

Welcome

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presents . . .

CDC Vital Signs

**Alcohol Poisoning Deaths: A Deadly Consequence of
Binge Drinking**

January 13, 2015

2:00–3:00 pm (EST)



Centers for Disease Control and Prevention
Office for State, Tribal, Local and Territorial Support

Agenda

2:00 pm	Welcome & Introductions	Richard Schieber, MD, MPH Coordinator, CDC Vital Signs Program, CDC
2:04 pm	Presentations	Dafna Kanny, PhD Senior Scientist, Alcohol Program, Division of Population Health, National Center for Chronic Disease Prevention and Health Promotion, CDC Timothy Naimi, MD, MPH Associate Professor, Boston University School of Medicine and Boston University School of Public Health Pediatrician, Boston Medical Center Laura Tomedi, PhD, MPH Alcohol Epidemiologist, Substance Abuse Epidemiology Section, Epidemiology and Response Division, New Mexico Department of Health
2:30 pm	Q&A and Discussion	Richard Schieber, MD, MPH
2:55 pm	Wrap-up	
3:00 pm	End of Call	



CDC
Vitalsigns™ Teleconference
to support STLT efforts and build
momentum around the monthly
release of CDC *Vital Signs*



Vital Signs Town Hall Teleconference

Alcohol Poisoning Deaths—United States, 2010–2012

January 13, 2015

Dafna Kanny, PhD

Senior Scientist

Excessive Alcohol Use Prevention Team

National Center for Chronic Disease Prevention and Health Promotion

Division of Population Health



Public Health Impact of Excessive Drinking in the US

- ❑ 1 in 10 deaths among working-age adults (aged 20–64 years)¹
- ❑ \$223.5 billion in economic costs (2006) or ~\$1.90/drink²
- ❑ 90% of US adults who drink excessively binge drink³
- ❑ Most adult binge drinkers do so frequently and intensively⁴
 - Average of 4 binge episodes per month
 - Average of 8 drinks per binge
- ❑ 9 in 10 binge drinkers are *not* alcohol dependent³

1. Stahre M, et al. *Prev Chronic Dis*, 2014;11:130293.
2. Bouchery, et al. *Am J Prev Med*, 2011;41(5):516-24.
3. Esser, et al. *Prev Chronic Dis*, 2014;11:140329.
4. Kanny, et al. *MMWR*, 2013;62 (Suppl):77-80.

Alcohol Poisoning Is Caused by Binge Drinking at High Intensity

- ❑ Signs and symptoms of alcohol impairment increase with the amount consumed, progressing from
 - Minimal impairment
 - Decreased judgment and control
 - Slurred speech
 - Reduced muscle coordination
 - Vomiting and stupor
 - Coma and death
- ❑ Individual responses to alcohol can vary due to many factors, including health status, consumption of other drugs, and metabolic and functional tolerance of the drinker.

