



Impaired Driving and Ignition Interlocks

**Division of Public Health
Injury and Violence Prevention Branch**

March 7, 2018

Overview

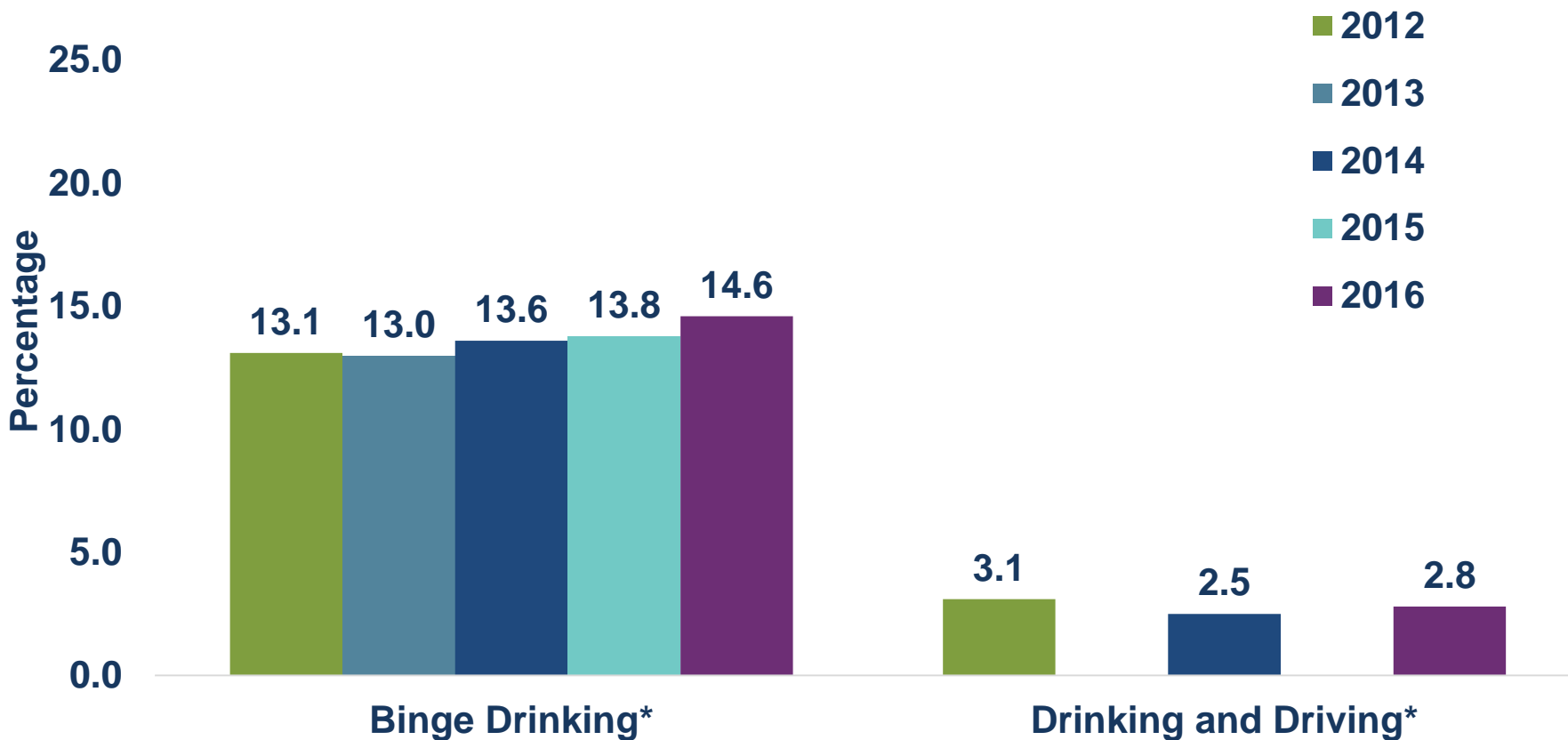
- Alcohol-Impaired Driving Data
- Research and Recommendations
- North Carolina's Ignition Interlock Laws

Alcohol-Impaired Driving Data

Alcohol-Impaired Driving Nationally

- Average alcohol-impaired driver has driven under the influence of alcohol over 80 times before their first arrest
- In 2016, 1,233 children were killed in crashes
 - 214 (17%) were killed in alcohol-impaired crashes
 - 115 (54%) were passengers of vehicles with alcohol-impaired drivers

