

Mortality in Rural Areas: Insights from National Research and Community-Based Initiatives – 11/16/2020

Kristine Sande: Good afternoon, everyone. I'm Kristine Sande, and I'm the Program Director of the Rural Health Information Hub. And I'd like to welcome you to today's webinar, Mortality In Rural Areas: Insights From National Research and Community-Based Initiatives. And I'll quickly run through some housekeeping items before we begin. We hope to have time for your questions at the end of the webinar today. If you do have questions for our presenters, please submit those towards the end of the webinar using the Q&A button that will appear at the bottom of your screen. We've provided a PDF copy of the presentation on the RHlhub website, and that's accessible through the URL that's on your screen. And we've also pasted that into the chat function, so you can access that URL. If you have any technical issues during the webinar, please visit the Zoom Help Center at support.zoom.us.

Our first speaker today is Jennifer Burges, the Research Coordinator for the Federal Office of Rural Health Policy within the Health Resources and Services Administration. Jennifer coordinates the office's various research related awards, including the Rural Health Research Centers. The Rural Health Research Center Program is the only federal research program entirely dedicated to producing policy relevant research on health care and population health in rural areas. And Jennifer will introduce the rest of today's speakers. Jennifer, I'll turn it over to you.

Jennifer Burges: Thanks, Kristine. Good morning, and good afternoon to everyone on this webinar. Thank you for joining us. As Kristine mentioned, I am Jenny Burges. I'm the Research Coordinator for the Federal Office of Rural Health Policy. And this week is a very important week for our office, Thursday is National Rural Health Day. The day was originally started and continues to highlight positive and promising practices and approaches being implemented in rural communities to achieve better health outcomes. Over the last few years, we've expanded from one day to a whole week, in order to bring important focus to other opportunities within rural communities. Over the last few years, we've seen a rewarding increase in attention on rural health. The National Center for Health Statistics at the Center for Disease Control and Prevention has been a particularly helpful partner in adding and creating research products that highlight rural and urban differences, and within rural differences for a myriad of health indicators.

It's my pleasure to introduce the first four speakers today from the National Center for Health Statistics at CDC. First, Sally Curtin works in the Division of Vital Statistics, and will be setting the stage for us, and presenting on urban and rural differences in suicide rates. Merianne Spencer from the Division of Analysis and Epidemiology will be presenting on rates of alcohol-induced deaths among adults aged 25 and over in urban and rural areas. Matthew Garnett from the Division of Analysis and Epidemiology will be presenting on urban-rural differences in motor vehicle traffic deaths. Dr. Holly Hedegaard from the Division of Analysis and Epidemiology will be presenting on urban-rural differences in drug overdose death rates. Those are a lot of heavy topics.

But hopefully our final two speakers will provide you the optimism we want you to leave from this presentation. They will be presenting from the Armstrong Indiana Clarion Drug and Alcohol Commission. Their names are Kami Anderson, who is the Executive Director of the organization, and Michael Krafick, who is a Certified Recovery Specialist Supervisor. They will be sharing with us various innovative programs that they have been implementing to combat the opioid epidemic in rural western Pennsylvania. So with that, I'd like to kick it over to Sally to get us started.

Sally Curtin:

Thank you, Jennifer. And good afternoon, everyone. It's a pleasure to be here today on National Rural Health Day with three of my colleagues from the National Center for Health Statistics, to present some of our recent work. As background, the reason we're here today is because we've had several recent reports from NCHS, as well as the forthcoming report that have featured urban-rural differences in various aspects of mortality. And you can see the topics listed here that we'll cover, and Jennifer also went over them. We have increasingly focused on urban-rural comparisons in our reports over the past few years.

