

# State variation in alcohol-impaired driving and excessive drinking, 2016

Kristin Shaw MPH, Laura Houghtaling, MPH, Mary Ann Honors, PhD, MPH, and Sarah Milder, MPH, Arundel Metrics, Inc.

## Background

- Motor vehicle crashes (MVC) are a leading cause of U.S. injury deaths
- About one-third of all MVC deaths involve alcohol-impaired driving
- Groups at higher risk of alcohol-impaired driving include men, young men and people who report binge drinking
- States can pass and enforce laws that reduce alcohol-impaired driving
- We explore how alcohol-impaired driving varies by state and how it correlates with excessive drinking, a current America's Health Rankings (AHR) measure

## Methodology

Used 2016 BRFSS data file to generate prevalence estimates for D.C., 50 states and the U.S.

- Alcohol-impaired driving: Percentage of adults ≥18 who reported at least one episode of driving after drinking too much in the past 30 days
- Excessive drinking: Percentage of adults ≥18 who reported either binge drinking or chronic drinking in the past 30 days
- Analysis performed using Stata v15.1
- Median value reported for U.S.
- Spearman rank correlation coefficient calculated in Excel

## Results

### Alcohol-impaired driving

- 4.0% of U.S. adults alcohol-impaired driving
- Alcohol-impaired driving varies by state from a high of 19.8% in California to a low of 2.3% in West Virginia and Oklahoma (Figure 1)
- North Dakota is the second highest at 6.5%
- Ratio: 8.6 times (2.2 times higher in North Dakota than West Virginia)

### Excessive drinking

- 18.5% of U.S. adults report excessive drinking
- Excessive drinking varies from a high of 26.2% in Wisconsin to a low of 11.8% in West Virginia (Figure 2)
- Ratio: 2.2 times

Figure 1. Alcohol-impaired driving prevalence by state

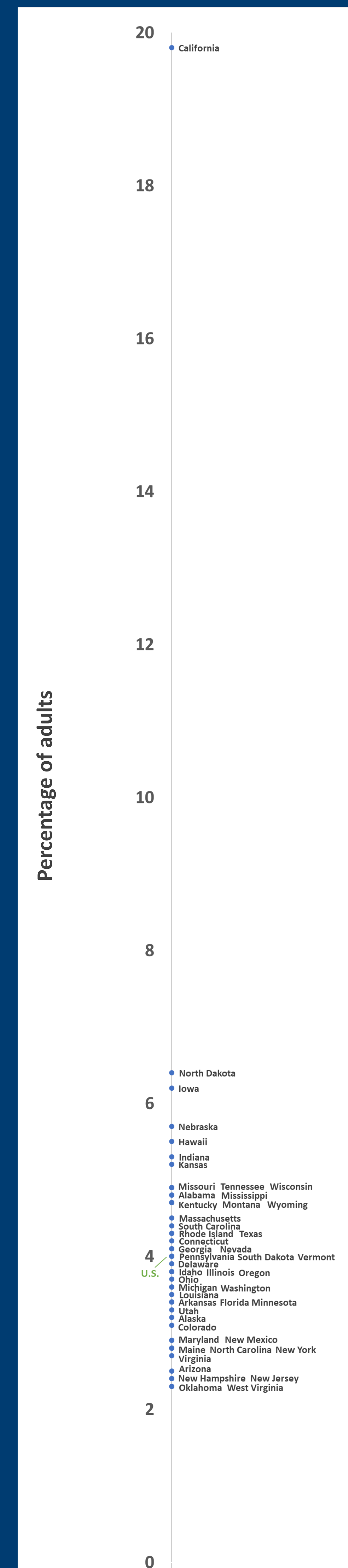
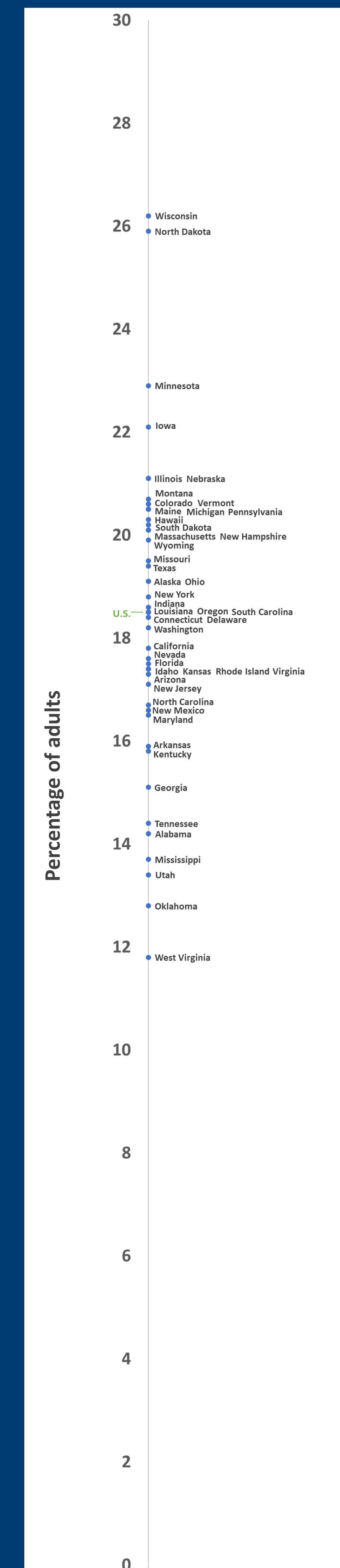