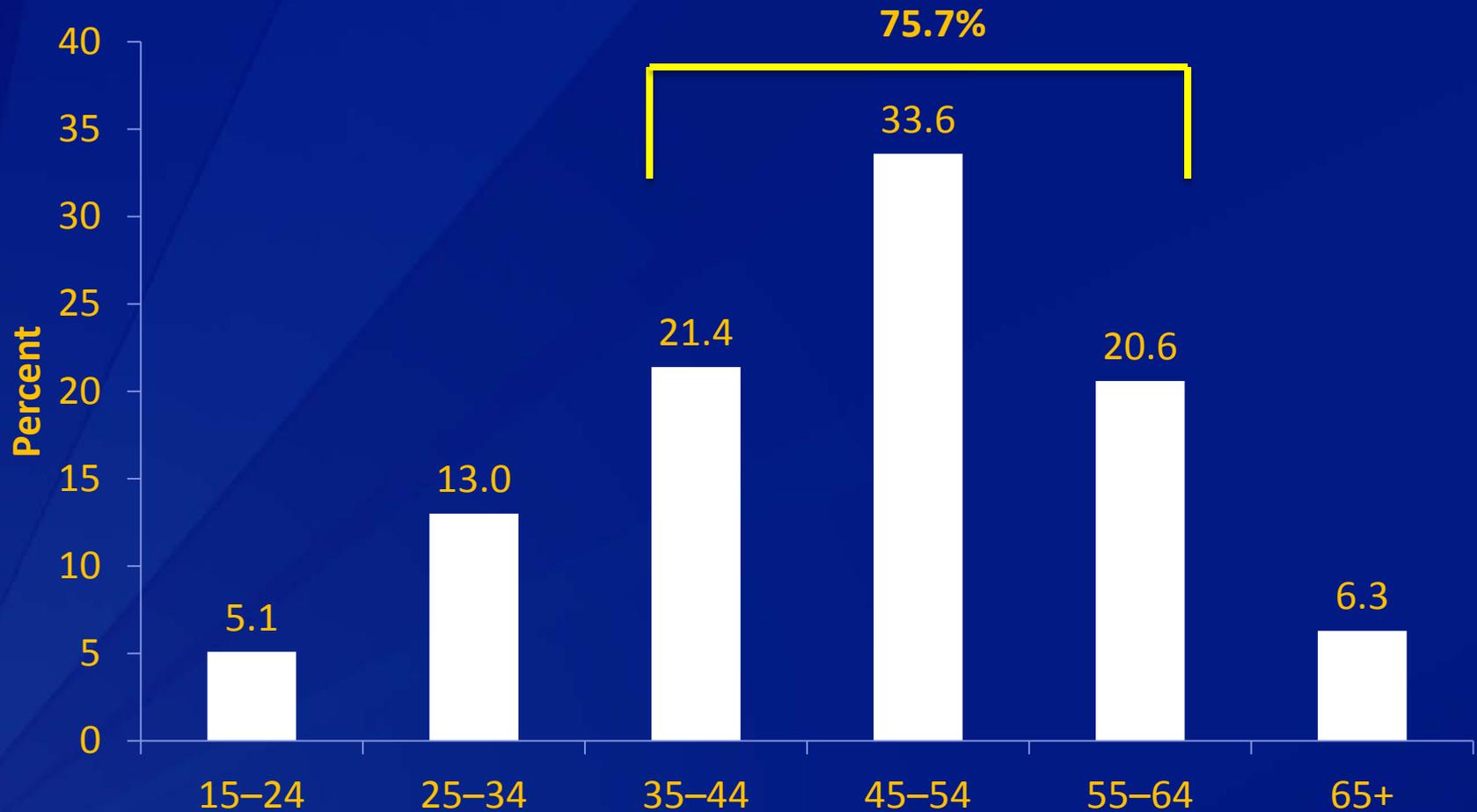
Methods

- ❑ **National Vital Statistics System 2010–2012**
- ❑ **Identified deaths with alcohol poisoning as the underlying (principal) cause among persons aged ≥ 15 years**
 - Accidental poisoning by and exposure to alcohol (X45)
 - Poisoning by and exposure to alcohol, undetermined intent (Y15)
- ❑ **Death rates calculated by demographic characteristics and state**
 - Death rates age-adjusted to the 2000 US Census
- ❑ **Some contributing causes were also assessed**
 - Alcohol dependence (F10.2)
 - Hypothermia (X31, T68, T69.9)
 - Drug poisoning (T36-T50)
 - Drug use mental disorders (F11-F16, F18, F19)

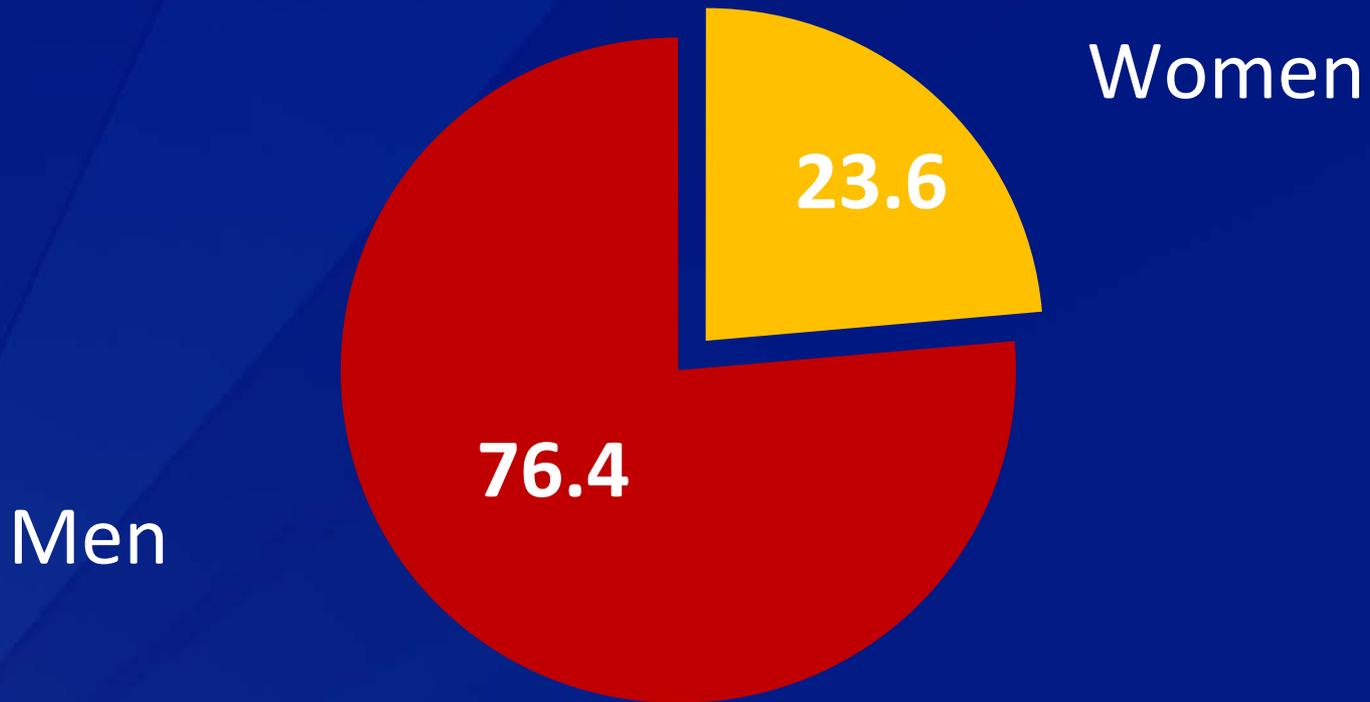
Alcohol Poisoning Deaths Are More Common Than We Thought