First of all, I'll give you a brief introduction to our data. All the findings that we will present to you today are based on data from the National Vital Statistics System, which come from statistical information from death certificates out in the 50 states and DC. The demographic information of the decedent is supplied by an informant, usually the next of kin. The underlying cause of death is supplied by physicians, medical examiners, and coroners. Causes of death are classified according to the International Classification of Diseases 10th revision. Our outcome measure that we will be presenting today are death rates, which we compute as the number of deaths per 100,000 population. Oftentimes, these rates are age-adjusted to a standard 2000 US population.

In terms of the urban-rural classification for our reports, we use a scheme developed by NCHS, and published in 2013. And you can see the report [here](#). Every US county or county equivalent is classified into six categories of urbanicity. The classifications are based on a combination of counties 2010 population, combined with whether they were classified as being in a metropolitan or micropolitan statistical area, according to Office of Management and Budget Standards. And this graph shows the classification scheme. You can see that the first consideration is whether or not the county is part of a metropolitan area. The counties are divided into two groups; metropolitan and non-metropolitan. Then for the metropolitan areas which are to the left here, they are subdivided into large, medium, and small metro areas based on population size. The large metro which is to the far left in the red, is subdivided further into two groups; large central metro, or large fringe metro. This determination is based on whether the county contains a central city and commuting patterns and other information. The nonmetropolitan counties which are to the right are divided into two groups based on whether the county is part of a micropolitan area or not.

So in all, you end up with six categories of urbanicity, going from the large central metro, which is the most urban, to what is labeled noncore, which is the most rural. Sometimes in our reports, we show mortality trends for all six of these classifications. But more often we show an urban-rural dichotomy. Our dichotomy is equivalent to the metropolitan, non-metropolitan dichotomy that you see in this graph. And this is, of course, a very brief general description, and more information is available in the report I showed you and upon request.

So this map shows all the counties and county equivalents in the US. And there are 3,143 of those, as classified into the six groups of urbanicity that I just showed you. And red are the large central metro, which are the most urban. And dark green is the most rural, and is what we call noncore. And you can see that the counties in red are scattered about the US, containing the large cities that we are mostly familiar with. The red counties are typically surrounded by some large fringe metro counties, which are the dark orange. It's what we think of as the suburbs. And the most rural counties, the dark green, are especially clustered in the Midwest.

So using the vital statistics data that I just described, and the urban-rural dichotomy, I want to show you the overall trend from 1999 to 2018, for all-cause mortality. And all-cause mortality means deaths from any cause. And you can see the age-adjusted rates in rural areas were higher

over the period, but that the difference widened, from 7% higher in 1999 to 19% higher in 2018. Rates in both urban and rural areas had an initial period of decline from about 1999 to 2010, and then a leveling off. But the percentage decline was greater in the urban areas, leading to increased disparity.

This graph is also all-cause mortality, but it shows the six gradations of urbanicity from the most rural noncore, which is the top dark green line, to the most urban, which is the large central metro, which is the bottom red line. And aged adjusted death rates pretty much stair stepped down with increasing urbanicity, especially by 2018. And you can see that the difference between the most rural and the most urban, rural over the period, as the large central metro areas were the only group to continuously decline over the period, and they had a 24% overall drop. And once again, that's the dark red line. All other urbanicity groups had an initial decline, followed by stabilization. The noncore areas which are the most rural, which is the top line, had an overall drop of 9%. So to quickly summarize, the last two graphs I showed you, it's not so much that death rates for rural areas increased over the period for all-cause mortality, it's just that they declined last than the more urban areas, and thus the disparity has increased.

The remainder of the presentation will be on specific causes of death that were topics of recent reports. And the finding fellowship knacks are from a report on suicide trends by sex and leading methods. And this report was published in August. And I would like to acknowledge my colleague Kristin Padrone, who was first author on this report. Suicides are identified using the ICD 10 codes that you see here. And we examine trends by the urban-rural dichotomy by sex of the decedent, and for the three leading methods of suicide. And these are deaths by firearms, suffocation death, which include hangings, and also poisoning deaths, which include drug and non-drug causes.

