

CDC *Vital Signs* Town Hall Teleconference

Alcohol Poisoning Deaths: A Deadly Consequence of Binge Drinking

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2:00 pm (EST)

Coordinator: Welcome, and thank you for standing by. At this time, all participants are in listen-only mode. During our question and comments section, you can ask a question or make a comment by pressing star 1 and recording your name when prompted.

This conference is being recorded. If you have any objections, you may disconnect. And now let's turn today's meeting over to Dr. Rich Schieber. Thank you, you may begin.

Dr. Richard Schieber: Hi, I'm Dr. Schieber, Director of CDC's *Vital Signs* program and thank you for joining us today. We're going to discuss the latest *Vital Signs* report released last week on alcohol poisoning deaths. As we get started let's go over a few housekeeping details.

First, you can go online and download today's PowerPoint presentation that'll allow you to follow along with the presenters. That web address and I'll repeat it is www.cdc.gov/stltpublichealth, all one word. Again, that's www.cdc.gov/stltpublichealth.

If you'll look under Highlighted Products and Resources and then click on the *Vital Signs* Town logo -- Town Hall logo in the middle of the page you'll see it there. Or you can Google if you want "CDC *Vital Signs* Town Hall" and click on the top link and it should get you there.

On that page you can access bios for today's presenters and the audio recording and transcript which will be available next week. Just to let you know there will be plenty of time at the end for questions but you can get in the queue for this at any time during the presentation -- anybody's presentation to ask a question.

What you do is press star 1 and record your name when prompted. So now I'm going to take the prerogative of getting back to the topic for today, which is alcohol poisoning deaths. We're going to hear from three colleagues.

First we're going to hear from Dr. Dafna Kanny who is a senior scientist in CDC's Alcohol Program in the Division of Population Health at the National Center for Chronic Disease Prevention and Health Promotion. She'll start out the presentation by summarizing this month's *Vital Signs* report.

Then, Dr. Tim Naimi will present. Dr. Naimi is an associate professor at Boston University's School of Public Health and School of Medicine and is a physician at the Boston Medical Center. Dr. Naimi will discuss alcohol policies and binge drinking among adults in the US.

And after he finishes he'll hand the call over to Dr. Laura Tomedi who is an alcohol epidemiologist at the New Mexico Department of Health. Dr. Tomedi will talk about the public health impact that excessive drinking has had in New Mexico.

So those are our three speakers. And now I'll turn the call over to Dr. Kanny. Dafna.

Dr. Dafna Kanny: Thank you, Rich. And good afternoon. I'm currently on slide 4. And I will share with you today the results of our study on alcohol poisoning deaths in the United States. Slide 5.

Excessive drinking in the United States is responsible for one in ten deaths among working-age adults aged 20 to 64. And about \$224 billion in economic cost or about \$1.90 per drink.

Ninety percent of the US adults who drink excessively binge drink and most of those binge drinkers do so frequently and intensively. An average of four binge episodes per month and an average of eight drinks per binge. Yet nine in ten binge drinkers are not alcohol dependent or alcoholics.

Slide 6. Alcohol poisoning is caused by binge drinking at high intensity. The sudden symptoms of alcohol impairment increase with the amount consumed progressing for minimal impairment to decreased judgment and control, to slurred speech, reduced muscle coordination, vomiting, and stupor.

And it can also result in 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. Slide 7. For this study we analyzed data using the national vital statistics that stem from 2010 to 2012.

We identify death with alcohol poisoning as the underlying cause among persons aged 15 years or older. Death rates were calculated by demographic characteristics in state and were age adjusted to the 2000 US census.

We also assessed selected contributing causes including alcohol dependence, hyperthermia, drug poisoning, and drug use mental disorders. Slide 8. We found that alcohol poisoning deaths are more common than we thought.

With an annual average of 2,221 alcohol poisoning deaths among persons aged 15 years or older in the US from 2010 to 2012. This translates to six alcohol poisoning deaths each day and a rate of 8.8 deaths per million population.

Slide 9. Alcohol poisoning deaths are a problem for all ages but are most common in middle-aged adults. In fact, 76% of alcohol poisoning deaths are among adults aged 35 to 64. Slide 10. As you can see on this slide most people who die of alcohol poisoning death are men.