- ❑ **Annual average of 2,221 alcohol poisoning deaths among persons aged ≥ 15 years in the US from 2010–2012**
 - 6 alcohol poisoning deaths each day, on average
 - 8.8 deaths per million population

Alcohol Poisoning Deaths Are Most Common in Middle-Aged Adults



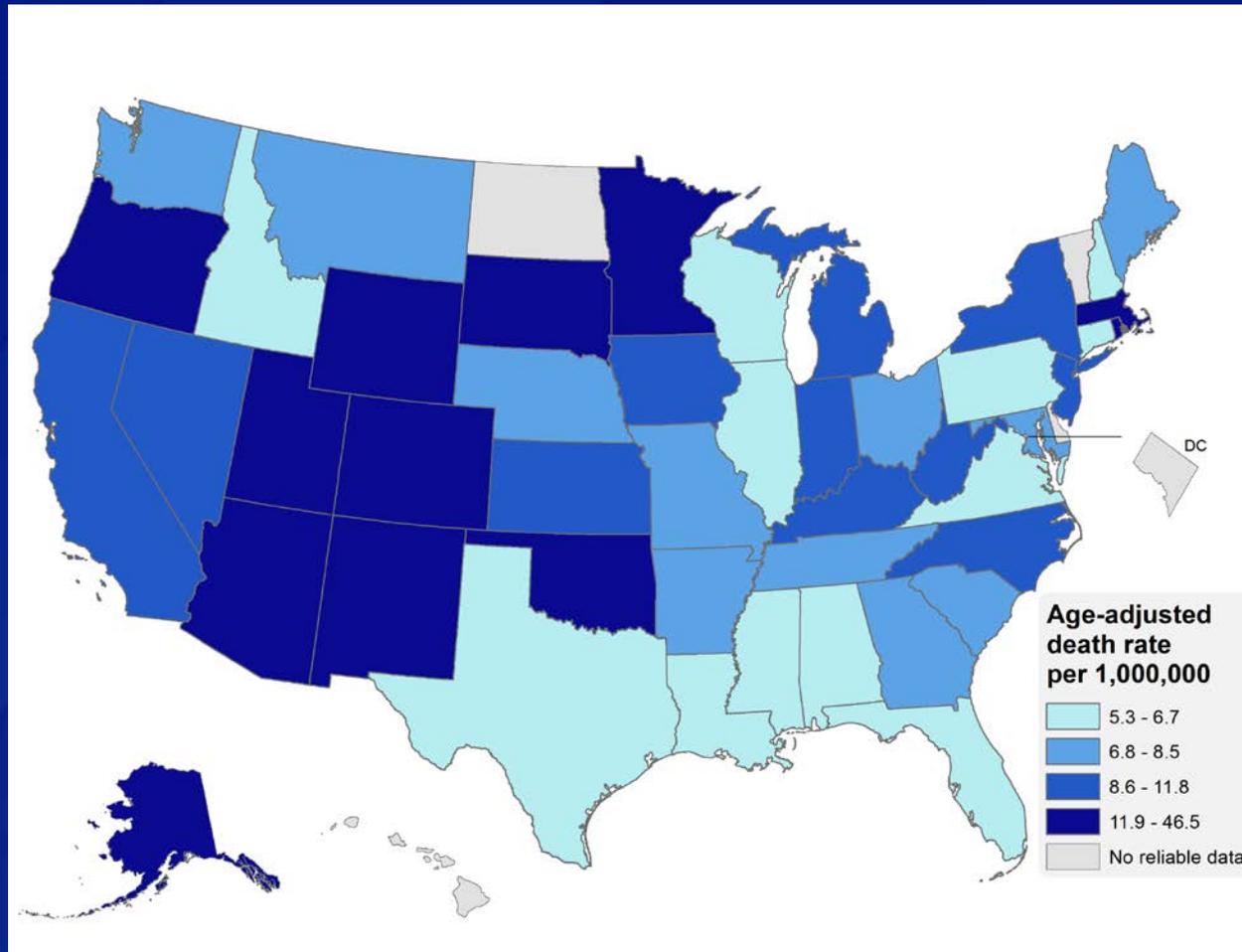
Most People Who Die of Alcohol Poisoning Are Men



Alcohol Poisoning Deaths Vary by Race and Ethnicity

Race/Ethnicity	Percent (%)	Rate (per million)
White	67.5	8.8
Hispanic	15.2	9.0
Black	8.6	6.2
American Indian/Alaska Native	6.9	49.1
Asian	1.5	2.2

Alcohol Poisoning Death Rates Vary by State



What Can Be Done?