And you can see in this graph that unlike the all-cause death rates, which were trending downward generally, suicide rates have been increasing throughout the period. The rates in rural areas were higher than urban in 2000. And this difference widened as rates in rural areas increased by 48%, compared with the 34% increase in urban counties. So similar trends between rural and urban, but the percentage increases were greater in the rural areas. This is the same urban-rural dichotomy and suicide rates, but we're showing it for males and females separately. And for males, which are the two top lines, rural rates were higher than urban rates in 2000, and the difference widened over the period. For females, rates were initially similar for urban and rural areas, but then diverged as rural counties had greater increases.

Now I'm presenting rates, and these are rates for males-only for leading methods. And you can see that firearm deaths for males in rural areas were the highest rates of all groups. And the difference between urban and rural firearm-involved suicides widened. And those are the two top lines. For suffocation deaths, and those are the dashed lines, the suffocation deaths for both groups had the largest percent increases of all the methods. Rates in urban and rural areas were initially similar. But then the difference widened, with rural rates being higher by 2018. The poisoning deaths were similar in urban and rural areas, and you can see that pretty much the flat dotted lines, and they pretty much are... the rates are pretty similar, and basically flat over the period.

This is the same graph, but this is for females this time. And bear with me, I know this is a complicated graph. I'll try to talk you through it. Once again, the females in the rural areas with firearm involved deaths have the highest suicide rates of all groups, and you can clearly see that top line, the top dark green line. And the difference between the rates for this group and the urban firearm rate, which is the solid orange line sort of in the middle, the difference has widened over time. The second-most common method in 2018 was suffocation, which I said

before includes hanging deaths. The two lines were initially at the bottom of the graph in 2000. And this method had the greatest percentage increases over the period. Rates were initially higher in the urban areas, but by 2018, rural rate was higher. And you can see it's that dark green dashed line. Trends and rates for poisoning, and those the two small dotted lines were somewhat similar, but by the end of the period, were higher in rural areas.

So what the last two graphs have shown is that the higher suicide rates for rural than urban areas are not just confined to one method, but extend to all three leading methods for females. And you can see that in this graph, and two of the three methods for males all but poisoning. So now I will turn things over to my colleague, Merianne Spencer, who will present findings on alcohol-induced death. Thank you.

Merianne Spencer:

Thank you, Sally. For this segment of the presentation, I'll be sharing the recent findings from the report titled Rates Of Alcohol-Induced Deaths Among Adults Aged 25 And Over In Urban-Rural Areas. This paper was released this past October in 2020. In this study, alcohol-induced deaths are defined as deaths from dependent and non-dependent use of alcohol, as well as accidental poisoning by alcohol. Please note that deaths that are indirectly related to alcohol use such as unintentional injuries, homicides, or other causes, are not included in this study. Newborn deaths associated with maternal alcohol use are excluded as well. The alcohol-induced deaths are identifying identified using ICD 10 underlying cause listed here on the slide. And this study includes adults aged 25 years and over, which accounts for 99% of alcohol-induced deaths in the United States.

In this slide, the age-adjusted rates for alcohol-induced deaths by sex and urban-rural classification are shown. Death rates are presented for years 2000 through 2018. And the solid lines represent the rates for males, and the dashed lines represent the rates for females, both of which are broken out by the urban-rural dichotomy, as Sally had mentioned. Rates overall increased for all groups over the study period. And for both males and females, the rates in urban and rural rates widened over the study period. This slide focuses on age-adjusted rates of alcohol-induced deaths for males. On the left-hand side are deaths by urbanization level for the year 2000. And on the right-hand side, our death rates by urbanization level for the year 2018. In 2000, the highest rate of alcohol-induced deaths for males occurred in large central metropolitan counties, and the lowest rate occurred in large fringe areas. On the right in 2018, the pattern by urbanicity changes were the highest rate no longer occurs in the large central metropolitan areas, but rather, in rates of less urban areas. Rates are still lowest in 2018 in the large fringe areas. Lastly, rates were higher in each respective urbanization level in 2018, compared to that in the prior year of 2000, in the year 2000.