Figure 2. Excessive drinking prevalence by state



Note: Figure 3 is shaded by quintile based on rank. Light blue represent healthiest states. Dark blue least healthy states.

Figure 3. Excessive drinking and alcohol-impaired driving prevalence heatmap by state, sorted by excessive drinking

	Excessive Drinking (%)	Alcohol-Impaired Driving (%)
West Virginia	11.8	2.3
Oklahoma	12.8	2.3
Utah	13.4	3.3
Mississippi	13.7	4.8
Alabama	14.2	4.8
Tennessee	14.4	4.9
Georgia	15.1	4.1
Kentucky	15.8	4.7
Arkansas	15.9	3.4
Maryland	16.5	2.9
New Mexico	16.6	2.9
North Carolina	16.7	2.8
New Jersey	17.1	2.4
Arizona	17.3	2.5
Idaho	17.4	3.8
Kansas	17.4	5.2
Rhode Island	17.4	4.3
Virginia	17.4	2.7
Florida	17.5	3.4
Nevada	17.6	4.1
California	17.8	19.8
Washington	18.2	3.6
Connecticut	18.4	4.2
Delaware	18.4	3.9
Louisiana	18.5	3.5
Oregon	18.5	3.8
South Carolina	18.5	4.4
Indiana	18.6	5.3
New York	18.8	2.8
Alaska	19.1	3.2
Ohio	19.1	3.7
Texas	19.4	4.3
Missouri	19.5	4.9
Wyoming	19.9	4.7
Massachusetts	20.1	4.5
New Hampshire	20.1	2.4
South Dakota	20.2	4.0
Hawaii	20.3	5.5
Maine	20.5	2.8
Michigan	20.5	3.6
Pennsylvania	20.5	4.0
Colorado	20.6	3.1
Vermont	20.6	4.0
Montana	20.7	4.7
Illinois	21.1	3.8
Nebraska	21.1	5.7
Iowa	22.1	6.2
Minnesota	22.9	3.4
North Dakota	25.9	6.4
Wisconsin	26.2	4.9

## Results, cont'd

### Correlation

- Alcohol-impaired driving and excessive drinking have a weak positive correlation ( $r=0.30$ )
- Excessive drinking is higher in New York, New Hampshire and Maine than the U.S. (18.8%, 20.1% and 20.5%), while alcohol-impaired driving is lower than the U.S. (2.8%, 2.4% and 2.8%) (Figure 3)
- Conversely, Tennessee has a lower excessive drinking prevalence (14.4%) and a higher prevalence of alcohol-impaired driving (4.9%)

## Conclusions

- Alcohol-impaired driving and excessive drinking vary widely by state
- California is an outlier in alcohol-impaired driving and should be further investigated
- States with a higher prevalence of excessive drinking and lower prevalence of alcohol-impaired driving may offer insight into effective strategies to reduce drinking and driving
- Weak correlation of measures suggest alcohol-impaired driving should be considered for AHR as a measure of distracted driving

### Acknowledgments

We thank the advisory committee, who provided guidance in the development of the *America's Health Rankings® Annual Report*, and United Health Foundation for their continued support of this project.

### Disclosure

Arundel Metrics receives funding from United Health Foundation to produce America's Health Rankings. Arundel Metrics (arundelmetrics.com) is a small, data-driven consulting firm specializing in public health measurement and index generation.

