

Please stand by for real-time captions. >> Good afternoon and thank you for holding. Your line has been pleased in the listen only mode until the question-and-answer session. I would like to remind all parties the call is being recorded. If you have any objections, please disconnect at this time. I would now like to turn the call over to Shawnda Schroeder. Thank you. You may begin.

Shawnda >>> Good morning/afternoon depending on which time zone you're in. My name is Shawnda Schroeder and I am the principal investigator of the Rural Health Research Gateway. Also referred to as Gateway. Today the Rural Health Research Gateway is hosting webinar called, "Exploring Rural and Urban Mortality Differences." For those of you who are not familiar with the Gateway, it is a website that provides easy and timely access to research and findings of the federal office of rural health policy funded rural health research centers. From 1997 to present. Our goal at Gateway is to help move new research findings of the Rural Health Research Center's to various end users as quickly and efficiently as possible. When of the ways we do this is through these webinars. The website can also be used to find abstracts of current and completed research projects publications resulting from those research projects, and information about the research centers themselves or any individual researchers. For those of you who already know about our website, I would encourage you to go visit it. We have a new website, a new image, in the same functionality. So please go and check that out. Following today's presentation, this webinar will be posted to the Rural Health Research Gateway website. You can find Gateway at www.ruralhealthresearch.org, the link is also on the left-hand side of your screen today. You can also join Gateway Alerts. Are alerts are an easy way get updates about new publications when they are available -- including today's archived webinar, which will be sent out in a research alert when it's ready. I would also encourage you to follow us on Twitter or Facebook to receive daily notifications about rural health research. We have muted all lines today, I encourage you to do use the question and answer chat box at the bottom of the screen. You may type any questions you may have for Dr. Knudson. At the end of today's call you will be having the opportunity to ask questions of Alana personally. However. We may not have time to get all the calls – and then I would encourage you to use the Q & A box. At the end of the call today if there are any questions remaining, I will pull all of those from the question-and-answer box and share them with our presenter. Dr. Knutson has very graciously agreed to answer any and all questions. We will then send those out through our research alert with our archive of today's webinar.

I want to thank you again for joining us today. I am now going to introduce our presenter. Alana Knudson, PhD area director in the NORC at the University of Chicago health public department and codirector of the NORC Walsh Center for Rural Health Analysis. Dr. Knudson has 20 years of experience implementing public health programs, leading health services research projects, and evaluating programs. Dr. Knudson currently serves as deputy director for the Rural Health Reform Policy Research Center. She also leads the evaluation of the FORHP rural health evaluation and workforce component for CMMI's healthcare innovation award of the complex high risk patient targeting portfolio. Dr. Knudson was raised on a farm near Towner, North Dakota and earned a PhD from Oregon State University. I am very happy to consider Alana a colleague of mine. I am excited to introduce her and listen to the presentation. Thank you, Alana and I turn it over to you.

Alana >>> Thank you so much, Shawnda. I so appreciate you inviting me to share this work. I also want to recognize the Federal Office of Rural Health Policy who provided funding to support this research. As Shawnda indicated, I am from the Rural Health Reform Policy Research Center which is a consortium of the University of North Dakota Center for Rural Health and NORC Walsh Center for Rural Health Analysis. In addition to conducting research that increases access to high-quality, affordable healthcare, we are also interested in conducting research that provides a baseline for us to be able to examine the effects of the healthcare reform on the health of rural residents.

We are going to begin today's discussion on mortality with some background information on social determinants. I think it is important to recognize that in 1999, McGinnis and Foege published a landmark article that was entitled "Actual Causes of Death in the United States." In this article they attributed over the half of the country's deaths to health related behaviors such as tobacco, diet and activity, alcohol, firearms, and motor vehicles to name a few. Some of these behaviors are also supported by the social determinants in which we are born, grow up, live, and age as the world health organization definition provides. It also provides a context for the wider set of forces such as some of the economic, social policies, and politics that help shape the world and influence our health.