Slide 11. Alcohol poisoning deaths vary by race and ethnicity. Almost 70% of the deaths were among non-Hispanic whites. However the age-adjusted alcohol poisoning death rate was highest among American Indian/Alaska Native.

Slide 12. Alcohol poisoning death rates vary substantially by state. The age-adjusted alcohol poisoning death rate in states range from 5.3 per 1 million in Alabama, to 46.5 per 1 million in Alaska. Twenty states have alcohol poisoning death rates greater than the overall national rate of 8.8 per 1 million.

In Alaska and New Mexico had alcohol poisoning death rates greater than 30 per 1 million. As you can see on the map states with the highest death rates were located mostly in the Great Plains, western United States but also included a couple of New England states, Rhode Island and Massachusetts.

Slide 13. Communities can reduce binge drinking as well as the health and social costs related to it by implementing evidence-based strategies such as those recommended by the Community Preventive Services Task Force.

In general these interventions deal with increasing the price and limiting the availability of alcoholic beverages. These include, among others, increasing alcohol taxes, regulating alcohol density, and dram shop liability, which means holding alcohol retailers liable for the harm related to the sale of alcoholic beverages to those intoxicated customers or minors. Slide 14. In an effort to translate Community Guide recommendations into practice we are funding state capacity and alcohol epidemiology, which you'll hear more about that from Laura.

And we have worked with OSTLTS to develop the 2013 state Preventions Status Reports (PSRs) on Excessive Alcohol Use to assess status of community guide recommendation in all 50 states and DC.

We are also developing a user's guide for the PSRs to support their use. And we have also funded translation research on the social and health effect of changing alcohol prices. Slide 15. In summary 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 the intensity of binge drinking. Slide 16. Thank you for your time and interest in this important topic. Next is Dr. Tim Naimi.

Dr. Tim Naimi: Can everyone hear me? I hope. So the title of my portion of the talk is Alcohol Policies in Binge Drinking Among US Adults, to put this situation into a bit of a broader context.

Slide 18. Alcohol policies are the law's regulations and practices that are designed to reduce excessive alcohol consumption and related harms. Alcohol policies are modifiable. Some are inexpensive to implement or require no regular maintenance and can save or raise money in the case of taxes.

A number of policies have strong and consistent evidence base demonstrating the effectiveness in reducing adult excessive drinking, youth drinking or both. I was in charge of a research project in which alcohol policy experts provides ratings of the top alcohol policies for reducing adult binge drinking.

Which of course as Dr. Kanny has explained, is relevant to the issue of alcohol poisoning. Just to give you a sense of important policies as rated by experts, number one were alcohol taxes, number two were state alcohol control systems or state monopolies, number three were restrictions on alcohol outlet density.

Number four were wholesale price restrictions, number five retail price restrictions, number six were alcohol for having stronger and better staffed alcohol beverage control agencies, number seven dram shop liabilities laws, number eight hours of sale restrictions.

Number nine sales or service for intoxicated patrons being prohibited and number ten a social host laws. So all those -- not all these policies may be familiar to everyone. We note that most of the policies on these lists pertain either to raising the price of the alcohol or to reducing its physical availability.

Slide 20. So what about the effect of multiple policies in states, or as we refer to it about the effect of the policy environment? The policy environment conceptualizes the combined effect of multiple concurrent policies in a particular jurisdiction such as the state.

Stronger environments have more alcohol policies, a mix of more effective policies and policies that are better implemented. The WHO Global Status Report in 2004 commented that it would be useful to develop a way to measure and evaluate the overall policy comprehensiveness in different jurisdictions.

This information can be useful and used to evaluate and plan optimal policies strategies to reduce alcohol related harms. Slide 21. So I was just going to mention briefly about our youth, adults, and alcohol policy studies.

In this work we have characterized the alcohol policy environment in all 50 US states and Washington DC. We assessed the relationships between the policy environment and alcohol consumption.

And we operationalized, if you will the policy environment which is represented by alcohol policy scale, or APS scores that are composed of waiting and summoning 29 nominated policies in each state from 1999 through 2011.

This slide gives an example of the policy environment among the United States and Washington, DC, in 2010 as an example. On the X axis is the alcohol policy score and on the Y axis is the number of states or the frequency of the number of states that have those policies.

