



DRUG POLICY RESEARCH CENTER

Insights from RAND Research on 24/7 Sobriety

Beau Kilmer, PhD

**Co-Director, RAND Drug Policy Research Center
Senior Policy Researcher, RAND Corporation
Professor, Pardee RAND Graduate School**

Research supported by NIAAA (R01AA020074, R21AA022439, R01AA024296)

Outline

1. What does our published research say about 24/7?
2. What are we working on?
3. How can you help improve the 24/7 evidence base?

Thank you!

- To my team
 - Greg Midgette, Nancy Nicosia, Paul Heaton
- To agencies that funded this research
 - National Institute on Alcohol Abuse and Alcoholism (x3)
 - National Institute of Justice
 - Montana Department of Justice
- To all of the government agencies & testing companies who graciously provided data with no strings attached

About RAND

- Nonprofit, nonpartisan institution that helps improve policy and decision making through research & analysis
- Our research spans the issues that matter most, such as energy, education, health care, justice, the environment, international affairs, and national security.
- Nearly 2,000 employees in 9 offices across 3 countries
- Extensive research on substance use & criminal justice

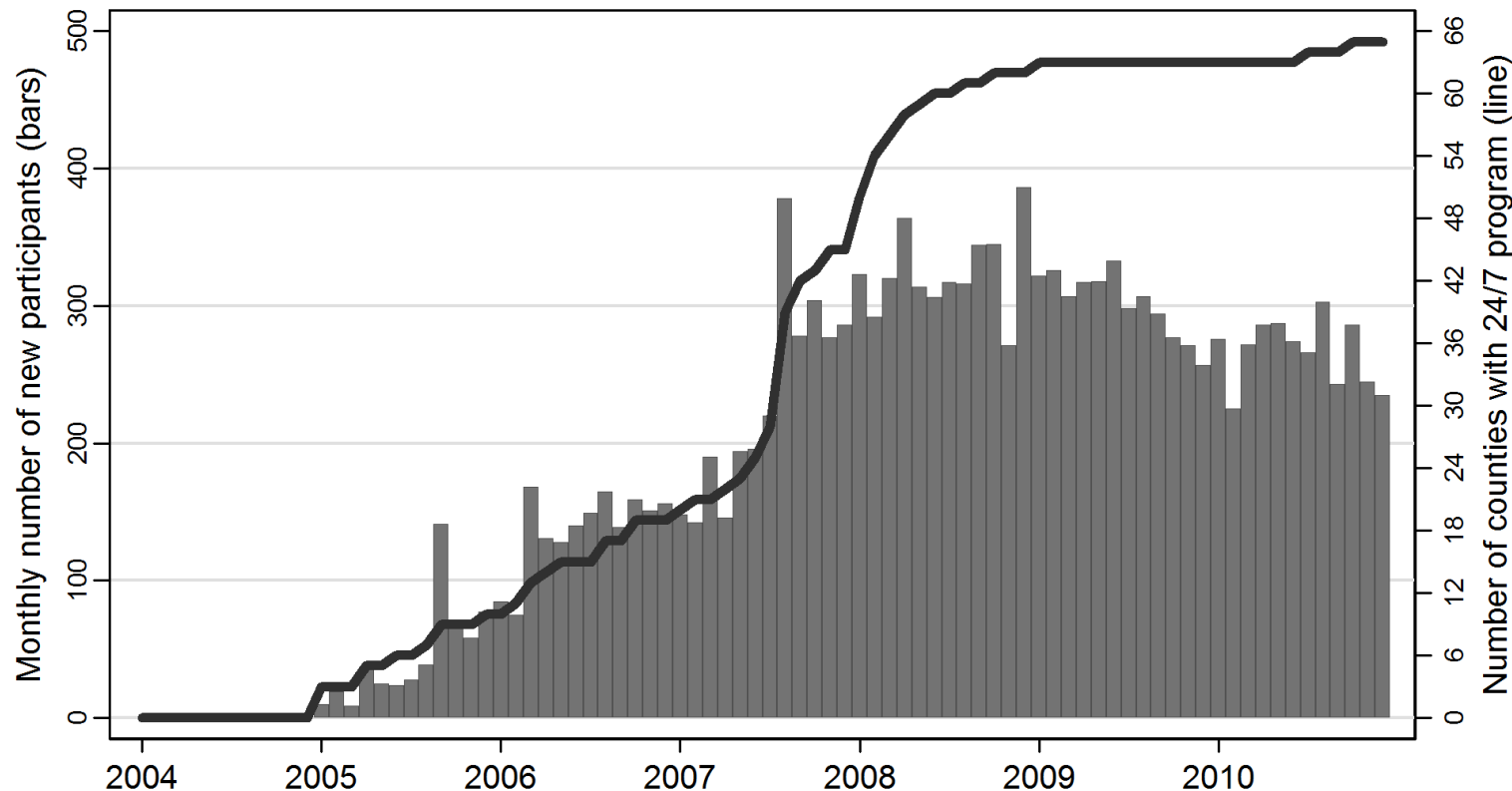
24/7 is consistent with scientific research on deterrence and contingency management

- To deter crime, we should prioritize certainty and celerity of sanction over severity
 - E.g., National Research Council (2014), Chalfin & McCrary (2017)
- Those with alcohol use disorder have been found to be responsive to predictable, immediate consequences for behavior
 - E.g., Petry et al. (2000)