Typically when we look at social determinants of health, we look at issues of economic stability. We look at poverty, employment, different issues of food security and the like. We know that our rural residents tend to have less incomes than urban residents. In fact, in 2012, our rural residents had about \$10,000 per year less per capita than urban residents. Likewise, we see a difference in educational attainments. In rural communities, for example, about 17% of adults do not have a high school education as compared to 14% of adults in urban areas. This difference is a much greater when we compare bachelor degrees. For example, in rural communities about 18% of rural folks have a bachelor's degree or higher, whereas about 31% -- almost twice as much -- in urban areas. These social determinants are very important in how we look at health, particularly when we start looking at some of these other issues such as social and community contacts, looking at health and healthcare. Not only do we look at access to health care, but we also look at access to primary care, access to behavioral health, oral health, what the health literacy is of the population. We then have environmental context. Those issues the release -- relate to healthy foods, quality housing, what type of crime and violence is in the community, and different types of environmental conditions that attributed issues like clean drinking water and clean air.

In our previous work, looking at the findings from our 2014 updated rural/urban chart book, we looked at some of these issues. I want to reintroduce some of them because the impact the mortality work that we have conducted under this study. First of all I want to highlight some of these issues with regard to poverty. This particular slide if you go across the x-axis, we are looking at different levels urban and rural. Large central is our most densely populated. Large fringe is suburban, small Metro is that smaller metropolitan area, micropolitan represents the larger rural counties. Just under 50,000 to just over 10,000. And non-core represents our small rural counties or just under 10,000. Likewise, on the Y axis we have the % of the population that is living in poverty. As you can see in 1997 overall we had lower percentages of people living in poverty than we did in 2011. Interestingly enough, the highest percentage of population that lived in poverty are located in our most sparsely populated counties. The non-core or small rural counties. I also want to highlight that the lowest percentage of poverty and this is held also over the course of the last decade -- is those who reside in a large fringe or suburban areas. I

highlight that because we often equate health with wealth. You will see as we start looking at difference in mortality, these issues underlie some of the mortality rates that we will be seeing.

We also look at different types of risk factors. An adolescent smoking -- again the dark bar represents the data from 10 years ago -- a little over 10 years ago now -- in fact 17 years ago from 1999. The orange bar represents data from 2010 to 2011. We have good news and bad news. The good news is this particular slide is that our smoking percentages among our adolescence over time has decreased. However, our children living in our smallest rural counties are still smoking at twice the percentage of those who reside in the most densely populated or most urban areas of the country. Again we know that these behaviors over time translate into health disparities and higher rates of mortality and morbidity. Likewise we looked at adults smoking. Interesting for this particular slide, we see that we have a mixed bag of results. If you look at those in micropolitan we see that people who live in large rural counties smoked at a higher rate in 2010 and 2011 than they did in 1997 to 1998. Likewise there is a slight decrease in the smoking among those who reside in our most sparsely populated rural areas. However when you look across the urban county designation, you can see that overall their smoking rates have decreased. Rural America is not smoking less than they did 10 years ago.

We also see obesity. And this one unfortunately is the bad news bad news. Again the dark line indicates data from 1997 to 1998. As you can see the orange line is higher. Over time we have increased across all areas of our country with regard to obesity. However the most significant increases have occurred in our most sparsely populated rural counties with 37% identifying or self-reporting as obese. Again when you have more than one out of three people who report that they are obese, you have serious issues confronting the future with regard to morbidity and premature mortality.

So let's switch gears a little and talk then about what this study really focused on regard to mortality.

We look at cause specific mortality. Because we know it is often higher in rural counties than in urban counties. As I stated before there are a number of factors that contribute to the higher rates in rural areas such as smoking, obesity, physical inactivity. We also know that these different factors impact mortality rates over time.

The source of the data that we used for the study was from the National Vital Statistics System. We use data from 2011 to 2013. The data are grouped according to the same category as we used in the chart book where we had three categories for urban and two categories for rural. We also stratified the data by the 10 Health and Human Services regions as well as separating out Appalachia and Delta. We also looked at age, sex, and cause of death. Where possible, we looked at the top 10 causes of death for that particular age cohort.