Communities can reduce binge drinking by implementing evidence-based strategies, such as those recommended by The Community Preventive Services Task Force*

- Increasing alcohol taxes
- Regulating alcohol outlet density
- Dram shop [commercial host] liability
- Maintaining limits on days and hours of sale
- Maintaining state monopolies on alcohol sales
- Enhancing enforcement of laws prohibiting alcohol sales to minors
- Electronic screening and brief interventions in the clinical setting

Translating The Community Guide Recommendations into Practice

- ❑ **Funding state capacity in Alcohol Epidemiology**
- ❑ **Worked with OSTLTS to develop 2013 State Prevention Status Reports (PSRs) on Excessive Alcohol Use**
 - Assess status of Community Guide recommendations in all 50 states and DC.
 - Developing a Users Guide for the PSRs to support their use
- ❑ **Funded translation research on the social and health effects of changing alcohol prices.**



Summary and Conclusions

- ❑ Alcohol poisoning deaths are a serious and preventable public health problem among all ages.
- ❑ Evidence-based prevention strategies could reduce alcohol poisoning deaths by reducing the prevalence, frequency, and intensity of binge drinking.

Contact Information

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Thank you!

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.



Alcohol Policies and Binge Drinking Among US Adults

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Boston, MA





Alcohol Policies

- **The laws, regulations, and practices designed to reduce excessive alcohol consumption and its related harms**
- **Alcohol policies are modifiable; some are inexpensive to implement, require no regular maintenance, and can save or raise money**
- **A number of policies have strong and consistent evidence base demonstrating effectiveness at reducing adult excessive drinking, youth drinking, or both**



Alcohol Policy Experts' Ratings of Top 10 Policies for Reducing Adult Binge Drinking

1. Taxes
2. State Control (Monopoly)
3. Outlet Density Restrictions
4. Wholesale Price Restrictions
5. Retail Price Restrictions
6. Alcohol Beverage Control Agencies
7. Dram Shop Liability
8. Hours of Sale Restrictions
9. Sales or Service to Intoxicated Patrons Prohibited
10. Social Host Laws

Source: Nelson et al. *Am J Prev Med*, 2013; 45:19–28.



What about the Effect of Multiple Policies (the Policy “Environment”)?

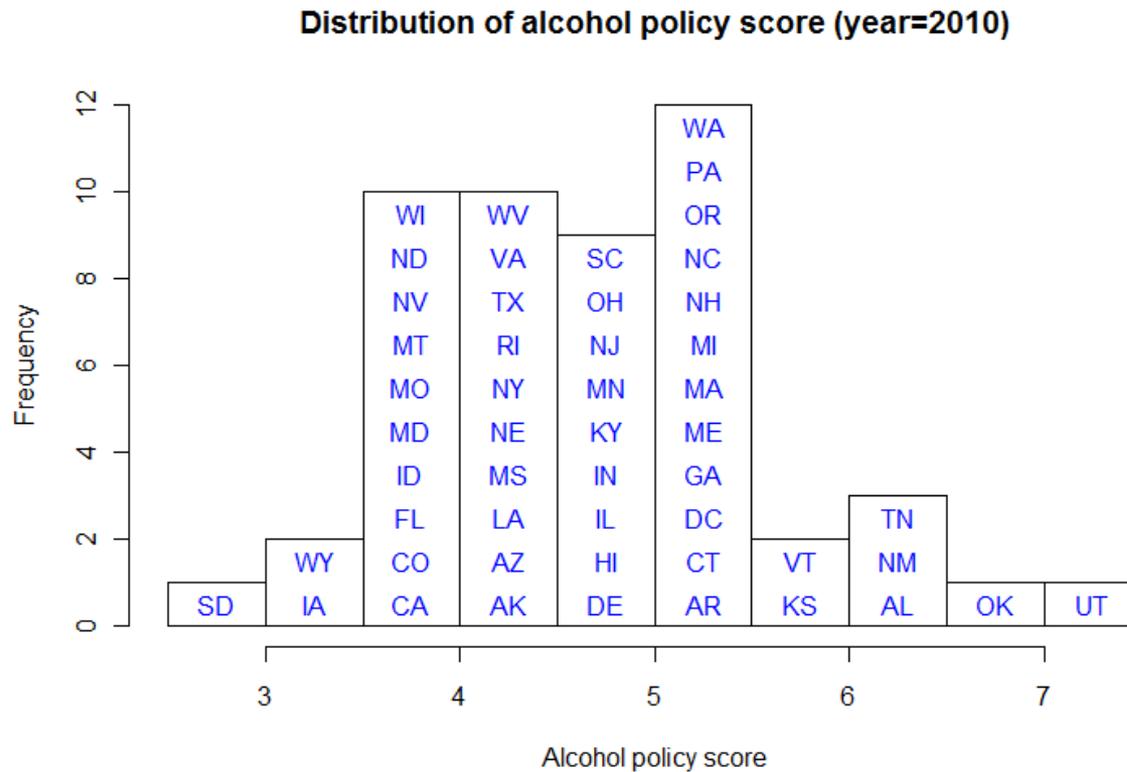
- **Conceptualized as the combined effect of multiple concurrent policies in a particular jurisdiction**
- **Stronger environments: more policies, effective policies, better implemented policies**
- **WHO Global Status Report (2004): “It would be useful to develop a way to measure and evaluate overall policy comprehensiveness”**
- **Useful to evaluate and plan optimal policy strategies to reduce harms**