Me blowing into a breathalyzer in South Dakota

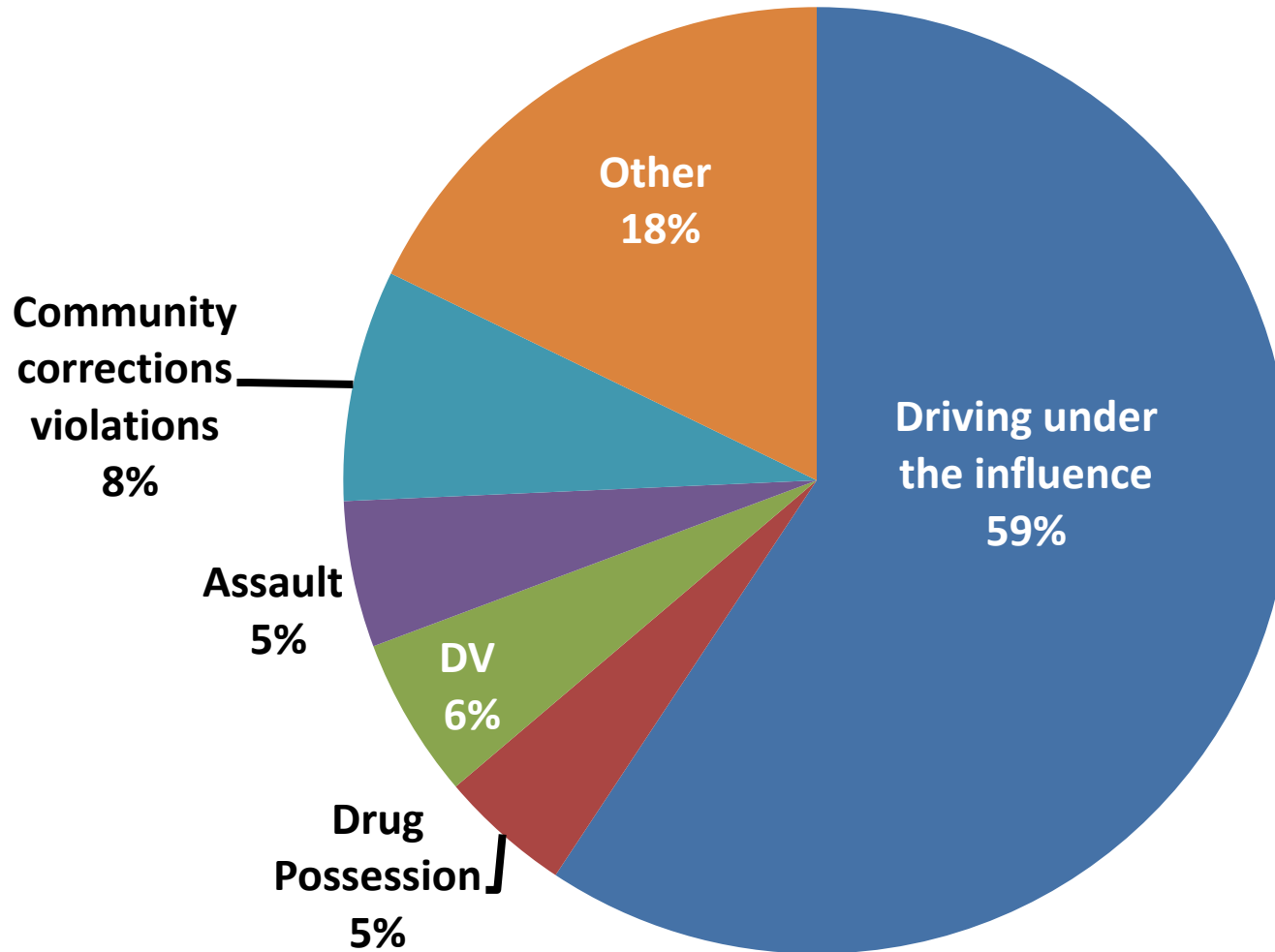


24/7 quickly expanded in South Dakota



Note: We define 24/7 as operational in each county once the number of county residents in 24/7 for a given month equals or exceeds a quarter of the number of DUI arrests in the county, where the latter is defined as the county's moving monthly average during the previous year to address any seasonality.

About 60% of 24/7 participants enter for DUI



51% of 24/7 participants are pre-trial; 49% are post-conviction

No formal treatment component to South Dakota's 24/7 program

- Very different from a Drug/DUI Court
- Requires that you stay sober, doesn't care about pathway
- Multiple-DUI offenders must attend a “court-approved counseling program” to get a work permit
 - Penalty for driving without a license ≥ 10 days in jail

Alcohol test results are impressive

- Through February 2019 there were almost 11 million breathalyzer tests and the pass rate was 99%
 - Previous calculations suggest that this includes no-shows
- Alcohol monitoring bracelet participants accumulated ~10,000 violations over 2 million days of monitoring, equivalent to daily compliance rate >99%

**Through February 2017, more than
30,000 unique 24/7 Sobriety
participants in South Dakota
accumulated more than
5 million days without a confirmed
drinking event**

With county-level analyses, need to control for several factors—especially Sturgis!

County-month

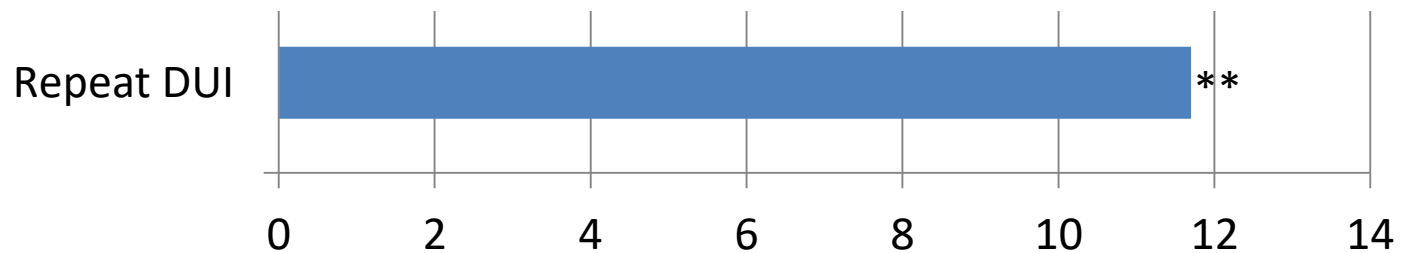
- Sturgis Motorcycle Festival indicator
- Snowfall
- College indicator variable
- Unemployment rate