This provides more clarification as to what counties are included in the different designations as explained earlier.

This map provides a detection where the regions are located across the country.

We also have included the names of the different states that are included in those regions.

We are also looking at Appalachia. As you can see the Appalachian region is in the Northeast and mid-section south of the country. This particular region has 42% of its population residing in rural counties. And that compares to about 20% of the rest of the nation. As you can see it is highly rural. Just to give you a perspective, the orange indicates rural counties with the darkest orange being the most sparsely populated or the small rural counties. The green represents the different continuum of the three urban strata. Likewise, looking at Delta, this Delta region is located and includes 252 counties with over 10 million people. Again this particular area has some of the most distressed counties and the most chronically impoverished counties in the country. Again, when you look at this map the orange represents the rural, with the darkest orange being the most sparsely populated. Likewise, the different variations of green go from light from small with metropolitan to the darkest green where we have large metropolitan areas.

Introducing you then to this particular product, we have a number of different products that are part of this array. This is the cover of our technical notes. This link provides you direct access to the website. I also went to recognize there are a whole host of people who contributed to this particular research. As you know with all rural endeavors, it requires a team to make it happen. I am most appreciative of all their contributions.

When you click on the website, we have a long list. I will show you this in three different sections. We have a number of different products. I will go through each of these so you can have a better idea of what they look like as well as the kind of information you can glean from them. We have an Excel workbook, and we have two online tools. We also have mapping and different static pieces that are out there that provide you an opportunity to click and pull information that has already been gathered in one area. These particular products are all available in color as well as in black and white. They are divided by the HHS regions, Appalachia, and Delta.

We have some user guides and technical notes to support you as you navigate the website and as you engage in the different tools.

First of all, let me introduce you to the Excel tables. I think you will find this very useful, especially for those of you who enjoyed the numbers part of this. This particular workbook includes all of the tables for mortality rates among persons by cause of death, age, region, rural urban status, or the top 10 causes of death, where we have enough data. For age cohorts over 14 years, we also include stratification by sex. This slide shows the mortality rate for persons under the age of one by urban and rural status for all 10 regions, Appalachia, and Delta. Note that due to small numbers, there is no stratification by sex. All comparisons are assessed at the .05 level using two-sided significant test. At the bottom I don't know if you can see this for a while, there are indications of what these different asterixs and symbols mean. A single asterix indicates the status in region specific rate is significantly different from the national rate for the age group and sex as the .01 to .05. The double asterix indicates that difference is significant at less than .01. We also have hats, if you will, certain things are not applicable. We have other indications for various -- areas where we have unreliable rates with the death count is less than 20. We have also suppressed rates with the death count is less than 10.

This particular worksheet presents data for the 15 to 24-year-olds which are stratified by urban and rural status and sex. And you will see that male mortality rates are in green, female mortality rates are in orange. The remainder of these worksheets that you can click, as you can see in the bottom of the worksheet tab just like a regular Excel spreadsheet, includes the different tabs for the different age cohorts. Once you get to age core hurts over the years of 24, you will also have all five levels of stratification for each region listed in the worksheet.

In this section I going to introduce you to a product that we refer to as our mortality bubble chart. These charts include the top 10 causes of death. The dark horizontal line is index of the national average mortality rate for the particular age and sex noted above or selected above. The bubbles above the line indicate a higher mortality in the region than in the nation. Likewise the bubbles below the line indicate a lower mortality rate than the nation. The orange bubbles represent rural mortality rates, in the green represent urban. For this particular chart, we note that the mortality rates for persons under one year of age in HHS region 10 which is comprised of Alaska, Idaho, Oregon, and Washington are all below the national average for mortality rate of this cohort except for sudden infant death syndrome, which is higher for both rural and urban, with the rural mortality rate being one and a half times the national mortality rate. As a public health person, this definitely merits further review. Why is this particular rate so high in this region when all the other mortality causes of death for this particular ovulation are below the national average?