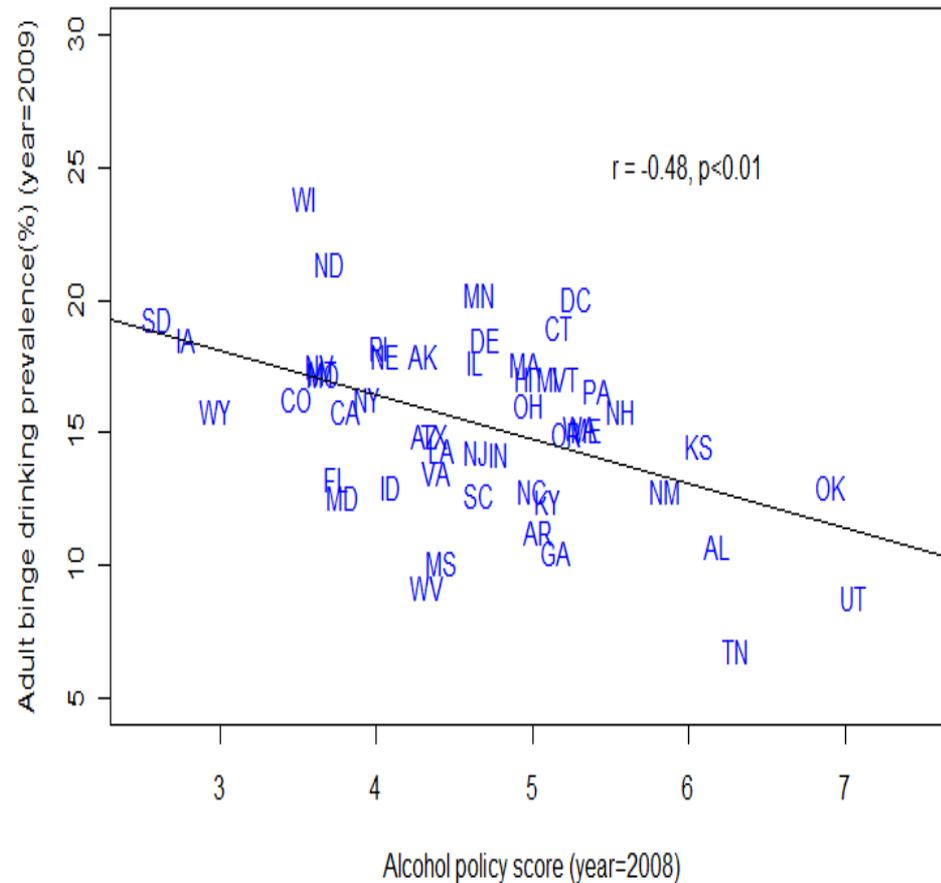
Youth, Adults, and Alcohol Policies Study

- **Characterize the alcohol policy environment in US states**
- **Assess relationships between the policy environment and alcohol consumption**
- **Policy environment represented by “Alcohol Policy Scale” (APS) scores composed of weighting and summing 29 policies in each state from 1999–2011**

Policy Environments Among US States and DC, 2010



The Adult Policy Environment and Adult Binge Drinking Prevalence, US States





Policy Environment and Adult Binge Drinking (cont.)

- **Median state adult binge drinking prevalence from weakest to strongest quartiles of alcohol policy environment: 17.4%, 15.8%, 15.6%, 13.0%**
- **States with an above-median policy environment score have reduced odds of being in the top quartile of binge drinking prevalence (adjusted odds 0.28, CI = 0.10–0.82)**

Odds of Binge Drinking Based on 10 Percentage Point Increase in APS Score

Models	Binge Drinking AOR (95% CI)	≥5 Binge Episodes AOR (95% CI)	Max Drinks ≥10 AOR (95% CI)
Bivariate Gee model	0.90 (0.89, 0.90)	0.90 (0.89, 0.92)	0.89 (0.87, 0.91)
Adjusted GEE model (individual-level covariates)	0.89 (0.88, 0.90)	0.90 (0.88, 0.92)	0.90 (0.88, 0.91)
Adjusted GEE model (individual-level covariates and year)	0.89 (0.88, 0.90)	0.90 (0.88, 0.92)	0.90 (0.87, 0.92)
Adjusted GEE model (individual-level and state-level covariates, and year)	0.92 (0.91, 0.93)	0.92 (0.90, 0.94)	0.90 (0.87, 0.92)

Source: Xuan et al. *Am J Public Health*, 2014.

Odds of Binge Drinking for Policy Subgroups

Policy Groups	Binge Drinking AOR (95% CI)	≥5 Binge Episodes AOR (95% CI)	Max Drinks ≥10 AOR (95% CI)
Age Orientation of Policies			
General Population (n=19)	0.92 (0.91, 0.93)	0.93 (0.91, 0.95)	0.91 (0.89, 0.94)
Youth-Specific (n=10)	1.01 (0.99, 1.02)	0.98 (0.96, 1.01)	0.97 (0.95, 0.99)
Consumption Vs. Driving			
Consumption-Oriented (n=21)	0.93 (0.92, 0.94)	0.93 (0.91, 0.95)	0.91 (0.89, 0.93)
Driving-Oriented (n=8)	0.98 (0.97, 0.99)	0.97 (0.95, 0.99)	0.97 (0.95, 0.99)

Source: Xuan et al., *Am J Public Health* 2014

Odds of Binge Drinking for Policy Subgroups (cont.)