This slide focuses on age-adjusted rates for adult alcohol-induced deaths for females, which follow a similar pattern to that of the males. As similar to the males, the death rate on the left-hand side, were highest in large central metropolitan counties. But they were not the highest in 2018 compared to 2000. Also similar to males, the death rate for females were lower in large fringe areas for both 2000 and 2018. And again, similar to males, you'll find that the rates in 2018 were higher compared to that of every respective urbanization level in the year 2000. So this concludes my segment of the presentation. I'll now hand off the presentation to Matt Garnett, who will present on urban-rural differences in motor vehicle traffic deaths.

Matthew Garnett:

Thanks, Merianne. So good afternoon, everyone. Again, I'm Matt, and I'll be talking about motor vehicle traffic deaths. Something that we have published on in the past, but we're currently working on a larger comprehensive report that's going to be coming out next year. This slide talks about the definitions and methods. These are the general ICD 10 underlying cause of death codes that we use to search for cases. These include things like occupants, motorcyclists, pedal

cyclists, and pedestrian deaths that occurred in traffic. And in traffic is a technical term, it basically means that the deaths occurred on a public roadway. So these are not going to include things that happened off the road, in parking lots, driveways, private roadways, and so on.

Onto the data. This slide shows urban and rural age-adjusted rates over time for motor vehicle traffic deaths. Rural rates have been continuously higher than urban rates, and have followed a somewhat similar pattern. Both rates were approximately flat till about 2006, followed by a period of major decline for 2010. And since then, the rates have basically fluctuated. But overall, the rate differences between urban and rural areas have narrowed slightly. Now, this slide shows urban and rural motor vehicle traffic death rates by sex. And the age-adjusted rates for females were lower than males in both settings, and the trend of having higher rates in rural counties compared to urban ones held for both sexes overtime. Declines in the rate were seeing in all groups. For males in rural and urban settings, there was a narrowing in the gap between rates, while for females the gap has remained largely unchanged. However, it's important to note that the gap between females in rural and urban settings has been consistently smaller than the gap seen among males.

Next, this graph shows the age-adjusted rate of motor vehicle traffic deaths for the six rural in urban area categories in sequential order, running from most urban to most rural for 2018. Nationally, the overall rate for traffic deaths was 11.2 per 100,000 residents. But as seen in the graph, there is a trend of increasing rates with each level of increased rurality. Urban large central counties had the lowest rates, at 8.3 deaths per 100,000 residents, while the most rural counties, noncore counties had the highest rate, at 22. Effectively this means that the most rural areas had rates that were 2.6 times higher than the most urban areas.

And lastly, this graph shows the age-adjusted death rates for road user type, stratified by rural-urban classification in 2018. In rural counties occupants had the highest death rates, and pedal cyclists had the lowest, with similar rates for pedestrians and motorcyclists. Comparing this between rural and urban areas, there was only a significant of a large difference in the occupant group. In rural settings, the rate for occupant deaths was 15.1 per 100,000 people compared to the urban rate of 6.5, making the rate for rural settings almost more than two times higher than the rate for urban areas. And in both areas, occupants made up the majority of traffic related deaths. They made up 80% of traffic deaths in rural settings, and 65% in urban settings.

And now I will hand it off to my colleague Dr. Holly Hedegaard.

Holly Hedegaard:

This portion of the presentation describes urban and rural differences in drug overdose death rates. The information I'm sharing today is an update of the findings that were presented in a data brief that was published in 2019. The data brief included data through 2017. But for today's presentation, I've updated the figures to include data through 2018, the latest data that are available. So the drug overdose deaths are identified using the ICD 10 underlying cause codes. And the specific codes are listed here. In general, I'm going to be speaking about all drug overdose deaths regardless of the type of drugs involved. But I do have one slide where I'll be showing you the rates by specific drugs or drug types. Identification of drug overdose deaths by a specific drug is also based on the ICD 10 codes. And I'll describe these different types of drugs in more detail in a few minutes. Also, drug overdose deaths frequently involve more than one drug. In this analysis, a death involving multiple drugs is counted in all relevant categories. So for example, if a death involved both heroin and cocaine, the deaths would be counted in both the rates for deaths involving heroin, and then the rates for deaths involving cocaine.