County-year

- Total population, % males 18-40, % white
 - Per capita vehicle miles traveled
 - Per capita police officers
 - Per capita bars, package liquor stores
-
- For repeat DUI models, include DUI-1 as control
 - Mechanical relationship, control for enforcement intensity, other shocks
 - Relationship modeled flexibly using high-degree polynomial

At the county level, 24/7 associated with 12% drop in total arrests for repeat DUI

Percent Reduction

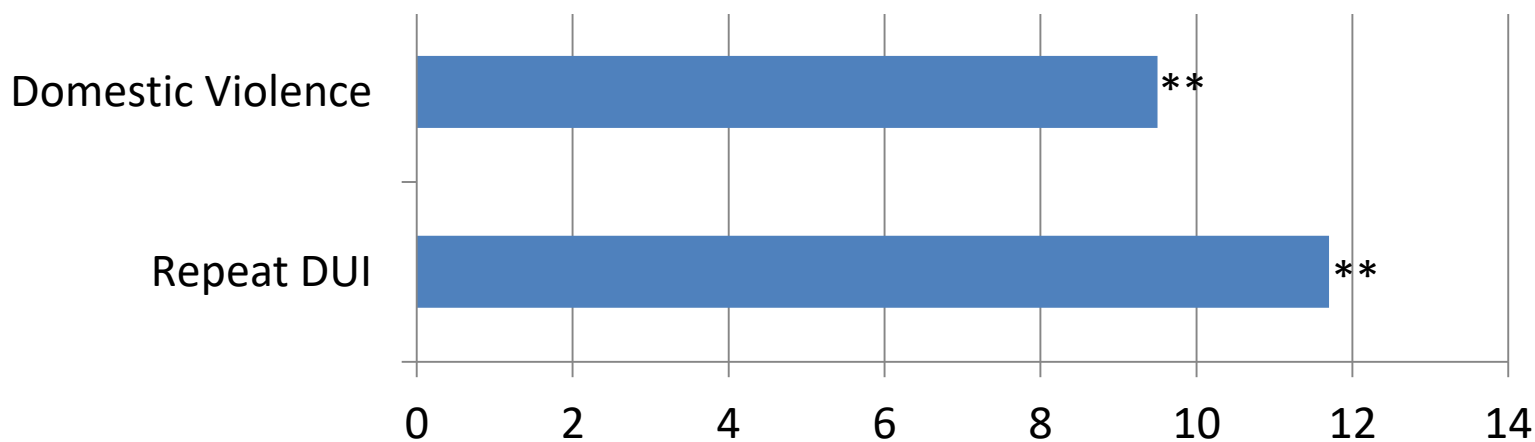


Notes: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Source: Kilmer et al. (2013) *American Journal of Public Health*

Also saw 9% drop in total arrests for DV

Percent Reduction

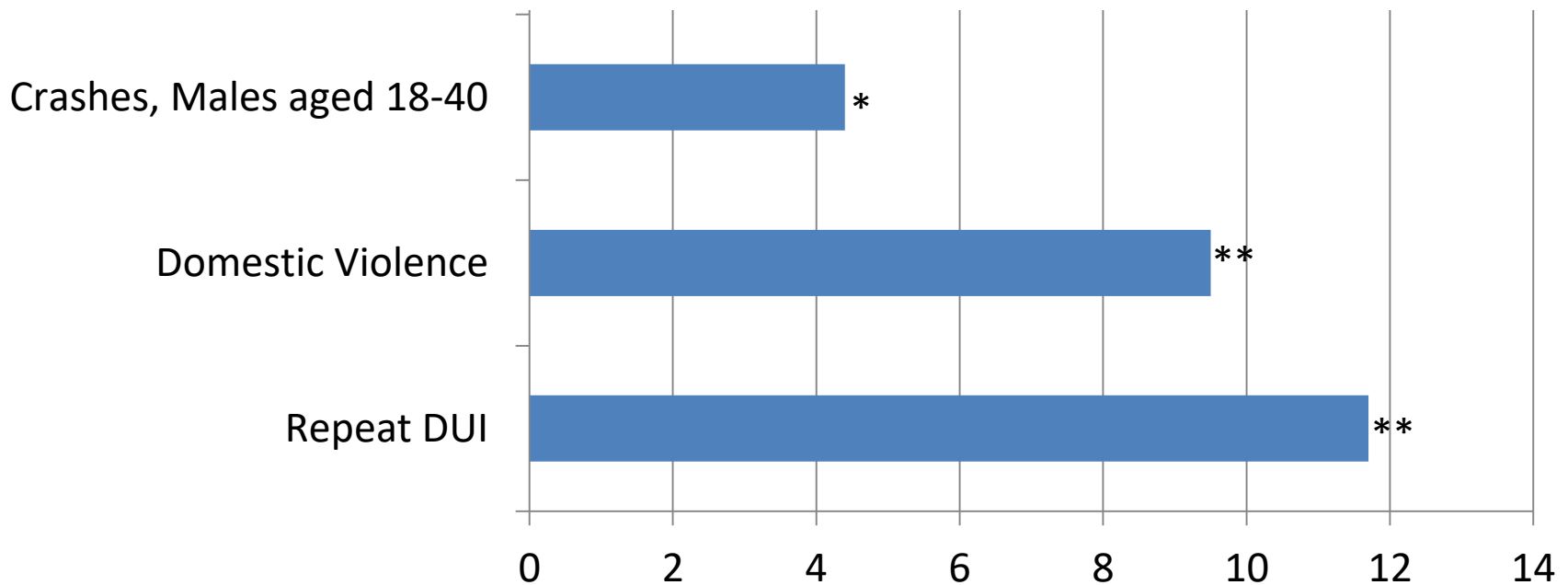


Notes: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Source: Kilmer et al. (2013) *American Journal of Public Health*