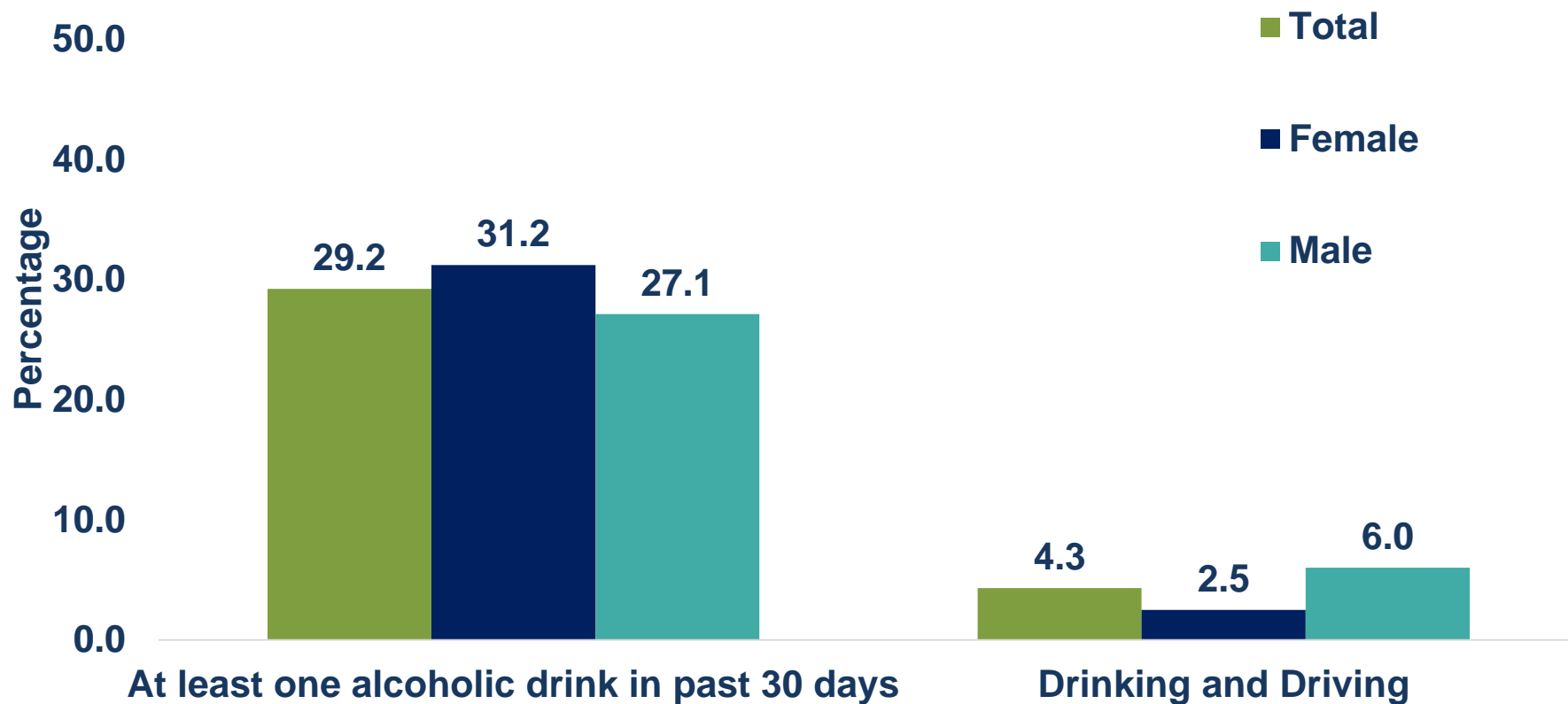
Binge Drinking and Drinking and Driving*, NC Residents, 2012-2016



*Binge drinking: adult men having five or more drinks on one occasion; adult women having four or more drinks on one occasion. Drinking and Driving: Percent who reported that at least once during the past 30 days they drove when they've had perhaps too much to drink.

