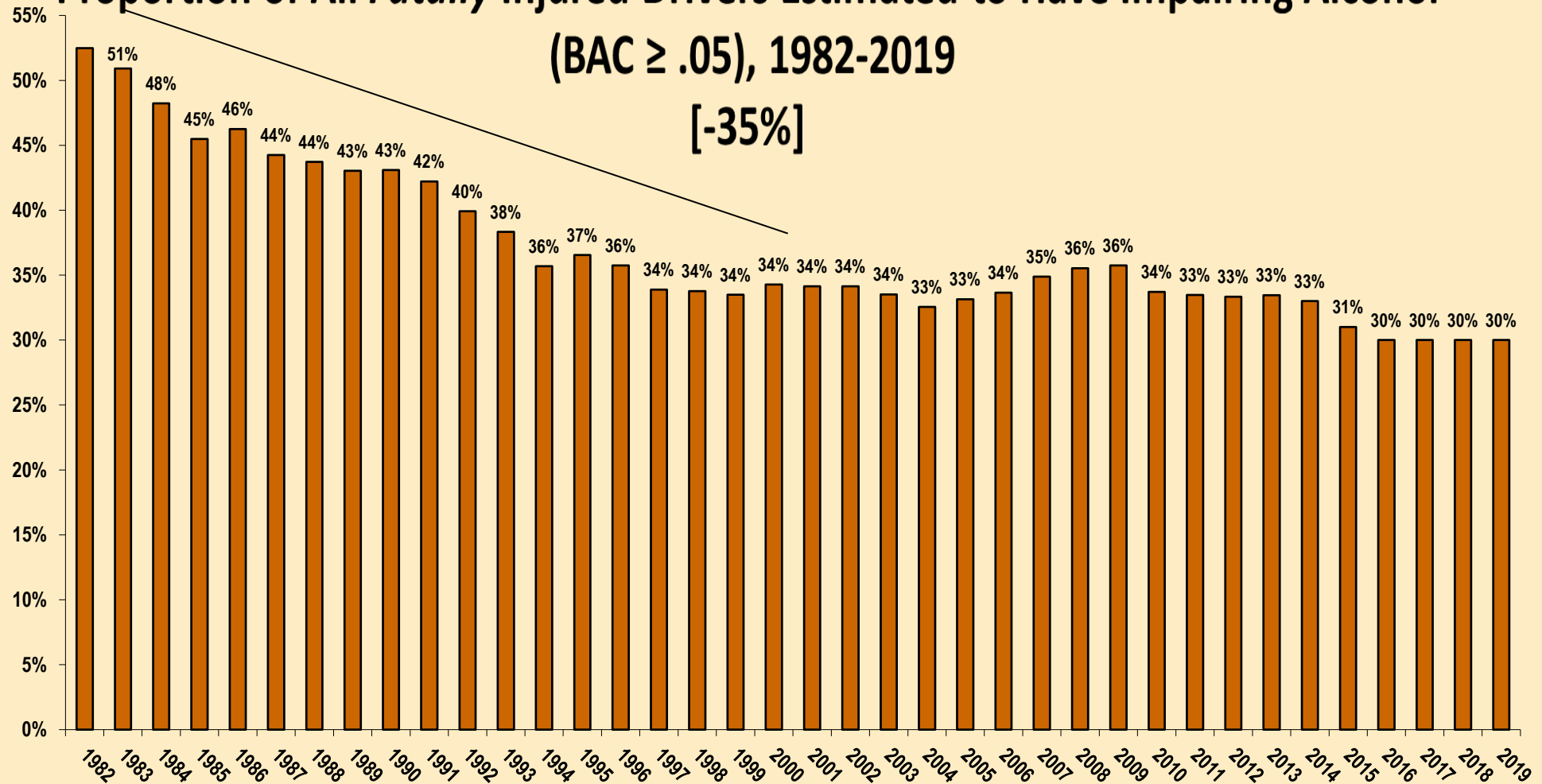
1982-2019 Progress in Reducing Impaired Driving in the US