Policy Groups	Binge Drinking AOR (95% CI)	≥5 Binge Episodes AOR (95% CI)	Max Drinks ≥10 AOR (95% CI)
Policy Efficacy			
High rating (n=14)	0.94 (0.93, 0.95)	0.94 (0.92, 0.96)	0.92 (0.90, 0.94)
Low rating (n=15)	0.98 (0.97, 0.99)	0.96 (0.94, 0.98)	0.95 (0.93, 0.98)
Mechanism of Action			
Pricing Policies (n=3)	0.96 (0.92, 0.94)	0.97 (0.91, 0.95)	0.97 (0.89, 0.93)
Physical Availability (n=13)	0.96 (0.97, 0.99)	0.96 (0.95, 0.99)	0.96 (0.95, 0.99)
Other Policies (n=13)	0.99 (0.98, 1.00)	0.97 (0.96, 0.98)	0.96 (0.95, 0.97)



Summary

- **Implementing effective policies and strengthening the policy environment are effective and modifiable means by which to reduce binge drinking**
- **Policies that raise the price of alcohol and reduce its physical availability account for most of the relationship between policies and binge drinking**



Acknowledgements and Contact Information

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Alcohol Poisoning: New Mexico

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Substance Abuse Epidemiology Section
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CDC *Vital Signs* Town Hall Teleconference
January 13, 2015



New Mexico Background



- Approximately 2 million people
- 20% living below poverty level
- 46% Hispanic
- 41% White
- 9% American Indian
 - 22 federally recognized tribes
- 79% of counties are rural or mixed urban/rural



Excessive Drinking Has a Major Public Health Impact in New Mexico

- Highest age-adjusted alcohol-attributable death rate in the nation
 - 52.2 deaths per 100,000 population
- 1 in 6 deaths among working age adults is attributable to alcohol
 - Compared to 1 in 10 nationally
- New Mexico's alcohol-attributable death rate is one of the Department of Health's 10 priority indicators

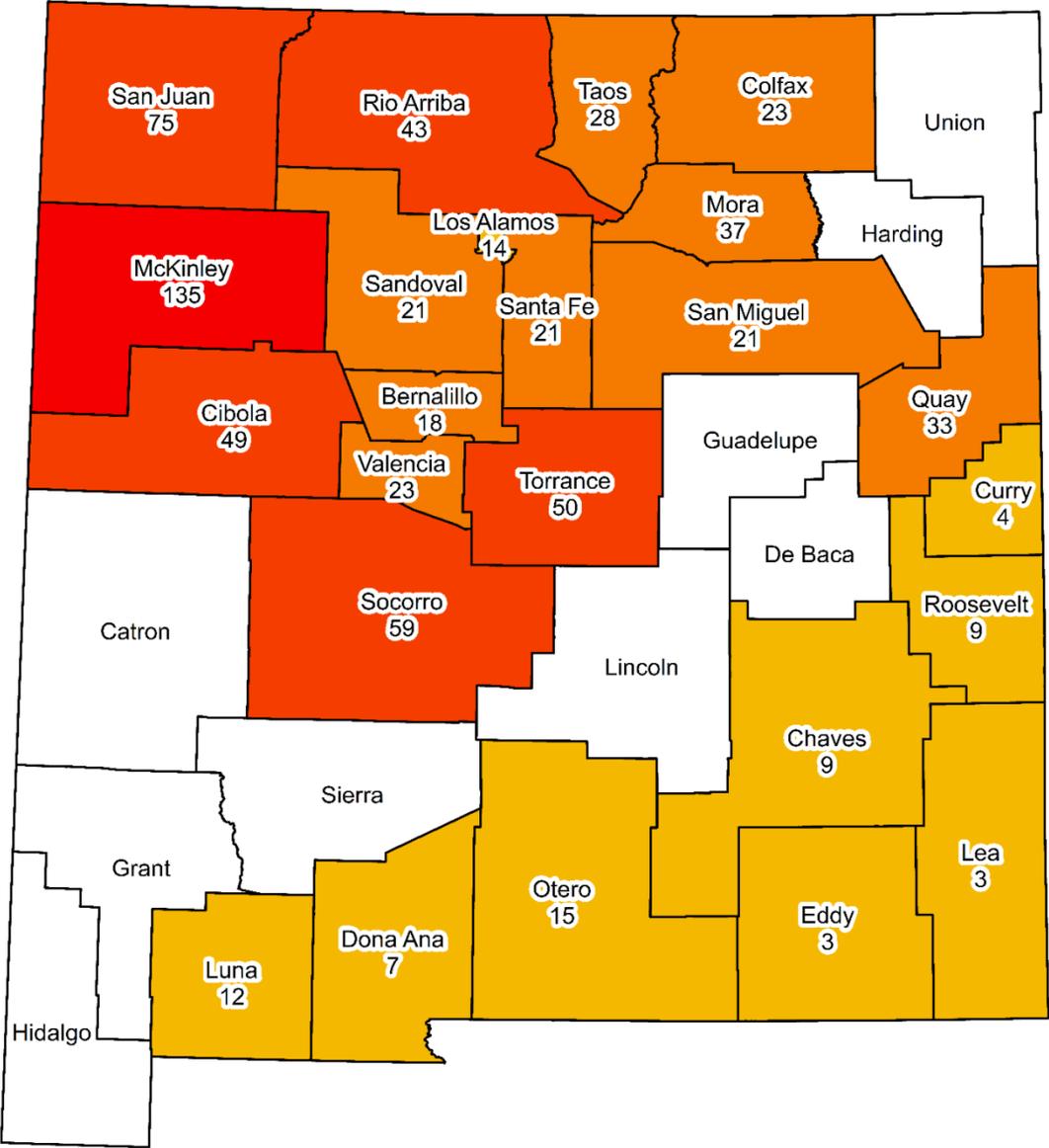
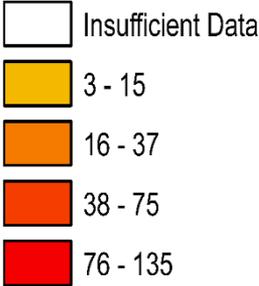