Source: NC State Center for Health Statistics, BRFSS 2012-2016
Analysis by Injury Epidemiology and Surveillance Unit

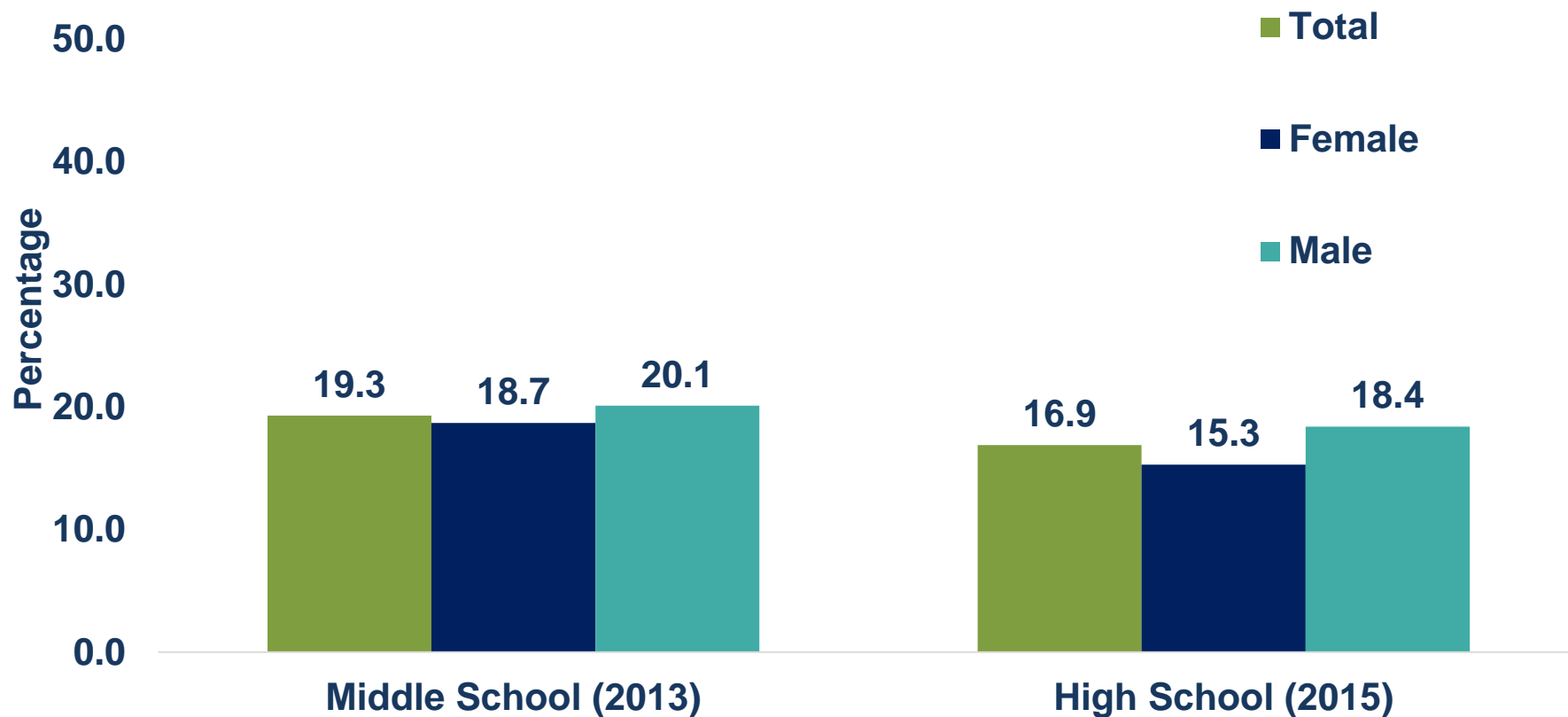
Alcohol Consumption and Drinking and Driving*, NC High School Students, 2015



*At least one alcoholic drink in past 30 days: Percent of students who currently drank alcohol (at least one drink of alcohol on at least 1 day during the 30 days before the survey). Drinking and Driving: Percent of students who drove when drinking alcohol (one or more times during the 30 days before the survey, among students who had driven a car or other vehicle during the 30 days before the survey)

Source: NC Department of Public Instruction, YRBS 2015
Analysis by Injury Epidemiology and Surveillance Unit