Suggestive evidence that 24/7 reduces traffic crashes

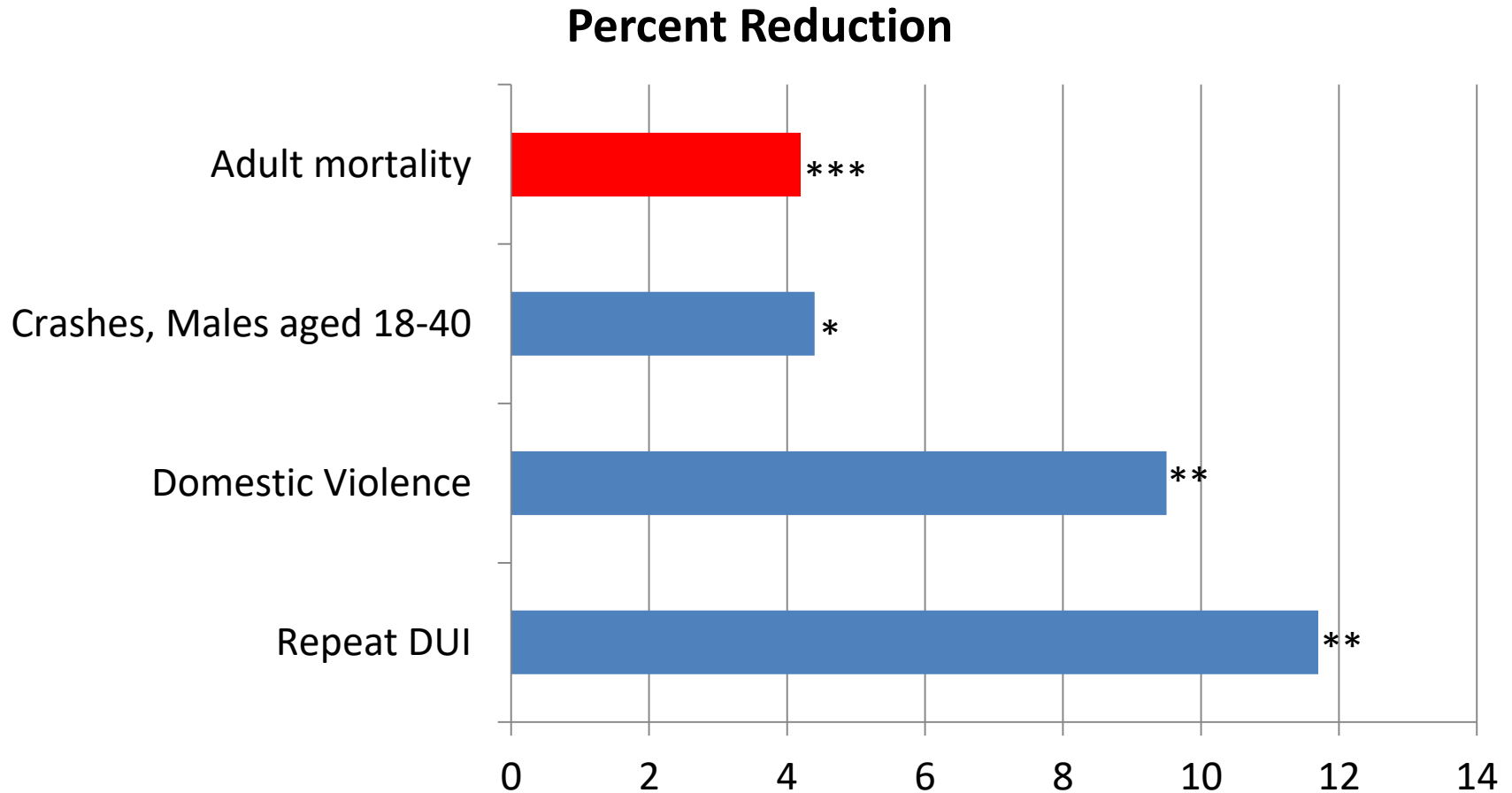
Percent Reduction



Notes: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Source: Kilmer et al. (2013) *American Journal of Public Health*