We can compare the same data for Appalachian region mortality looking at persons under the age of one for both sexes. Note that for this particular population, the sudden infant death syndrome is also the top cause of mortality. This mortality rate is almost twice the national average of the mortality rate followed by circulatory systems diseases. Note that the highest mortality rate for urban is respiratory distress, identified by that green bubble. Over all, Appalachian mortality rates are higher than the national average rates, with the majority of the bubbles being above that dark line, the national average or index.

We look at the Delta region for the same population under one year of age for both sexes. We see a somewhat different picture in mortality. Unintentional injuries for rural persons under the age of one are over 2 1/2 times the rate of the national rate for this cause. Likewise sudden infant death syndrome is over twice the national mortality rate for rural. This chart also indicates that mortality rates for persons under one in the Delta are higher than the national fertility rate except for maternal complications of pregnancy. Again, these charts are available as static charts or can be customized using the online tools.

When you click on the online tool link on the website, you come to a page that provide two different tabs at the top. There is a tab for introduction, top 10 causes in ages 0 to 14, and so on. The homepage for the tools is located in the introduction on the left side of the tab. There is also a darkened gray bar on the right side that allows you to go back to the introduction. Any time that you are working within this tool, you can use that. Data can be viewed as top 10 causes of mortality or by a single cause of mortality. You can select the ages, sex, and the region and they all have pull down menus where you click on your choice.

This page shows you what a single cause of death chart looks like. This one is for 15 to 24 years of age. We have a good urban, rural stratification. But we are not able to stratify to the 5 different levels. The information included in this bubble chart, it includes the same information in the bar chart. If you hover over either of the bars, you will be able to get the cause of death, which in this case we are looking at suicide, and you will be able to get mortality rate. In this case we are looking at urban who are located in HHS region 10.

To get a sense of how these charts can use when examining different levels of rural and urban, we can examine the mortality rates for 25 to 64-year-old males in Appalachia and compare the mortalities for this particular age group. We see that the lower respiratory disease mortality is over twice the national rate for this cohort residing in non-core or small rural counties followed by unintentional injuries which result from motor vehicle crashes, falls, fires and burns, poisoning, including unintentional overdose and aspiration. Please note that the only rural mortality rate at or below the national average for males is for homicide.

Likewise, we can look at that same data stratified for females. Again looking for this in comparison to the previous chart, we see similar patterns in the vast majority of mortality, the bubbles all above the line. This indicates that these mortality rates, for the most part, are higher. For all of the rural rates for females, they are all higher than the national rate. However, I want to call your attention to something interesting. Do you recall in the last slide when we looked at males, we saw that our rural males were below the line, meaning they had lower rates of mortality in homicide? Look at this one. We see that our females have one and a half times for those living in the most sparsely populated areas and rural

Appalachia have higher -- significantly higher rates of homicide than those male counterpart. This is something very interesting to look at from a public health standpoint we look at this data as an indication of issues with regard to domestic violence. That is something very important to look at. I think it is also important to point out that when you look at respiratory diseases look at rates for females we are looking at of 2 1/2 times what the national averages for mortality rate when we compared to the rest of the country.

Showing you another way to look at the females and diving a little bit deeper looking at the lower respiratory, we can look at this as a single cause. We can put it into a bar chart to see how they compare and use this particular data in a presentation. Please note that you are able to export all of these that you create using the online tool to either print or insert into presentations.

Now I am going to shift gears a little bit. We're going to spend a little time looking at mortality rates using the mapping function.

This map shows the number one cause of mortality among persons under the age of one or both sexes, which is stratified by urban and rural. Again because we have more limited data for this age group, we are not able to satisfy by rural and urban. The lowest mortality in this politest orange progressing through the highest rate in the darkest orange. The numbers on each of these states represents the corresponding HHS regions. As you can see by the math, rural communities in the planes, the Midwest, and southeast have the highest mortality rates. In addition, there is a twofold difference in the mortality rate from lowest to highest. That mortality rate for each of these is included on the upper right-hand of all of the map slides. For this one, the lowest mortality rate is 80.4 which is in the New England area of the country. It is in urban. The highest rate of all is 168. Those are primarily found -- the highest rates are found in rural.