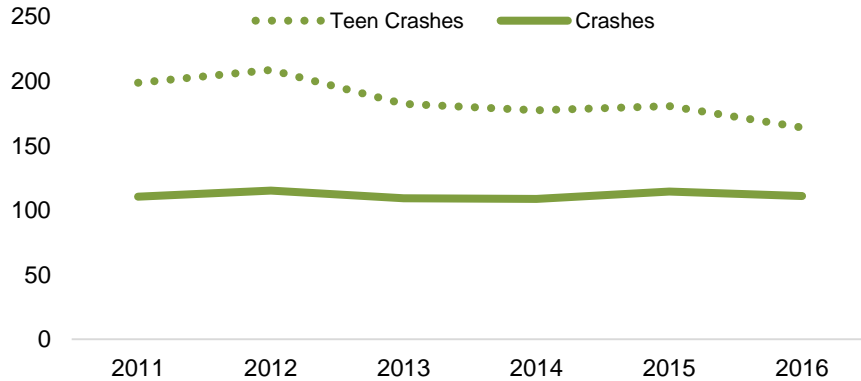
Students riding with a driver who had been drinking*, NC Middle and High School Students, 2013 and 2015



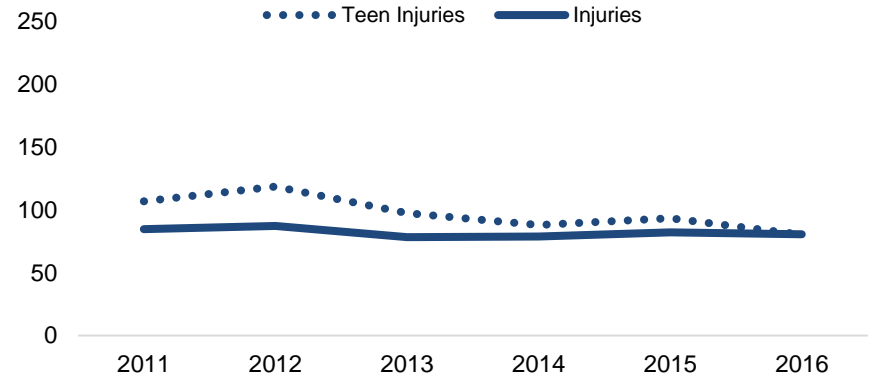
*Percent of NC Middle and High School students who reported riding in a vehicle driven by someone who had been drinking alcohol one or more times during the past 30 days