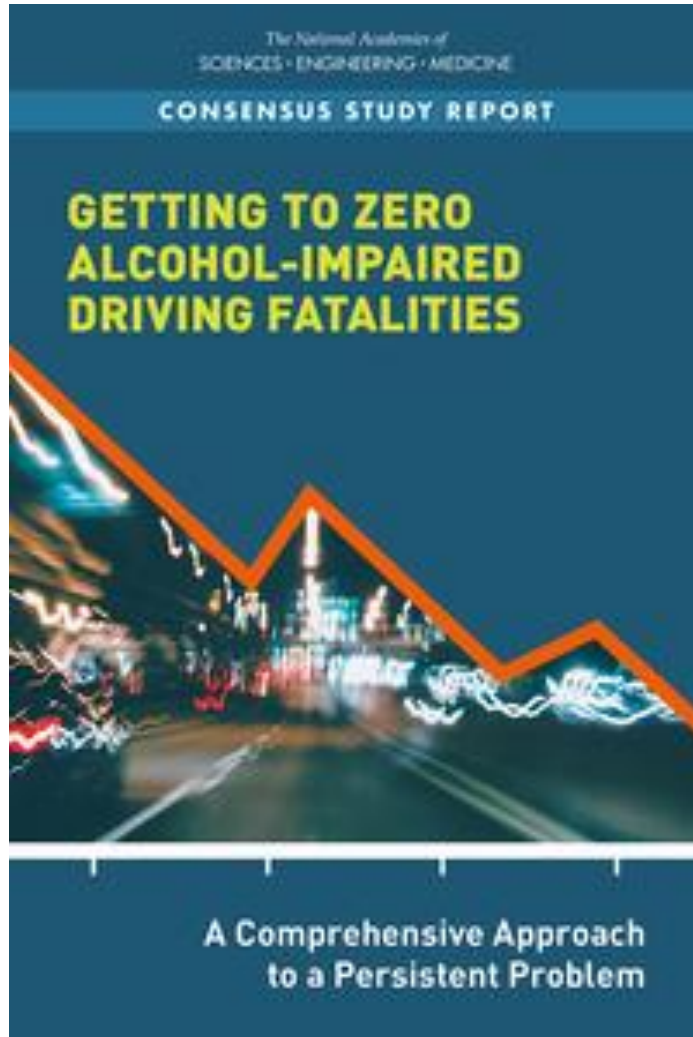
24/7 associated with decrease in total deaths



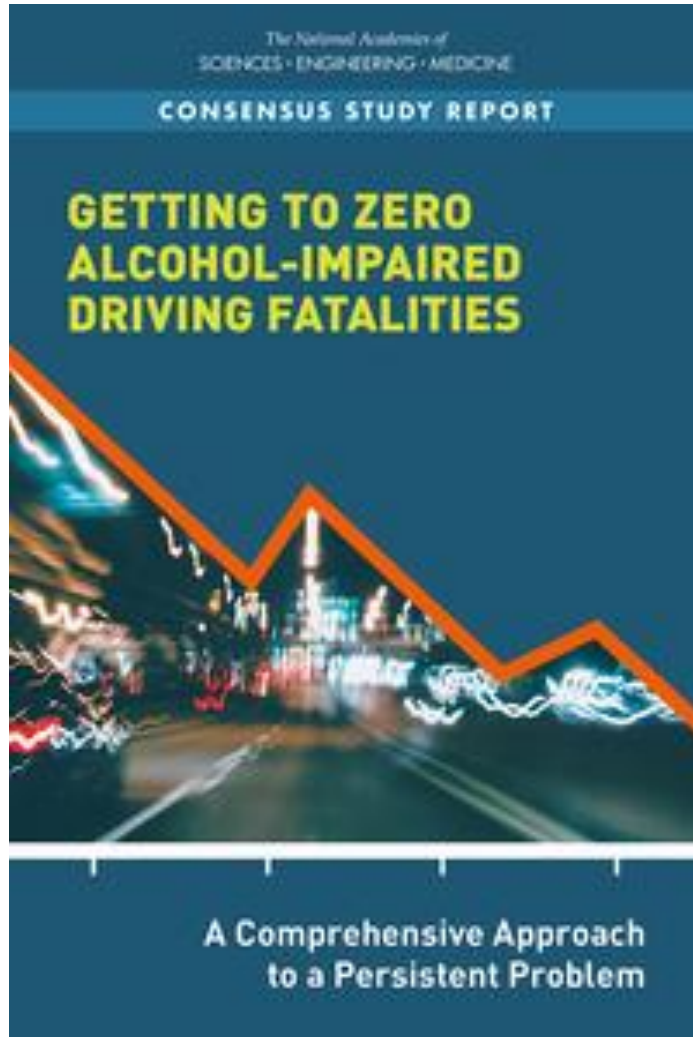
Notes: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Source: Nicosia, Kilmer, & Heaton (2016) *Lancet Psychiatry*

New NASEM (2018) report provides great summary of evidence on several DUI interventions



NASEM: 24/7 has been shown to be effective in some rural areas



- “The 24/7 monitoring program for high-risk offenders has been shown to be effective in some rural areas.”
- But report also noted an important limitation to the existing 24/7 literature is the “reliance on aggregate analyses rather than individual-level data.”

Approach for individual-level analysis

- Studying >16,000 DUI-2/DUI-3 arrestees in S. Dakota
 - From 2004-2012
 - 28% are 24/7 participants
 - Median time in program = 6 months (Mean = 11 months)

Source: Kilmer & Midgette, 2018

<https://www.rand.org/health-care/projects/24-7.html>

Approach for individual-level analysis

- Studying >16,000 DUI-2/DUI-3 arrestees in S. Dakota
- Outcome: Re-arrested or probation revoked for any offense
 - Look at 12, 24, and 36 months after DUI arrest

Source: Kilmer & Midgette, 2018

<https://www.rand.org/health-care/projects/24-7.html>

Approach for individual-level analysis

- Studying >16,000 DUI-2/DUI-3 arrestees in S. Dakota
- Outcome: Re-arrested or probation revoked for any offense
- Control for several factors to rule out alternate explanations
 - Age, gender, criminal history
 - County-level info on bars, liquor stores, VMT, police officers
 - County and year-month fixed effects