Looking at the second rate -- ranked cause of death, we see that rural is actually doing better than urban. Again, you can see that there is almost a threefold difference in mortality from the lowest to the highest. For this particular side, we see that the West fares the best in both urban and rural.

When looking at unintentional injuries, which the number one cause of death for persons ages 1 to 14 -- because of the smaller numbers, we are combining the sexes. We see that by far this is a greater issue by form for children living in rural communities particularly those residing in the rural South Central and Southwest part of the country. Again, would you look at urban, we see a lower mortality rate for this particular cause.

When you look at malignant neoplasm, which is the second-highest, we see a mixed result where we have some rural and some urban who are experiencing high rates. As a note the white areas in the world

map are white because there is either insufficient or the mortality rates needed to be suppressed because of low numbers.

When we are looking at the number one cause of death for 15-year-olds to 24-year-olds, we are also looking at unintentional injuries. You can see for our youth in young adults, it is highest in our rural areas particularly in the Southwest, south-central, and upper Great Plains in addition to areas of Appalachia.

Moving on and looking at some of the issues for females, we see a somewhat different pattern. But we still see similar issues with regard to that upper Midwest having the highest mortality rate among the rural females of this 15-year-old to 24-year-old age group. You can see that in urban, the mortality rate for unintentional injuries is much less.

On 15-year-olds to 24-year-olds, the second leading cause of death is suicide. Again, there is a different between urban and rural when we are looking at males. We can see that our Western part of the country has the highest concentration of mortality rates for suicide across the country. This also has similar patterns when we examine the adult population in the next slide.

When we look at females with regard to suicide as the cause of death, we also see a similar pattern with the great plains and west having the highest rates. However, note that the overall suicide rate is lower. 3.2 to 9.5 for females than it was for the males. And the males had a rate of 10.6 to 39.3. So note that the lowest rate for females was higher than the highest rate for males.

For ages 25 to 64 years of age, the number one cause of mortality is malignant neoplasm. Note that because we have adequate data, we are able to satisfy by five different levels of rural and urban classification. The three smaller maps are present the large central, large fringe, and small Metro. The two larger maps on the bottom are our micropolitan and non-core or small rural. You can see that the darker areas are the higher mortality rates. The highest rate for malignant neoplasm for males centered in both large and small rural areas in the southeast part of the country.

When we look at females, we see somewhat similar patterns in those who reside in the smallest rural counties in the southeast having the highest mortality rate. It is not the same for those living -- not quite as high -- for those living in larger rural. Yet they still have high fertility rates. I also want you to take note that as we go through the slides when we are looking at these five different stratifications, you will see for the most part that the largest fringe or the suburban all have lower mortality rates than the other areas in the country. Again, that is often reflective of the higher affluence and life experience that the affluence brings with regard to health. We definitely see that in mortality.

Heart disease is the second cause of death for adults aged 25 to 64. We're looking at men, we see that the southeast has the highest concentration of mortality rate from heart disease. The non-core and micropolitan are similar in that regard. You can see the large fringe did not have those hot spots, if you will.

When we look at females we see similar patterns where we have the highest mortality rates concentrated in our southeast part for both large rural and small rural.

The third ranking cause of death for this group in 25 to 64-year-old adults is unintentional injuries. Right now with all of discussion and issues we have with unintentional overdoses, this is particularly telling. This map data is for males. As you can see, the highest mortality rates for unintentional injury are located in our smallest or least populated counties in non-core areas of the country. The highest mortality in the Southeast and the Southwest. Remember unintentional injuries also include motor vehicle crashes, poisoning, drowning, and a whole host of things. But it is also unintentional drug overdoses.

Looking at the same issue of unintentional injuries for females in 25 to 64, you see a somewhat different pattern. We see a high mortality rate concentrated in the West and the South and the southeast. I want to note that the overall rates of for females is about half that of males for unintentional injuries. Females, the highest rate is 50.7. For males, it was 112. There is a great difference in these rates when you start stratifying by sex.