Alcohol-Related Crashes, Injuries, and Fatalities Rates per 100,000 NC Residents

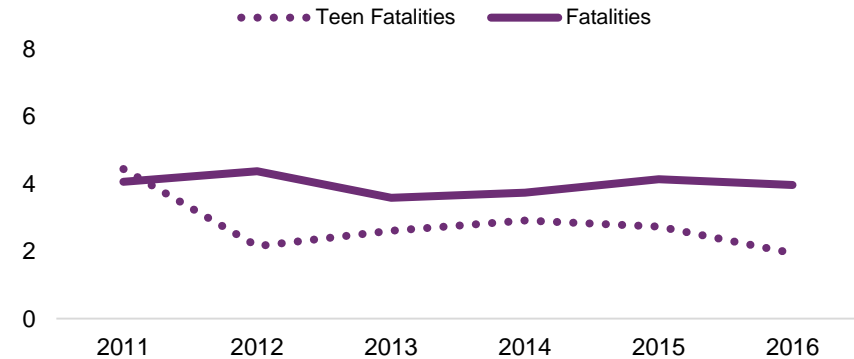
Alcohol-Related Crashes



Alcohol-Related Crash Non-Fatal Injuries



Alcohol-Related Crash Fatalities

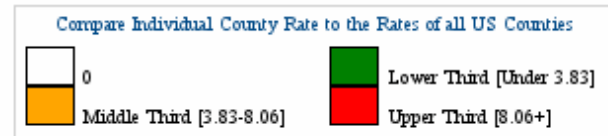
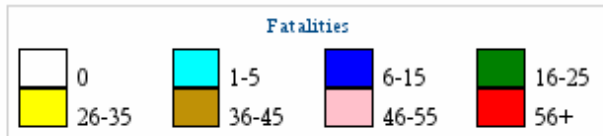
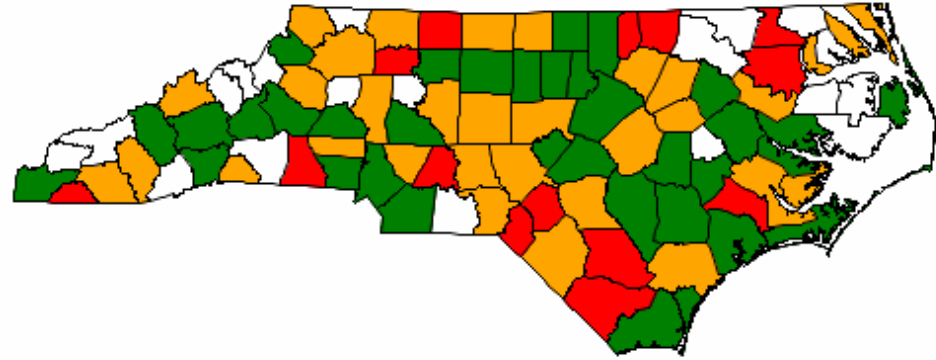
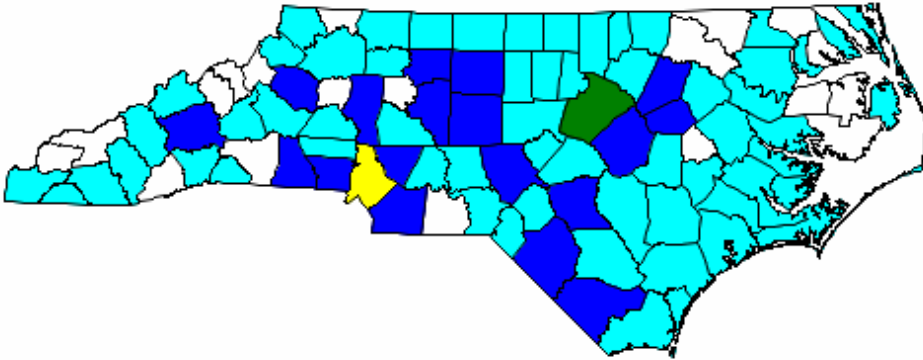


In 2016, alcohol-related crashes accounted for 4% of all crashes in NC, but **alcohol-related crash fatalities made up 28% of all crash fatalities.**

Fatalities in Crashes Involving an Alcohol-Impaired Driver by County, 2016

Fatalities in Crashes Involving an Alcohol-Impaired Driver

Fatalities in Crashes Involving an Alcohol-Impaired Driver, per 100,000 Population



Research and Recommendations

Alcohol Ignition Interlocks

- Alcohol ignition interlocks are breath test devices installed in a motor vehicle to prevent operation of the vehicle by a driver who has a blood alcohol concentration (BAC) over a pre-set low limit (usually 0.02-0.04 BAC)
- All 50 states have some type of ignition interlock programs and laws, yet only about one-fifth of those arrested for DWI have interlocks installed



Source: Insurance Institute for Highway Safety Highway Loss Data Institute. *Status Report*, Vol. 51, No. 5, May 2016. CDC Injury Prevention & Control: Motor Vehicle Safety, Increasing Alcohol Ignition Interlock Use, September 2016; Insurance Institute for Highway Safety Highway Loss Data Institute. *Status Report*, Vol. 51, No. 5, May 2016. CDC Injury Prevention & Control: Motor Vehicle Safety, Increasing Alcohol Ignition Interlock Use, September 2016.

Community Guide's Systematic Review

- While installed, interlocks reduced re-arrest rates by 67%
- After removing interlocks, re-arrest rates reverted to rates similar to those of people convicted of DUI who had not used interlocks
- Drivers with interlocks had fewer alcohol-related crashes than those who only had licenses suspended for a DUI conviction
- Overall crash rates for drivers with interlocks installed were similar to the crash rates for the general driving population

The Task Force on Community Preventive Services' Recommendation:

“The Community Preventive Services Task Force **recommends the use of ignition interlocks** for people convicted of alcohol-impaired driving on the basis of **strong evidence of their effectiveness** in reducing re-arrest rates while the interlocks are installed.”