Source: Kilmer & Midgette, 2018

<https://www.rand.org/health-care/projects/24-7.html>

Approach for individual-level analysis

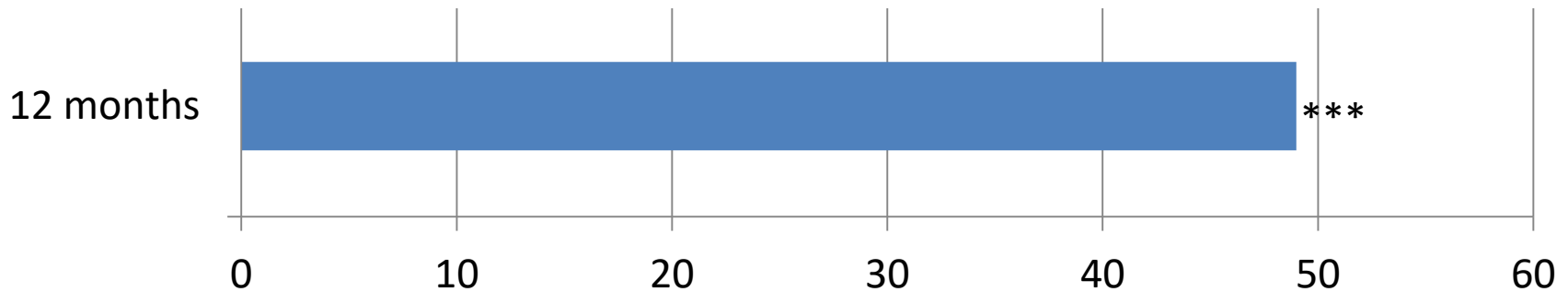
- Studying >16,000 DUI-2/DUI-3 arrestees in S. Dakota
- Outcome: Re-arrested or probation revoked for any offense
- Control for several factors to rule out alternate explanations
- Use instrumental variable approach to address selection
 - Instrument: 24/7 operational in the county of arrest (F-stat > 40)

Source: Kilmer & Midgette, 2018

<https://www.rand.org/health-care/projects/24-7.html>

24/7 decreased 1-year re-arrest rate by 49%

Percent Reduction



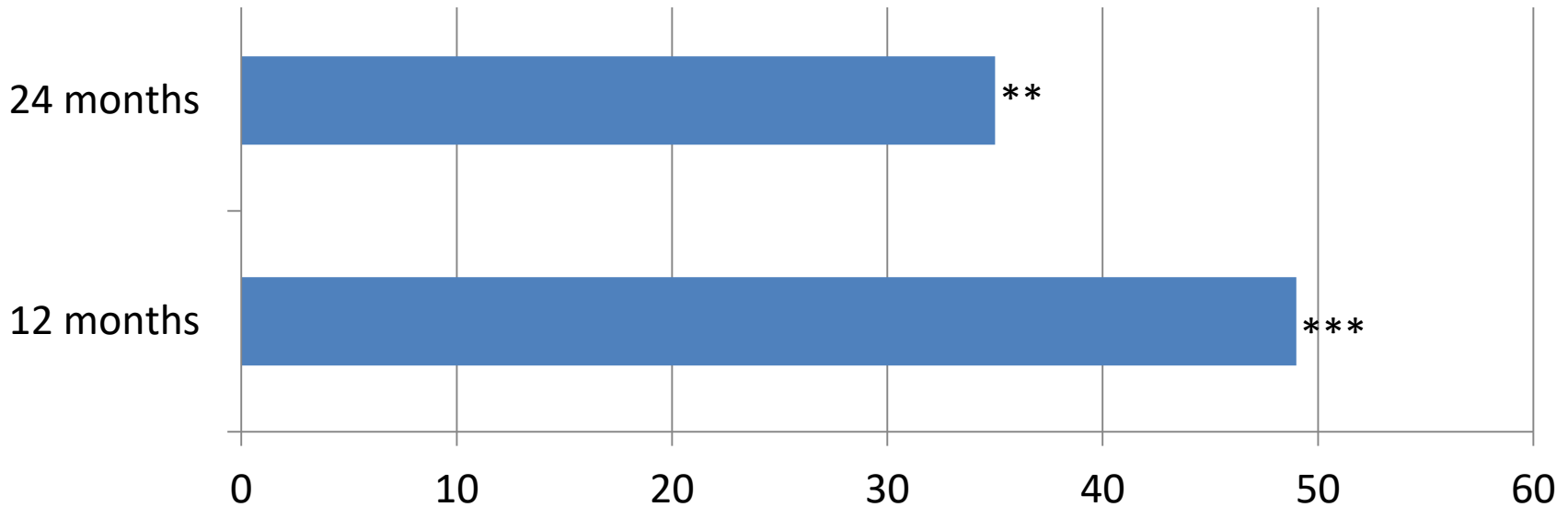
Notes: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Source: Kilmer & Midgette, 2018