This slide shows the trend in age-adjusted rates of drug overdose deaths by urban-rural classification. As with the other figures, the green line represents rural areas, and the orange

line represents urban areas. For both rural and urban areas, the rate of drug overdose deaths have steadily increased from 1999 to 2017. There was a slight decline in the overdose death rates in 2018 compared to 2017. But if we look at the differences over time, what we see is that the urban rates were higher than the rural rates from 1999 through 2003. And then there was a period of time from 2004 through 2006, where the urban and rural rates were similar. Starting in about 2007 through to 2015, rural rates were actually higher than urban rates. But in the most recent years, 2016 through 2018, urban rates have been higher than rural rates. This figure shows the urban-rural differences in drug overdose death rates for males and females. As I mentioned, overall, the urban rate in 2018, which is 21 per 100,000, was higher than the rural rate of 19 per 100,000.

What's interesting is the differences by sex. So for males, the urban rate is higher than the rural rate, while for females, the rural rate is higher than the urban rate. This figure shows the urban-rural differences in drug overdose death rates by age group. Overall, the age pattern is pretty similar in rural and urban areas, with the highest rates found in the 25 to 44-year-old age group. For this age group, the urban and rural rates were similar at 35.8 for the rural, and 36.9 for urban. For the age groups 15 to 24, 45 to 64, and 65 and over, the urban rate was higher than the rural rate.

So this is a more complicated slide that shows the urban-rural differences in the age-adjusted rate of drug overdose deaths by the specific types of drugs involved. The results are shown for five drug categories, including three types of opioids and two types of stimulants. I'll go through the results for each drug category first, and then look at the pattern overall. So the first drug category is natural and semi synthetic opioids. This category includes such drugs as oxycodone, hydrocodone, and codeine drugs that are frequently considered to be prescription opioids. In 2018, the rate of drug overdose deaths involving natural and semi synthetic opioids, was similar for both rural and urban areas.

The next drug category is heroin. And for this drug, we see that the rates are higher in urban areas than in rural areas. The next red category is synthetic opioids other than methadone. This category includes such drugs as fentanyl, including both prescription and illicit fentanyl, fentanyl analogues and derivatives such as carfentanil and sufentanil, and the drug Tramadol. For this drug category rates are higher in urban areas than in rural areas. The next drug category is cocaine, cocaine is a stimulant, not an opioid. Again, we see that the rates are higher in urban areas than in rural areas.

The last category is psychostimulants with abuse potential. This category includes such drugs as methamphetamine, amphetamine, and methylphenidate. And in contrast to the other drug categories, for this drug category rates are higher in rural areas than in urban areas. If we look across these five drug categories, for both urban and rural areas, the rates are highest for drug overdose deaths involving synthetic opioids. That's that category that includes fentanyl. For rural areas, the next highest rate is the psychostimulants the category that includes methamphetamine. While for urban areas, the next highest are cocaine and heroin.

This data presentation highlights some of the findings from recent reports from the National Center for Health Statistics, looking at urban-rural differences in death trends in recent years. The findings speak to the complexity of understanding urban-rural differences. For some topics such as all deaths, suicide and alcohol-induced deaths, the urban-rural difference has widened in recent years, with higher rates and a faster rate of increase in death in rural areas. For other topics such as deaths from motor vehicle traffic, their urban-rural difference has narrowed slightly. While for drug overdose deaths in recent years, have been higher in urban areas than in rural areas. We hope this work provides useful information to help inform decision making on

prevention efforts, policy recommendation, and provision of services to address the needs in rural communities. We encourage you to read the full reports for more information.