Decrease in the percent of traffic fatalities involving an impaired driver was consistent across BAC ranges:

- BAC \geq 0.01: -36%
- BAC \geq 0.05: -35%
- BAC \geq 0.08: -35%
- BAC \geq 0.20: -32%

Progress in Reducing Impaired Driving in the US

Proportion of All *Fatally* Injured Drivers Estimated to Have Impairing Alcohol
(BAC \geq .05), 1982-2019





Factors Contributing to Decline in U.S. Between 1982 and 1997

- Deterrence, including enforcement practices, administrative license revocation, and lower BAC limits
- Raising the drinking age to 21
- Increased public awareness and activism
- Reduction in per capita alcohol consumption
- Socioeconomic factors



Background

In the United States:

- 3,500,000 people have been killed in traffic crashes since 1899.
- An estimated 1,600,000 killed in crashes involving alcohol-impaired driving.
- Alcohol-related crashes cost US society an estimated *\$130 billion* each year.
- Progress in reducing impaired driving fatal crashes has stagnated for almost 30 years.



DUI Laws

Some DUI Laws Have Served as General Deterrents

- Law sends a message that the State is getting tougher on impaired driving.
- Legislation implies that DUI is socially unacceptable *and* illegal.
- General public says, “I better be careful if I am going to drink and drive.”
- Taking the chance of getting caught and sanctioned for DUI is not worth it.
- I can't afford to get caught for DUI.

DUI Laws That Serve as General Deterrents

- **Administrative License Revocation (ALR)** – the State suspends the driver's license for 30-90 days for having a BAC over the limit (Swift & Sure). Studies show a 6%-13% decrease in alcohol-related fatalities associated with ALR.
- **Lowering the Per Se Illegal BAC Limit** – When lowered to .10 BAC, studies showed a 5%-8% reduction in alcohol-related fatalities. When lowered to .08 BAC, studies showed a median 8% reduction.
- **Mandatory Fines for DWI** – recent research shows reduction in alcohol-related fatalities of 8% associated with mandatory fine policies (Wagenaar et al., 2007).

Enforcement Impact

- **A 10% increase in the DUI arrest rate was associated with a 1% reduction in the impaired driving crash rate. (p=.035)**
- Similar results were obtained for an increase in the number of sworn officers.
- There were no other significant associations between the other enforcement measures and impaired driving crash rates.

[Fell, et. al., 2014]



Recent Arrests for Driving Under the Influence

- 2017 – 990,678
- 2018 – 1,001,329
- 2019 – 1,024,508
- 2020 – 646,607
- 2021 – 443,715

Source: Crime in the United States, FBI



Laws That Have Shown an Impact on Impaired Driving

- Illegal *Per Se* Limits (currently .08)
- Administrative License Revocation (ALR)
- Minimum Legal Drinking Age (MLDA)
- Zero Tolerance for Youth
- Vehicle Sanctions
- Primary Seat Belt Laws
- Increase in Fines for DWI
- Increase in taxation (price) of alcohol




Where Are We Now?

- Progress has clearly leveled off and gotten worse
- Awareness and concern has declined
- Enforcement has declined significantly
- Youth laws not being enforced
- Many DUI laws being eroded
- Seat belt use among drinking drivers low
- Impaired driving and speeding has increased during the 2020 pandemic



**What Can We Do
Over the
Next 5 Years?**



**National Academies of Sciences,
Engineering and Medicine**
*Committee on Accelerating Progress to
Reduce Alcohol-Impaired Driving Fatalities*
Consensus Study Report
2018