<https://www.rand.org/health-care/projects/24-7.html>

24/7 decreased 2-year re-arrest rate by 35%

Percent Reduction

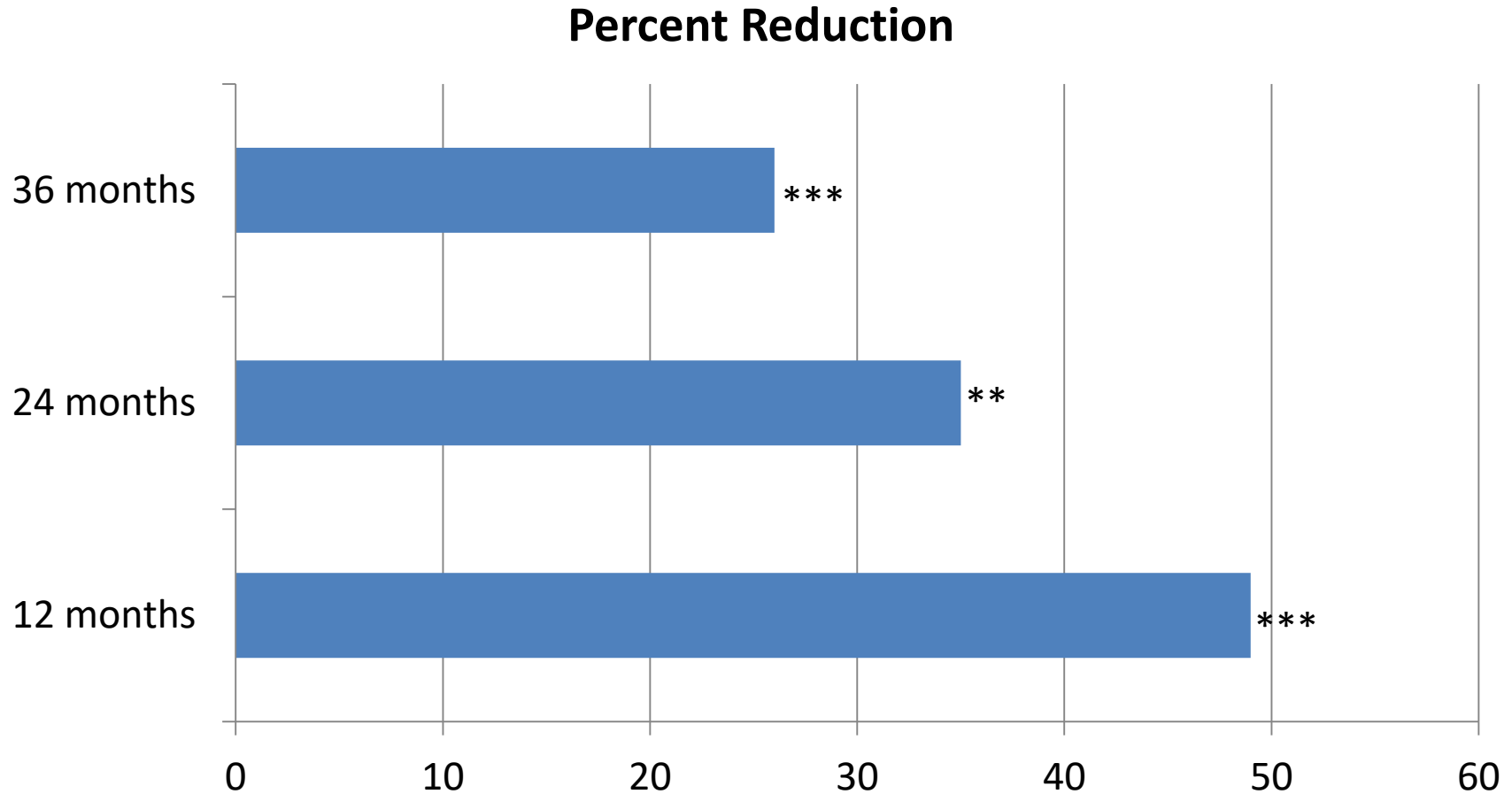


Notes: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Source: Kilmer & Midgette, 2018

<https://www.rand.org/health-care/projects/24-7.html>

24/7 decreased 3-year re-arrest rate by 26%



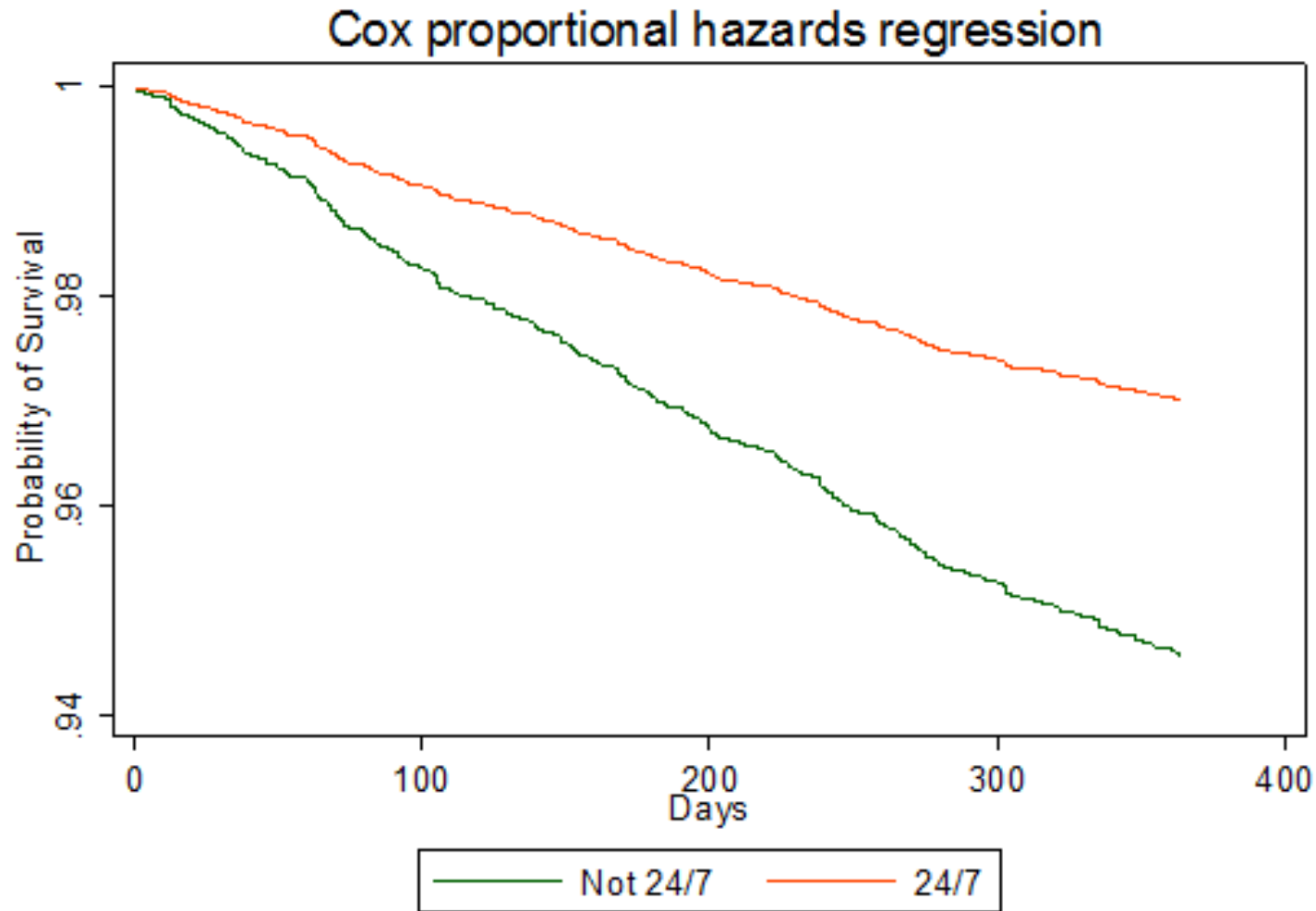
Notes: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Source: Kilmer & Midgette, 2018