Alcohol Poisoning Deaths in New Mexico

- Second highest alcohol poisoning death rate per million people aged ≥ 15 years in the US
- Deaths rates have remained high and consistent since 2008
- Nearly four times the national death rate
- Similar to the rest of the nation, rates are highest among
 - Men
 - American Indian/Alaskan Natives
 - People aged 35–64 years

Alcohol Poisoning Death Rates per Million People County of Residence, New Mexico, 2009–13

Alcohol Poisoning Death Rate



Rates are per 1,000,000, age-adjusted to the 2000 US Standard Population; NMDOH BVRHS



Preventing Alcohol Poisoning Deaths in New Mexico



Data in Action in New Mexico

- Preventing binge drinking is the key to preventing alcohol poisoning deaths
- Using Community Guide Recommendations
- Mortality data and binge drinking data have been used to inform
 - Policy development
 - Medical care providers
 - State agencies
 - Local/neighborhood efforts
 - Evaluations of interventions

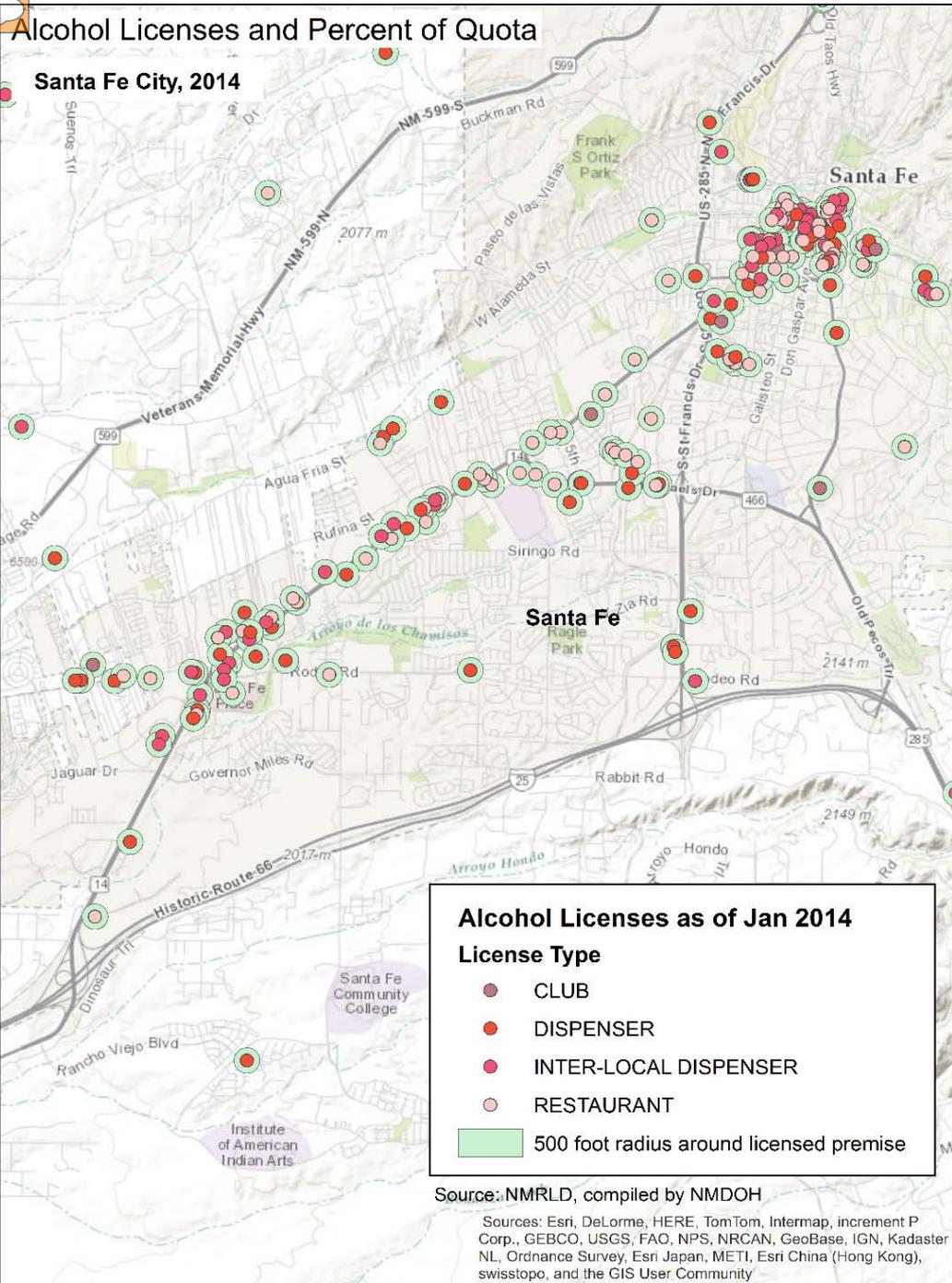


New Mexico Liquor Control Act

- State statute that regulates liquor licensing and operation
- In 2013, Senate Memorial 77 (SM77) passed
- SM77 directed the Regulation and Licensing Department to convene a task force to assess and make recommendations for updating the Liquor Control Act

Alcohol Licenses and Percent of Quota

Santa Fe City, 2014



Alcohol Licenses as of Jan 2014

License Type

- CLUB
- DISPENSER
- INTER-LOCAL DISPENSER
- RESTAURANT
- 500 foot radius around licensed premise

Source: NMRLD, compiled by NMDOH
Sources: Esri, DeLorme, HERE, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

Regulation of Alcohol Outlet Density in Santa Fe

- 271% over “quota”
 - Quota = New Mexico statute allows 1 license (certain licenses) per 2,000 population
- In 2012, City of Santa Fe passed a zoning ordinance for the “Airport Road Area”
 - New licenses cannot be within 500 feet of an existing license



Reducing Illegal Alcohol Sales: Enforcement of the Overservice Law in New Mexico

Changes in binge drinking intensity^{a,b} by binge drinking location and binge driving status, New Mexico, 2004–05 and 2007–08

Binge drinking location— Binge driving status	2004–05			2007–08			%	p-value
	# of Respondents ^c	Avg # of drinks	(95% CI) ^d	# of Respondents ^c	Avg # of drinks	(95% CI) ^d		