Impact of State Ignition Interlock Laws on Alcohol-Involved Crash Deaths in the United States

Elinore J. Kaufman, MD, and Douglas J. Wiebe, PhD

Objectives. To investigate the impact on alcohol-involved crash deaths of universal ignition interlock requirements, which aim to prevent people convicted of driving under the influence of alcohol from driving while intoxicated.

Methods. We used data from the National Highway Traffic Safety Administration for 1999 to 2013. From 2004 to 2013, 18 states made interlocks mandatory for all drunk-driving convictions. We compared alcohol-involved crash deaths between 18 states with and 32 states without universal interlock requirements, accounting for state and year effects, and for clustering within states.

Mandated universal interlocks were associated with **15% fewer alcohol-involved crash deaths.**

Mandating Treatment Based on Interlock Performance: Evidence for Effectiveness

Background: Vehicle alcohol ignition interlocks reduce alcohol-impaired driving recidivism while installed, but recidivism reduction does not continue after removal. It has been suggested that integrating alcohol use disorder (AUD) treatment with interlock programs might extend the effectiveness of interlocks in reducing recidivism beyond their removal. This study evaluated the first implementation of a Florida policy mandating AUD treatment for driving under the influence (DUI) offenders on interlocks. Treatment was required when the offender accumulated 3 violations (defined as 2 “lockouts” within 4 hours; a lockout occurs when the device prevents a drinking driver from starting the vehicle).

Methods: Cox regression was used to compare alcohol-impaired driving recidivism during the 48 months following the interlock removal between 2 groups: (i) 640 multiple DUI offenders who received AUD treatment while interlocks were installed; and (ii) 806 matched offenders not mandated to treatment while interlocks were installed.

Drivers who received treatment experienced a **32% decrease in re-arrest** compared to those who did not attend rehab.

Benefits of treating ignition interlock users:

- Lowered recidivism by 32%
- Prevented
 - 45 arrests
 - 14 motor vehicle crashes
 - ~ 10 injuries

Economic benefit

Treated 640 DUI offenders at a cost of \$192,000

Prevented \$905,000 in crash costs

Net benefit = \$713,000

The Centers for Disease Control and Prevention's Recommendation:

“[Ignition interlocks] are **highly effective** at preventing repeat offenses while installed.

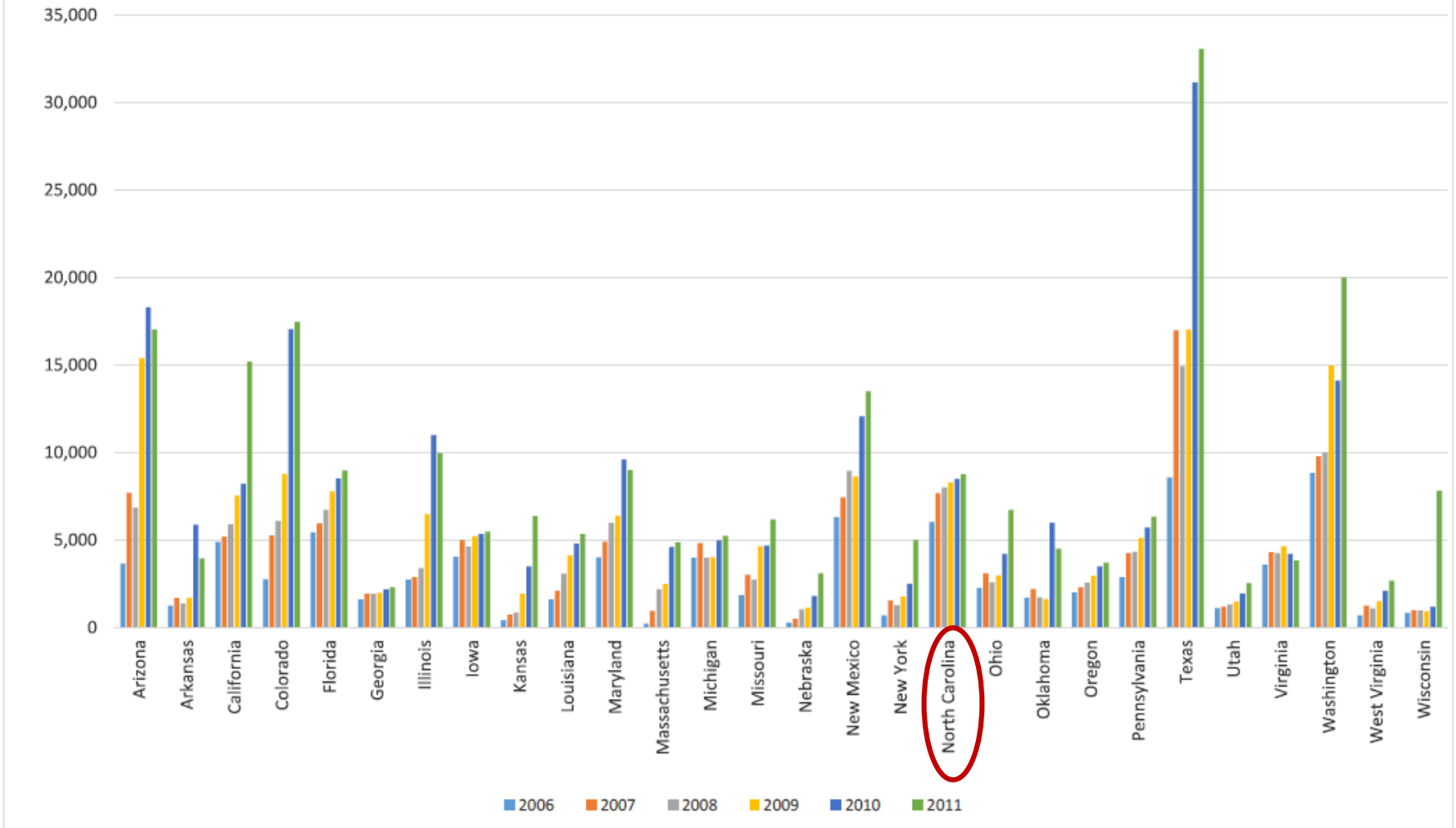
Mandating interlocks for all offenders, **including first-time offenders**, will have the greatest impact.”