And of course you have the two letter state monikers there. So for example South Dakota, SD. Wyoming and Iowa tend to have lower alcohol policy scale score or weaker policy environments than states like Tennessee, New Mexico, Oklahoma, Utah tend to have stricter policy scores.

Slide 23. The adult policy environment and adult binge drinking prevalence scatter plots in US states is demonstrated on this slide. Again on the X axis we have the alcohol policy score. In this case for the year 2008.

And on the Y axis we have the adult binge drinking prevalence in percent among all adults in the year 2009. And it's an intentional to look at the policy scores to predict the subsequent years binge drinking.

But as you can see with the scatter plot there's a fairly strong inverse relationship between having a stronger policy environment and having a lower prevalence of binge drinking among adults.

Slide 24. The median state binge drinking prevalence when you go from the weakest to the strongest quartile for the alcohol policy environment were 17.4%, 15.8%, 15.6%, and 13.0%. Dates from the above median policy environment score have reduced odds of being in the top quartile of binge drinking prevalence.

The adjust odds with 0.28. Slide 25. This slide shows the odds of binge drinking for an individual based on a 10 percentage point increase in the strength of the APS score. So, again, higher scores predicting more stringent policy environments.

And if you look at the row on the bottle -- bottom, excuse me, the adjusted GE model you can see that having a strong -- 10 percentage point higher

policy score is associated with an odds ratio of binge drinking of .92, meaning an 8% reduction in the odds of binge drinking.

Or for frequent binge drinking the second column again a similarly .92 and for reporting a maximum number of drinks of greater than or equal to 10. In that case the adjust odds are 0.90.

Or again a 10% increase in APS score predicts a 10% reduction in the odds of drinking ten or more drinks during a binge drinking occasion. Slide 26. This shows a little bit more about the odds of the same three binge drinking measures for policy sub groups. The first group is the age orientation of the policies.

So if we divide our 29 policies into those that are oriented towards the general population we see that again a similar finding in terms of the reduced odds of the binge drinking measures. Whereas, youth specific policies have less and a not statistically significant association with adult binge drinking rates.

This was an expected finding. If we then also divide the policies in other ways, for example looking at policies that are consumption oriented compared to those that are driving oriented again we see that consumption oriented policies have a greater protective effect on binge drinking compared to driving oriented policies.

Again this is as we hypothesize. And finally we looked at a couple of other ways of sorting the policies into two groups. We grouped them on the rating basis of having more polices with high efficacy ratings as judged by our expert panelists versus low efficacy ratings.

And again as expected we find that policies with having more policies with higher ratings is associated with a greater protective effect on the three binge drinking measures although there is some overlap of the confidence intervals.

And finally one can see at the bottom set of rows that pricing policies and physical availability policies are more protective compared to all other policies.

And I should inform you that even though it's not on this slide, taxes and alcohol outlet density themselves account for approximate half of the entire effect size of all 29 policies.

So those two policies in particular appear to be highly protective of binge drinking. Slide 28. So in summary implementing effective policies and strengthening the policy environment are effective in modifiable means by which to reduce binge drinking.

Policies that raise the price of alcohol and reduce its physical availability account for more of the relationship between stronger policies and reduced binge drinking. Slide 29, I wanted to acknowledge grant support from NIAAA for this project and also my co-investigators.

And I'd be happy to be contact if there are any questions. And now for slide 30, I will like to present to you Laura Tomedi who will take it from here. Thanks.

Dr. Laura Tomedi: Thank you. If you can go ahead to slide 30. Good afternoon. My name is Laura Tomedi. I'm the alcohol epidemiologist for the New Mexico Department of Health. I'd like to thank the CDC for this invitation to present.

Today I'll be talking about alcohol poisoning in New Mexico. And specifically I will be talking about some of the initiatives here to prevent harmful drinking in our state. Go ahead and proceed to slide 31. Excuse me, because it's slide 30.

I'd like to start by providing a little background on New Mexico to give you an idea of the context of alcohol related policy here. New Mexico is not a very populous state with only about 2 million people.

And a large percentage of people are living below the poverty level. Hispanic comprise the largest racial ethnic group by at 46%, followed by non-Hispanic whites, and American Indians.

Asian/Pacific Islanders and African Americans each comprise approximately 2% of the population and I apologize for not including that information on my slide. And our state is a very rural state.