**“Getting to Zero Alcohol-Impaired Driving
Fatalities: A Comprehensive Approach to
a Persistent Problem”**

Teutsch, Geller, Negussie, Editors

NAS Committee Recommendations

- Increase federal and state alcohol taxes
- Limit alcohol sales availability
- Enforce laws prohibiting sales to underage and intoxicated patrons
- **Lower the BAC Limit for driving to .05 g/dL**
- Conduct frequent sobriety checkpoints and saturation patrols
- Support alternative transportation alternatives
- Implement DUI Courts
- Enact all offender alcohol ignition interlock laws
- Create a federal interagency coordinating committee



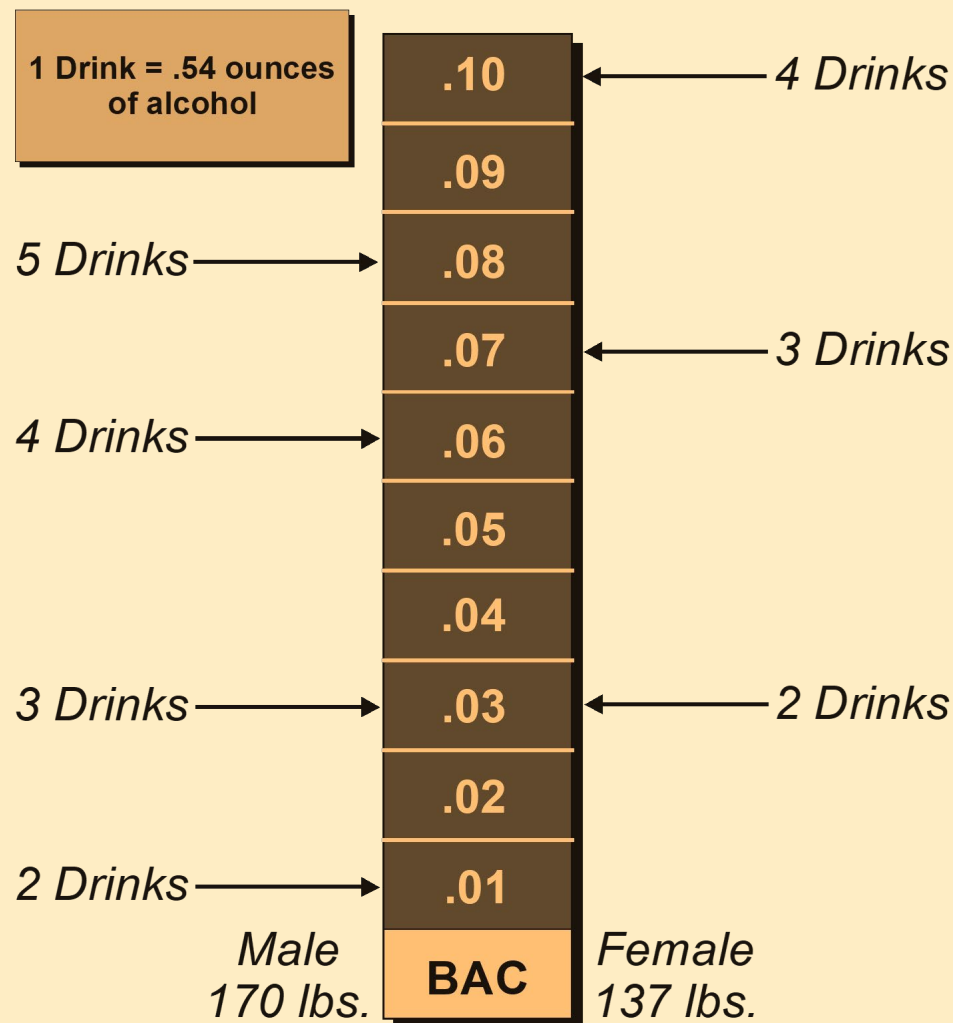
Rationale for .05 BAC

- Level at which critical driving skills are impaired.
- Level above which the risk of a crash is increased significantly.
- Most people do not reach .05 with typical drinking habits.
- Most industrialized countries have already adopted.
- Effective measure to reduce alcohol-related fatalities.