North Carolina's Ignition Interlock Laws

Current Laws in North Carolina

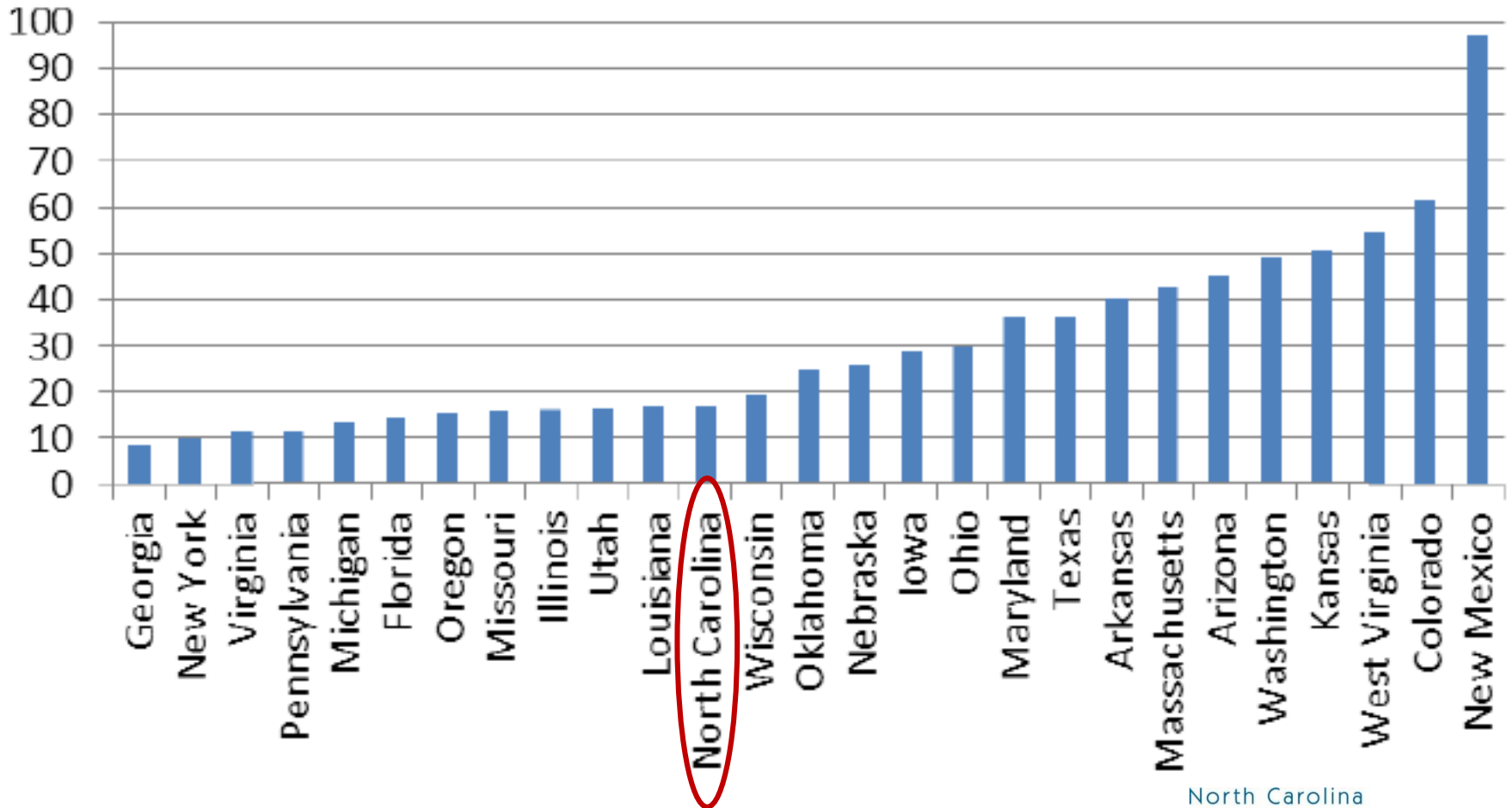
- Mandatory interlocks if BAC was >0.15 or if the person is a second or subsequent offender
- Tampering or attempting to circumvent the interlock is a Class 1 misdemeanor
- After restoration of drivers license, interlock usage is as follows:
 - 1 year if license was revoked for 1 year
 - 3 years if license was revoked for 4 years
 - 7 years if license was permanently revoked but can be restored