These characteristics are really important when discussing prevention and alcohol policy. New Mexico has issues with ensuring access to health care. Additional community and cultural issues play a large part in alcohol policy discussions.

As well as alcohol policy agreements between the state of New Mexico and the 22 federally recognized tribes, which are sovereign nations. Slide 31. Excessive alcohol use is a major public health issue in New Mexico.

We have the highest alcohol attributable death rate in the nation and one and six deaths among working age adults is attributable to alcohol. As Dafna said earlier this compares to one and ten nationally.

Therefore the Department of Health has deemed that alcohol attributable death is one of the state's top ten health priorities. Next slide. In the recently released *Vital Signs*, New Mexico had the second highest alcohol poisoning death rate in the nation.

And this rate has remained fairly constant over the past four or five years. The alcohol poisoning death rate in New Mexico is nearly four times the national rate. And rates are highest among men, American Indians and Alaskan Natives, and people aged 35 to 64 years of age.

Next slide. And alcohol poisoning deaths are not distributed equally throughout the state. This is the alcohol poisoning death rate per million population by county in New Mexico. The darker red reflects higher rates and the yellow -- the counties that are colored in yellow represent lower death rates.

Although the numbers are fairly small for some of the counties we can see a distinct pattern here. Counties in the northwest section of the state have much higher rates than counties in the southwest section of the state.

For instance McKinley County which is the second county down on the far west of the state has the highest rate in the state at 135 deaths per million population. The high rates in these counties are likely driven a number of factors including high rates among American Indian and Hispanic men.

Next slide. Now I would like to talk a little bit about some of the initiatives here in New Mexico and how data are being used to inform these processes.

Next slide. In New Mexico we are primarily working on preventing alcohol

poisoning death through the prevention of excessive alcohol consumption specifically binge drinking.

We typically use the Community Guide recommendations to inform our prevention activities. We may have used data to inform policy, medical care, other state agencies, as well as local communities in evaluation.

I'm going to discuss a couple of these examples in detail in the next few slides. Next slide.

Coordinator: This is the operator. Ms. Tomedi has disconnected. And unfortunately I cannot dial out to her. I will keep an eye out for her.

Dr. Richard Schieber: Well this is Rich Schieber. We were just commenting. This has never happened. In the meanwhile there may be some questions. Are there any questions in the queue?

Coordinator: To ask a question or make a comment press star 1 and record your name when prompted. Make sure that your phone is unmuted. To withdraw your question or comment you can press star 2.

Once again to ask a question or make a comment press star 1 and record your name. One moment to see if we have a question or a comment. And it could take a few moments for questions or comments to populate our queue.

Dr. Richard Schieber: In the meanwhile Dafna, would I ask you please, so you were talking about underlying causes of death and that being alcohol poisoning. What about to get a profile of these folks? Were you able to make any conclusions about the contributing causes of death to alcohol poisoning?

Dr. Dafna Kanny: Yes. Thank you, Rich for this question. Yes, we looked at, as I mentioned earlier in my slide that we looked at four different contributing causes of death to alcohol poisoning. What we were able to find is that alcohol dependence or alcoholism was listed as the contributing cause of death in about 30% of the deaths from alcohol poisoning.

Hypothermia was listed as 6% of the cases, drug poisoning roughly 3%, and drug use mental disorder roughly 4%. So, all we know that this is really the distribution of the contributing cause of death to alcohol poisoning.

Dr. Richard Schieber: And what was that 30% again please?

Dr. Dafna Kanny: Alcohol dependence 30%, correct. The 70% of the --

Dr. Richard Schieber: That would be alcoholism, then right?

Dr. Dafna Kanny: Yes. So 70% of the deaths were not recorded -- another contributing cause of death was not recorded as alcohol dependence. But I should also mention that we assumed that those contributing factors especially alcohol dependence may have been underreported or not mentioned at all.

Dr. Richard Schieber: Okay. Question for Tim.

Dr. Dafna Kanny: Rich, I just got a message from Laura. She's back on the call.

Dr. Richard Schieber: Excellent.

Dr. Laura Tomedi: Hello Dr. Schieber. Sorry about that. I got disconnected from the call. What slide did -- what slide did I get disconnected?

Dr. Richard Schieber: You were talking about the 135 number in the McKinley if I have the county right.

Dr. Laura Tomedi: All right. Should I go ahead and continue from there?