As mentioned, this PowerPoint presentation will be available after the webinar. So I also included some additional slides due to time limits we can't go into detail. But I wanted to just mention that it includes a summary of the key findings from today's presentation, our contact information if you have additional questions, and then a list of other reports that are available from the National Center for Health Statistics that focus on urban-rural differences in various health conditions. So thank you again for this opportunity to share our recent work at the National Center for Health Statistics, and we welcome your questions in the Q&A at the end of the webinar. Thank you.

Kami Anderson:

Good afternoon. My name is Kami Anderson, I'm the Executive Director of the Armstrong Indiana Clarion Drug and Alcohol Commission. And I'm excited to be talking to you today about our programs that we do in southwestern Pennsylvania. This is a pretty busy slide. It shows our four office locations, as well as our website and our social media connections. But feel free to connect with us anyway, you can. Whoops. The Drug and Alcohol Commission, we're located in western Pennsylvania. We're a single county authority for three rural counties. We're a private nonprofit 501 (C) (3) Corporation. And we receive federal, state, and local funding for prevention, intervention, treatment, case management, and recovery support services. We started to experience a lot of opioid issues rising in the early 2000s. But fentanyl was introduced our area around 2015 '16, and our overdose deaths went rampant in that those years. We've been able to bring them down. And I think some of these programs that I'm going to talk about, contribute to that decrease in overdose deaths, mainly our NARCAN distribution that we do.

Since we're a rural county, we're eligible to apply for funding from the Health Resources and Services Administration, which I refer to as HRSA. This was our first grant that we applied for in 2015 to integrate physical and behavioral health through the use of a Nurse Navigator. A Nurse Navigator is a registered nurse available in each drug and alcohol outpatient facility, to help coordinate physical health, behavioral health needs, such as diabetes, hypertension, and obesity. The Nurse Navigator assists clients with making appointments, and talking to their physicians about their substance use disorders. They also educate the clients on their health, and different aspects of their health, and what their substance use could affect those different health issues that they might have. The Nurse Navigator also assists the facility with medication assisted treatment, provides hepatitis C testing and education and support groups, prepares a wellness plan with the client, and educates therapists and other staff on medical concerns and drug interactions. Since we've implemented the Nurse Navigator Program, we've seen a nice decrease among our clients in visits to the local emergency departments.

I like to talk about medication assisted treatment a little bit. In Pennsylvania, in our three counties, we now have buprenorphine available at all our outpatient treatment facilities for drug and alcohol. Vivitrol is available at all outpatient treatment facilities, and through a company called Positive Recovery Solutions, which has a mobile unit that travels to all three counties with a doctor and nurse on board, and they do the Vivitrol shots on the mobile unit. They also make sure that the client is going to their treatment appointments. The methadone is available at two clinics in our three counties. And now all three versions of MET are available at all of our residential facilities in our three counties. And by next July, Pennsylvania is predicting that all of our residential rehabs will accept all three types of MET by July 1st. And that is if someone on methadone or on Suboxone, feels they need treatment and it's a residential form of treatment, they can go, and they can still get their medication every day.

We have a program called Perinatal Moms currently at the Indiana Hospital, and may start soon at the Armstrong Hospital. It's for moms who have opiate use disorders, prenatal moms, and moms of young children that the moms have opioid use disorders. There's no wrong door for the moms to enter this program. They can enter it through their doctor's office, through their contacts at the hospital for testing, with their counselor or a social worker. But there's no wrong door for them to enter this program. The OB-GYN has an X waiver that they can prescribe subutex or methadone to the female, and they monitor the perinatal moms on the use of this subutex, Suboxone or methadone, and includes a referral to a peer certified recovery specialist, a female who has gone through an opiate use disorder while pregnant or parenting, that they can rely on to talk to for life experience. And they can also be referred to as social worker. Recovery In Motion is an exercise and wellness program that's in partnership with the local YMCA. It's limited to persons in recovery, two to three exercise sessions per week, one to two wellness sessions per week. And you can look us up on Facebook at Recovery In Motion Indiana.