Interlocks in Use, 2006-2011



Source: National Highway Traffic Safety Administration, Evaluation of State Ignition Interlock Programs, Interlock Use Analyses From 28 States, 2006-2011, May 2015

Interlocks in use per 100 DWI arrests, 2011



Source: National Highway Traffic Safety Administration, Evaluation of State Ignition Interlock Programs, Interlock Use Analyses From 28 States, 2006-2011, May 2015

Ignition interlock law

A law that mandates the use of ignition interlocks for drivers convicted of alcohol-impaired driving. An ignition interlock is a device that analyzes a driver's breath and prevents the vehicle from starting if alcohol is detected.

As of July 1, 2015, North Carolina required ignition interlocks for repeat offenders convicted of alcohol-impaired driving and first-time offenders with a particularly high blood alcohol concentration (30).

Task Force on Community Preventive Services recommendation: Use of ignition interlocks is recommended for all people convicted of alcohol-impaired driving on the basis of strong evidence of interlocks' effectiveness in reducing re-arrest rates while the interlocks are installed (20).

Rating	State ignition interlock law
Green	Ignition interlocks required for all offenders convicted of alcohol-impaired driving (i.e., driving with a blood alcohol concentration [BAC] ≥ 0.08 g/dL), which includes both first-time and repeat offenders
Yellow	Ignition interlocks required for repeat offenders convicted of alcohol-impaired driving or first-time offenders with a particularly high BAC (e.g., BAC ≥ 0.15 g/dL)
Red	Ignition interlocks not required for any offenders convicted of alcohol-impaired driving

How This Rating Was Determined

The rating reflects the extent to which the state required use of ignition interlocks for drivers convicted of alcohol-impaired driving. Ratings are based on data collected from the Insurance Institute for Highway Safety (IIHS) on July 1, 2015, and therefore reflect IIHS's interpretation of each state's policy at that time (30). The "as of" date referenced—July 1, 2015—is the date CDC assessed the policy. The date does not reflect when the law was enacted or became effective.

Questions?

Mary Beth Cox, MPH

Injury and Violence Prevention Branch

NC Division of Public Health

MaryBeth.Cox@dhhs.nc.gov

www.injuryfreenc.ncdhhs.gov