The Evidence:

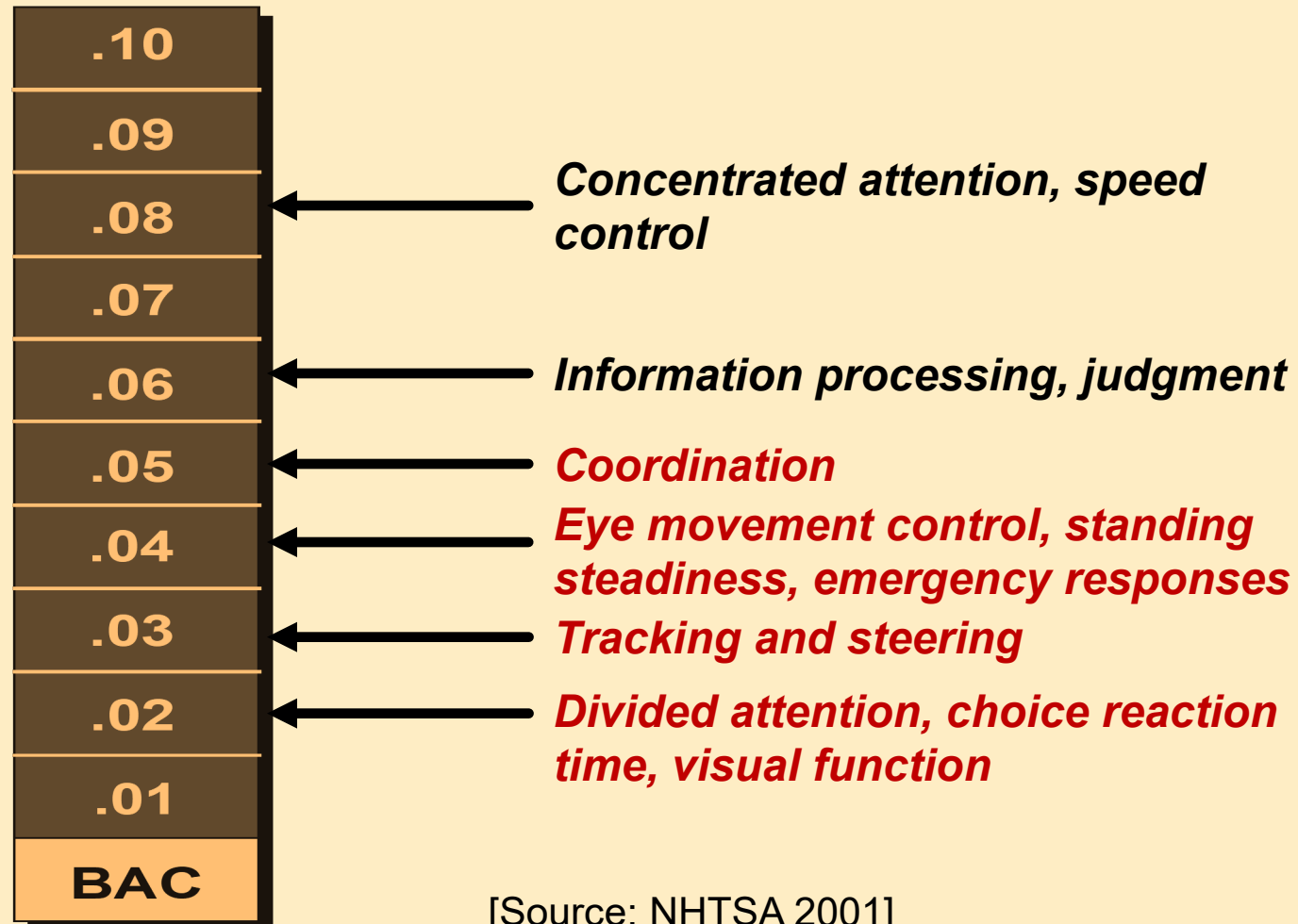
- Lowering BAC limits reduces drinking driver fatal crashes:
 - from .10 to .08.
 - from .08 to .05.
 - from adult limit to .02 for youth.
- Most people are impaired at .05 BAC.
- Relative risk of crash is statistically significant at .05 BAC.
- General public does not think anyone should drive after two or three drinks.