<https://www.rand.org/health-care/projects/24-7.html>

Can 24/7 work outside of South Dakota?

Promising results from Montana's 24/7



Source: Midgette & Kilmer (2015)

Interesting variation & encouraging results in other places

- North Dakota
 - Uses a 0.02 BAC threshold, not 0.00
 - First violation is a warning in some counties, to some judges
 - Alcohol monitoring bracelets more commonly used
 - Reducing impaired driving arrests (Midgette et al., in progress)

Interesting variation & encouraging results in other places

- North Dakota
 - Uses a 0.02 BAC threshold, not 0.00
 - First violation is a warning in some counties, to some judges
 - Alcohol monitoring bracelets more commonly used
 - Reducing impaired driving arrests (Midgette et al., in progress)
- London is expanding pilot city-wide
 - Uses bracelets exclusively
 - First violation was warning, second court warning
 - Pilot: 92% compliance (Not an RCT)
 - Finlay & Humphreys, 2017, *Journal of the Royal Society of Medicine*

More RAND 24/7 research on the way!

- Finalizing our cost study
- Analyzing data from millions of tests to predict positives
- Further analysis of the 24/7 effect on mortality
- Submitted more proposals on 24/7 & domestic violence

Many questions remain

- How long should 24/7 supervision last?

Many questions remain

- How long should 24/7 supervision last?
- Which monitoring approach works best for different types of participants?

Many questions remain

- How long should 24/7 supervision last?
- Which monitoring approach works best for different types of participants?
- What's the minimum level of punishment to deter?

Many questions remain

- How long should 24/7 supervision last?
- Which monitoring approach works best for different types of participants?
- What's the minimum level of punishment to deter?
- What about incorporating treatment or “carrots”?

Many questions remain

- How long should 24/7 supervision last?
- Which monitoring approach works best for different types of participants?
- What's the minimum level of punishment to deter?
- What about incorporating treatment or “carrots”?
- Most cost-effective? DUI Court, IID, 24/7, combination?

**If you want to implement
evidence-based practices...**

**...sometimes you have to help
create them**

What can YOU do to help create the evidence?

- Invite researchers to join 24/7 team early in the process

What can YOU do to help create the evidence?

- Invite researchers to join 24/7 team early in the process
- Work with researchers who will tell you the truth, not what you want to hear

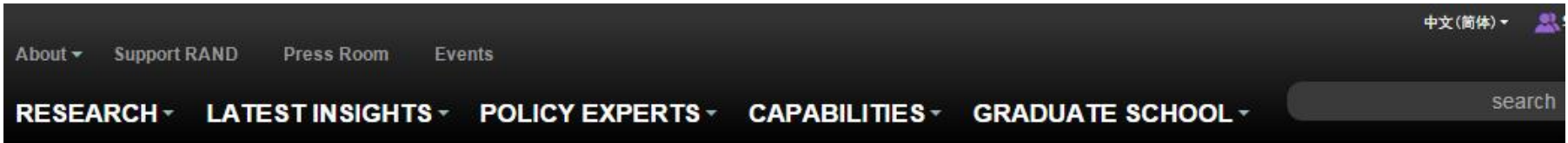
What can YOU do to help create the evidence?

- Invite researchers to join 24/7 team early in the process
- Work with researchers who will tell you the truth, not what you want to hear
- Consider randomized controlled trials
 - This is what FDA does when testing new prescription drugs
 - Long history of doing this in criminal justice settings

What can YOU do to help create the evidence?

- Invite researchers to join 24/7 team early in the process
- Work with researchers who will tell you the truth, not what you want to hear
- Consider randomized controlled trials
 - This is what FDA does when testing new prescription drugs
 - Long history of doing this in criminal justice settings
- Look beyond DUI outcomes

Additional information about RAND's 24/7 Sobriety research: www.rand.org/24-7



Alcohol consumption can impose enormous health and safety costs on individuals and society. Problem drinkers account for a disproportionate share of these costs. Although millions of problem drinkers pass through the criminal justice system each year, reducing their alcohol

**"South Dakota's 24/7
Sobriety Program reduced
both repeat DUI and**

Researcher Spotlight

Gregory Midgette

Associate Policy Researcher



Greg Midgette is an associate policy researcher at the RAND Corporation. His research interests are in drug policy, substance abuse crime, and technology policy.

His current and recent projects include estimating the size of illicit markets for marijuana, cocaine, heroin, and methamphetamine,...

24/7 in the News

A selection of news reporting on 24/7 Sobriety program.

Could You Lose Your License to Drink?
(CNN)

**The Case for Taking Away Some People's
Right to Drink**
(Vox)