Suicide is also a very important issue. It is the fourth cause of death for the age group of 25 to 64-year-olds. Males include the highest mortality rates in rural areas and the plains in the West. This pattern is similar for the younger age cohorts as well.

Looking unto suicide for females, we also see a similar pattern with the concentration in more of the West. When we look at large rural, we also see an area in the upper Great Plains that has high mortality rates. But when you look across the country, you also see high rates in some of our most densely populated large central area, and small medium Metropolitan, which indicate issue of suicides that is also related in part to areas and regions of the country across the rural and urban continuum.

Turning our discussion then to mortality rates for those over the age of 65, we find the highest mortality rate for heart disease for males in our southeast and Appalachian and south parts of the country. Note that for micropolitan or large rural and non-core small rural, we see very much the same kind of

patterns with very similar areas of concentration of mortality. We see some differences when we look across the urban areas, particularly looking at some of our large fringe.

When we look at females, a similar pattern arises with the highest rate in the South and in Appalachia. As you can see in micropolitan we see that parts of Appalachia pop out as well as the South. In non-core we see the central south and southeast come out.

Malignant neoplasms are the second cause of death for 65-year-olds and older. There's some interesting patterns here. The highest mortality rates are in the southeast in Appalachian areas while even densely populated areas in the central part of the country in the large central area also experience high rates for males 65 and older as well as in that central East Coast Atlantic area.

Looking then at females with malignant neoplasms mortality rates. We see it in the most densely populated areas of the Midwest and Appalachia. Again rural is hearing a bit better on this mortality indicator than some of the urban areas for females 65 and older.

Let me turn to how you can use the online mortality tool to make your own map and to do some of your own exploring in this arena. First you begin by selecting age on the left. These are constructed very similarly where you can click on the top left-hand for an introduction. The Graybar also allows you to go back to the introduction at any time in the process.

You first begin by selecting an age range. There are drop-down boxes for all of these. Then you select your demographic and mortality characteristics such as age, cause of death, and sex. Then to view the mortality rate for specific regions, all you need to do is hover your cursor over that region on the map. A box will appear showing the HHS region, the states included in that region, and the specific mortality rates. That is for any of the maps. If you want to compare HHS region 10 for large central and HHS region 10 for micropolitan, you can hover over both of those areas and get the different mortality rates and be able to compare. You can also select the export function. Both of these online tools allow you to print or insert the export into a presentation.

I like to end mortality discussions, because it sometimes feels a bit doom and gloom, with positive opportunities. I think it's important to recognize that there are different types of solutions and interventions that communities are using to address some of their unique issues. This particular website is from the rural health hub community health Gateway. Communities can come together. Once they identify set -- what some of the underlying causes are they can find solutions and improve their health status. Looking at other ways others have used to improve at the local or state level. This hub has a

wealth of information about rural programs. Interventions that have been implemented, and it is shown promise to many of these programs have shown great promise or effective evaluation and being able to make a positive difference in the health of the community with these programs or interventions were implemented. These programs also provide information on how to increase access to important health and social services that are essential to improving the health status of the population. Again, you can browse the site by topic, state, or by source.

In addition there is a Gateway that in foods toolkits that address some of the most challenging health conditions facing rural communities including obesity and health strategy to address some of these issues. There are five new toolkits being added this fall. Of those will include tobacco prevention, substance use disorder prevention, HIV/AIDS strategies, coalition a network opportunities, and how to provide access to persons with disabilities. Please let me know if there are any other topics that would be helpful or useful in your rural communities. We've had a number of people identify that they have been able to use some of the different programs that are included under the obesity prevention toolkit to help address some of the obesity issues via at the school, community, and individual levels. We have a number of resources that are available to help rural communities address some of the health behaviors that impact future mortality rates.

In conclusion I would like to thank all of the colleagues who have contributed to this research as well as our director Dr. Gary Hart. As you use this particular suite of products, please reach out to us. We are really interested in learning more you use these products as well as what other products would be helpful in helping you to address some of the unique health issues that are affecting your rural community.

Thank you for the opportunity. If you do have any questions, I will be available to answer those until I believe 2 o'clock.