Number of Drinks and BAC in Two Hours of Drinking (on an empty stomach)



[Source: NHTSA 1994]

BAC and Impairment

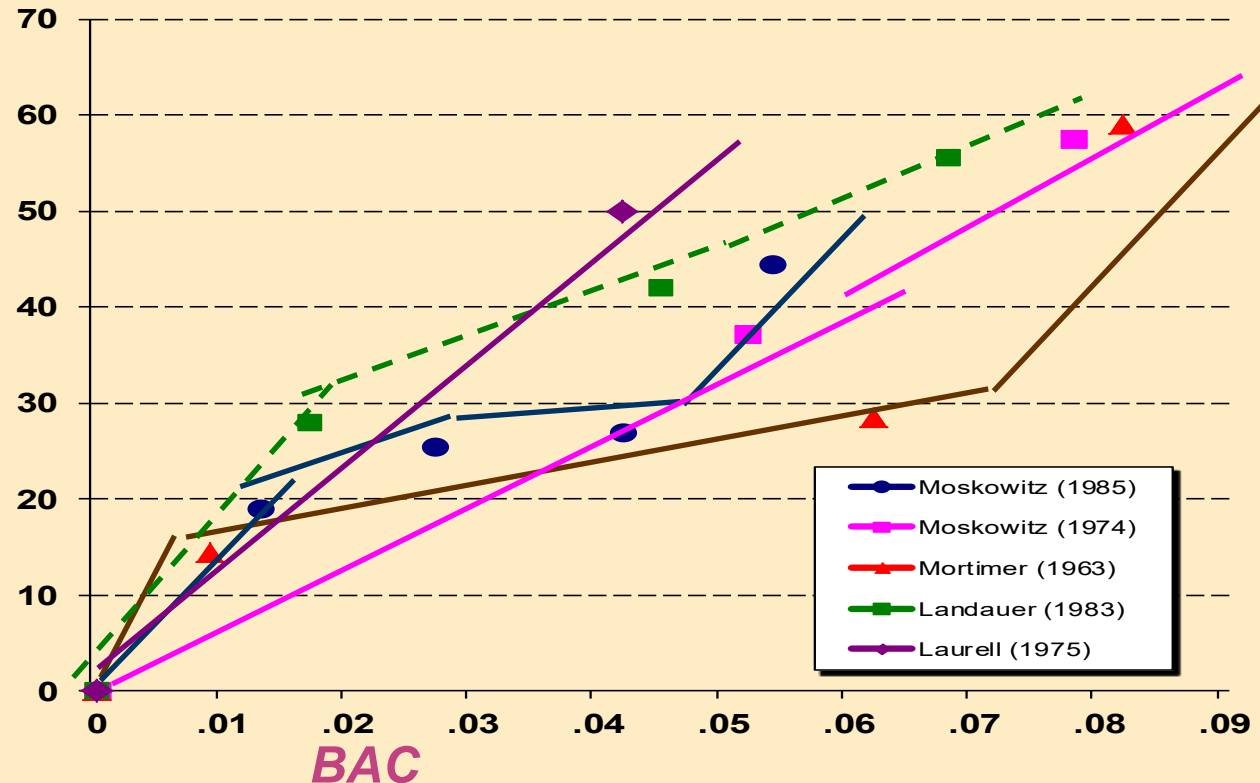


[Source: NHTSA 2001]

Experimental Studies of Impairment and BAC

Experimental studies have placed the decline in driving performance at 0.05 BAC between 25%-55%

Percent Decrement in Performance Measure



Relative Risk* of Being Involved in a Fatal Crash by BAC and Age

Driver Age	BAC		
	.05 - .079	.08 - .099	>.15
16-20	6.24	12.61	490.41
21-34	4.78	8.74	200.03
35+	4.03	6.89	111.94

*Risk relative to BAC=.00 for same age group

Relative risks are the same for men and women at a given BAC. Relative risk for 16-20 year-old women are now the same as 16-20 year-old men at a given BAC (a change from 1996).