Coordinator: Yes, I think you were on slide 37 on my --

Dr. Richard Schieber: That looks good.

Dr. Laura Tomedi: On slide 37 or on slide 33, 34.

Dr. Richard Schieber: That was 37. That looks familiar.

Dr. Laura Tomedi: 37?

Dr. Richard Schieber: Yes, ma'am.

Dr. Laura Tomedi: So, if -- I think it might have been before that. Because at least the presentation that I have from the website the -- I noticed I was cut off before slide 35. So I'm going to go ahead and start from slide 35.

Dr. Richard Schieber: Well you do what you think is the right thing to do then.

Dr. Laura Tomedi: Thank you. I appreciate it. All right so starting from slide 35 on the presentation online. So now I'd like to talk a little bit about some of the initiatives here in New Mexico and how data are being used to inform these processes.

And if you go ahead and proceed to the next slide which is “Data In Action in New Mexico.” In New Mexico, we're primarily working on preventing alcohol poisoning death through the prevention of excessive alcohol consumption specifically binge drinking.

We typically use the Community Guide recommendations to inform our prevention activities and we have used data to inform policy and medical care and other state agencies as well as local and communities in evaluations.

I'm going to discuss a couple of examples in detail in the next few slides. You're right. I did stop after this. I did cut off after this. Next slide. The Department of Health had the opportunity to use data to inform policy development of a statewide scale.

The Liquor Control Act is the statute that regulates liquor licensing in New Mexico. In 2013 a Senate Memorial was passed convening a task force whose members were comprised of representative from different sectors of the alcohol industry, public safety, public health, and the community.

Binge drinking and mortality were frequently used during this entire process and during discussions when issues were brought up about expanding hours of sales of alcohol, increasing alcohol density, and decreasing enforcement efforts.

And this data was used to ensure that those efforts were not implemented. Next slide. At the local level many communities in New Mexico are working on addressing alcohol outlet density which is defined as the number of places where alcohol goes out to the community by population or geographic area.

Similar to other states liquor licensing in New Mexico is restricted by a quota. State statute allows one liquor license per 2,000 population in the community. The city of Santa Fe is over quota and actually a new license was added since I made this presentation.

And the city of Santa Fe is now 274% over quota. In response to the growing alcohol outlet density issue in Santa Fe the city passed a zoning ordinance for the airport road area which is the southwest part of the city.

The zoning ordinance actually incorporates many initiatives to reduce alcohol related harm including restricting advertising, banning the sale of miniatures, and requiring a higher standard for segregated sales.

But the aspect of the zoning ordinance that I want to focus on here is that the ordinance require that new liquor licenses specifically bars and packaged liquor stores could not be within 500 feet of an existing license.

The Department of Health is currently working with community partners and Santa Fe County government to track and evaluate the impact of this effort. Next slide. And lastly I want to briefly touch on analysis that my predecessor worked on.

In 2006 New Mexico strengthened the state regulation prohibiting alcohol service to intoxicated patrons especially in on premise retail alcohol outlets for example bars and clubs throughout the state.

To evaluate the impact of this over service regulation and its enforcement the New Mexico Department of Health examined data on number of citation for over service that were issued to bars and clubs from January to June 2006, and January to June 2007.

As well as data on binge drinking intensity or also known as the average number of drinks consumed per binge drinking episode from the New Mexico Behavioral Risk Factor Surveillance System.

The number of citations for over service increased 257% from 23 citations in 2006 to 82 citations in 2007. And as shown in the table here the average number of drinks consumed by an adult binge drinker decreased 7% after the intervention.

As you can see in the last, second to last column in the table there. When we stratified by location of binge episode you can see that the decrease was largely driven by decrease of the average number of drinks consumed by binge drinkers in bars or clubs.

There is a 16% decrease in the average number of drinks consumed in these locations. This decrease seems to be driven by binge drinkers who did not drive after their last binge drinking episode.

However you can see by the number respondent column that the sample size is really small at this level of stratification. Next slide. I thank you and I apologize for getting cut off and please email me if you have any additional questions.

And now I'll turn it back over to Dr. Schieber.

Dr. Richard Schieber: Thanks Laura and thanks for getting back on as quickly as you could.

You'll now get the hard questions. Operator, is there, are there questions in the queue? If not I have a couple of things I'd like to ask.