Shawnda >>> Thank you, Alana. This is Shawnda Schroeder again and I would like to have lines opened for questions.

** Thank you. At this time if you would like to ask a question please press star one. One moment please. [Silence] Once again to ask a question please press star one. I am showing no questions at this time. **

Shawnda >> There is a question in our Q&A box. So I will ask it on behalf of Heidi Schultz. She hasn't gone into play with the functionality of the data, can you show how deep you can go when working with the website? Is it state, County, ZIP Code?

Alana >> That is a good question. The data is based on the region. Even with putting the regions together, we do not always have enough data to meet our suppression. This particular data is based on the data that is summarized for each region. HHS region, Appalachia, or Delta.

Shawnda >>> Thank you. While we wait to see if anyone else has a question, I do want to share with the group that there is another upcoming webinar. This information will come out through our Gateway alert. As of right now we know it will be held on August 9. We encourage you to save the date. It will be at 1 PM central. We will be hearing from Timothy McBride. He will be speaking on the role of geography and demographics play success and quality of different types of Medicare plans in particular regions of the United States. So if that is of interest of you or to other people you may know, please share that. Again, join our research alerts if you'd like to get updates about upcoming events.

I do see another question for Alana. Can we make our own regions within your interactive map?

Alana >> No the regions are based on the HHS regions, Appalachia, and Delta. One of the challenges that we have -- and I know for those of you working at the community level or those of you working and research -- we have issues with small numbers. When we start looking at stratifying by different levels at rural and urban as well as looking at stratification by sex and age, we run into some small number issues. When we start looking at suppressing at 20, we start running into a lot of fields. We started that at the state level, but we were looking at a lot of data that were suppressed that would not have been very valuable when looking at the data. We already aggregated the data from 2011 to 2013.

One great resource that you all have, you have fantastic local health departments. They have great vital records. Especially the state is responsible for the overall state vital records. If you have some questions about certain areas within your state, please contact them. They too are required to suppress the data when there are too few deaths in an area and an age, and six cohort. But they can provide you excellent information if you are looking at drilling down into addressing some unique issues facing your particular community. As in public health, mortality is our number one indicator of what is going on in our population. It is an excellent place to begin to identify what is happening at the local, regional, or state level.

Shawnda >> Thank you. Are there any other questions online?

**I have a question from Tracy Evensen. **

Tracy >>> I have a question about -- I know last October the advisory committee made a policy brief about mortality and life expectancy, do you think there are any changes in terms of recommendations that need to go with that based upon the data that you have found?

Alana >>> I don't think so at this time. I think the overall message is that for almost every single cause of death especially when we are looking at the top 10 across the different age cohorts and across sex, we find that rural counties have higher mortality rates. I think the real question underlies, why is this happening? Why are we consistently seeing higher mortality rates over time? And I think it begs a greater policy question overall in our country about what are we doing to prevent premature mortality? People in their 30s, for example, should not be dying of chronic conditions like diabetes and heart disease, but we see that in the data. We see a more pronounced one in our rural communities. I think we need to step back and look at how resources are allocated and find out what we can do at the local, state, and regional level to be able to address those issues that are most pressing or most impactful when it comes to premature mortality.

****I am showing no further questions****

Shawnda >> I have no other questions in the Q&A box. But I do want to encourage anyone who is on the call, if you think of the question later, Alana's contact information is available on the research Gateway. I am volunteering here to answer any of your questions to answer them at a later date. I'm sure she would be happy to answer them. Again you will find it on the Gateway website. Alana thank you for presenting today.

I encourage you to all share our slides as you see appropriate. Watch for our research alert when we share the archive of this webinar. We will have the slides on your website and we will send it out through research alert. You can share this with anyone else you think would see value in listening to the presentation or accessing the slides. The website is interactive. I encourage you to stop by any of the sites that Alana has shared. If you have questions about Gateway, you can reach out to myself or another one of my colleagues, Kristin Trelstad. Both of our information is available on the Gateway website. Thank you for joining us today. I will let you continue on with your day.

****Thank you. This does conclude today's call. You may disconnect at this time. ****