Studies of the Effects of Lowering the Illegal BAC Limit to .05

Australia

(Homel, 1994)

Percent drivers with positive BACs in weekend fatal crashes decreased 13% pre/post law implementation (but did not affect weekday fatal crashes)

Australia

(Henstridge et al., 1997)

Lowering the BAC limit to .05 resulted in an 11% decrease in alcohol-related fatal crashes and significant reductions in non-fatal crashes

Japan

(Nagata, et al., 2008)

Resulted in 38% decrease in alcohol-related crashes of all severities

Sweden

(Norstrom, 1997)

10% reduction in alcohol-related fatal crashes and significant reductions in single vehicle crashes and all crashes associated with lowering limit to .05

Illegal Per Se BAC Limits for Driving

Country	BAC Limit
Australia	.05
Austria	.05
Belgium	.05
Denmark	.05
Finland	.05
France	.05
Germany	.05
Italy	.05
Spain	.05

[Source: WHO 2012]



Objective of Recent Study Funded by NIAAA

Determine whether lowering the BAC limit from .08 g/dL to .05 g/dL will be an effective policy in the United States.

Source: (Fell & Scherer, 2017)

Conclusions (2017)

- Lowering the BAC limit to .05 (or lower) resulted in a significant **11.1%** decline in ***fatal alcohol-related crashes*** according to the meta-analysis.
- It is estimated that **1,790 lives could be saved** each year if ***all states lowered the BAC limit to .05 in the U.S.***
- Meta-analysis found no significant effect of lowering the BAC limit on ***alcohol consumption***

BAC Reductions Change Driving Behavior

- Meta-analyses of BAC reduction impacts did not find an effect on arrests for DWI.
- Drivers drank alcohol at the same rate as before the BAC reduction but avoided driving impaired more often after the BAC change. Possible reasons for this include more use of alternative transportation (e.g., taxis, public transportation, ride-sharing, walking) and drinking beverages with a lower alcohol content.

Evaluation of Utah's .05 Per Se Law

- The fatal crash rate reduction from 2016 to 2019 in Utah was **19.8%**.
- In comparison, the rest of the United States showed a **5.6%** fatal crash rate reduction from 2016-2019.
- No significant change in **DUI arrests** and alcohol sales and tourism measures continued to **increase**.
- The report concluded: “Overall, ...05 per se law had demonstrably positive impacts on highway safety in Utah.”

Argument Against .05 Per Se

Point:

Lowering the limit from .08 BAC to .05 BAC will just distract us from the real problem—high BAC, chronic drinking drivers.

Counterpoint:

The studies of the effectiveness of .08 BAC laws indicate that these laws are **just as effective in reducing** alcohol-related fatalities involving **high BAC drivers as they are in reducing fatalities involving low BAC drivers** (Hingson, Heeren, & Winter, 1996; Wagenaar, et al., 2007). To reduce alcohol-impaired driving, it is essential to pursue both a **broad preventive approach** (of which a .05 BAC law is but one component) as well as a more **specific approach** that deals primarily with those **chronic, heavy drinkers** who are apprehended and identified by the system.

Implications for .05 BAC

- Progress in reducing impaired drivers in fatal crashes has stalled since 1997
- It will be at least 10 years before technological solutions can be implemented (e.g. DADSS, autonomous cars)
- 10,000-13,000 deaths each year due to impaired driving. More than 100,000 people will die in the next 10 years if the status quo is maintained
- **A .05 BAC limit is a countermeasure that is proven to have a significant effect on the problem**

Questions?

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