Bar/club	150	8.3	(7.5, 9.1)	92	7.0	(6.2, 7.7)	-16%	0.02
Drove after binge drinking	25	7.9	(6.3, 9.5)	14	7.1	(6.0, 8.2)	-10%	0.48
Did not drive after binge drinking	125	8.4	(7.5, 9.3)	78	6.9	(6.1, 7.8)	-17%	0.02
Other location	778	8.0	(7.6, 8.4)	660	7.5	(7.1, 8.0)	-6%	0.13
All locations	928	8.0	(7.7, 8.4)	752	7.5	(7.1, 7.9)	-7%	0.03

Source: Roeber, J.; 2004-2005 & 2007-2008 NMBRFSS

^aAverage number of drinks consumed by binge drinkers on most recent binge occasion in the past month

^bExcludes binge drinkers who reported < 5 total drinks during last binge episode

^cRespondents who responded to the core binge drinking questions; and the binge module drink frequency and binge location questions

^dCI = Confidence Interval

^ePercent change calculated before rounding, may not tie exactly to results in table



Thank you!

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Prevention Status Reports

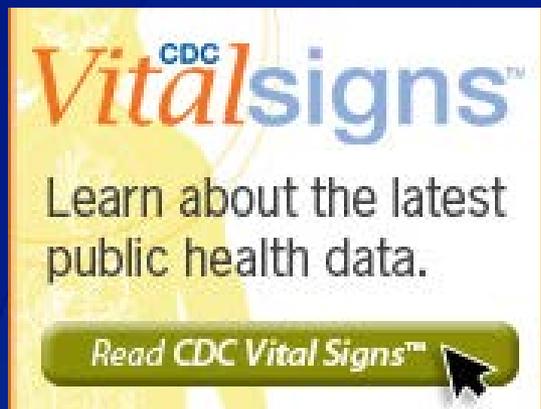
- ❑ The Prevention Status Reports (PSRs) highlight—for all 50 states and the District of Columbia—the status of public health policies and practices designed to prevent or reduce 10 important public health problems.

Health Topics Covered by the PSRs	
 <p>Excessive Alcohol Use Excessive alcohol use is responsible for 88,000 US deaths each year.</p>	 <p>Motor Vehicle Injuries Motor vehicle crashes cause about 32,000 US deaths and 2.6 million injuries a year.</p>
 <p>Food Safety Each year, about 48 million Americans get sick from foodborne illness.</p>	 <p>Nutrition, Physical Activity, and Obesity More than one-third of US adults and 17% of children are obese.</p>
 <p>Healthcare-Associated Infections Each year, 1 in 20 hospital patients gets a healthcare-associated infection.</p>	 <p>Prescription Drug Overdose Deaths involving opioid painkillers have more than quadrupled since 1999.</p>
 <p>Heart Disease and Stroke Cardiovascular disease is the leading cause of death in the United States.</p>	 <p>Teen Pregnancy Each year in the United States, 750,000 teens become pregnant.</p>
 <p>HIV About 1 in 6 persons with HIV don't know they are infected.</p>	 <p>Tobacco Use Tobacco use is the leading cause of preventable death in the United States.</p>

<http://www.cdc.gov/psr/>

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