What I'd like to spend a lot of time talking about is our overdose prevention and Naloxone distribution. Since the pandemic started with COVID-19. We have seen in the last six months there has been a doubling of overdoses as compared to the six months prior to the pandemic. And although that our overdose numbers have doubled, our fatal overdoses have stayed about the same or gone down in some counties. And we feel that that's attributed to us flooding the counties with NARCAN and Naloxone through our distribution efforts. As soon as it was made legal in Pennsylvania, we were out there flooding the counties with NARCAN kits.

But we do overdose prevention education training on signs and symptoms of an opioid overdose, and how to respond, what to do and what not to do in the event of a drug overdose. Everybody that attends an overdose prevention education group leaves with a free dose of NARCAN. Actually, there's two doses in a box of NARCAN. The Naloxone distribution, we provide a free two-dose kit of Naloxone to people that have participated in the class. And we've made them available to all of the first responders in our three counties,, and also to Naloxone to family members and friends of people that might be at risk of a drug overdose. The distribution sites include all four of our offices, if someone indicates that they want a NARCAN kit, they can just walk in off the street, ask for NARCAN kit, we'll do a quick 10-15 minute explanation of the training, and then they walk away with NARCAN kit. We also do distribution at the county jails to inmates that are being released, at the area hospitals. If persons are identified with an opiate use disorder, they can leave with a NARCAN kit. Of course at our treatment providers, and we do community based trainings.

We also have Naloxone lockboxes that are available in public locations. And these are lockboxes that are mounted onto the wall. Usually wherever there's an AED, we'd like to have one of these Naloxone lockboxes, but there's a phone number on the lockbox that you can call and get a four digit code that unlocks the box, and then you have access to the NARCAN inside. But we do have those right now. We have them in our recovery centers, recovery houses, and a few hotels in our area. We also just added a NARCAN mail up program to those who can't get transportation to our office or to a treatment provider.

And now I'd like to hand off to my colleague, Mike Krafick, to talk about our hospital based programs.

Michael Krafick:

All right, thank you. Again, my name is Mike Krafick. I'm a Certified Recovery Specialist and the CRS Supervisor with the Armstrong Indiana Clarion Drug and Alcohol Commission. Also a person in long-term recovery myself. This past April I celebrated 12 years of recovery. And getting to work in the hospitals in our area has been really rewarding for me personally. I'm an overdose survivor, and was treated for overdoses in the very hospitals that I'm now getting the

opportunity to work in. And it's my experience that I can share with patients about how I was able to overcome issues around my addiction and started the recovery process. This here is a flyer for our Naloxone kits, on how to get an access a free kit. We try to make that available wherever possible. There we go. So our ARMOT Program is our warm handoff. ARMOT stands for Addiction Recovery Mobile Outreach Team, and it's a team of case managers and certified recovery specialist that are actually located in the hospital setting.

So the hospitals give us a space for our staff to work out of. And anytime there's an individual that presents at the hospital that's identified as having a substance use disorder, they can be referred to our staff to meet with a screening and assessment, and talked to them about options for going to treatment, getting connected with case management, recovery support services, and warm handoff doesn't stop at getting the individual to treatment. That's just really the first step of that. We want to make sure we're following that person throughout the continuum of care. So guiding them to maybe a residential facility or connecting them with a medication assisted treatment facility, but also helping them get connected to community based resources, housing, employment, transportation, and following them throughout the beginning of their recovery process.

Here are some of the services that we offer right there in the hospital. So like I mentioned, screening and assessment right there in the hospital setting, referrals to drug and alcohol treatment, aftercare planning, recovery, support and checkups, whether it's by phone or in-person, oftentimes a combination of both. And with the pandemic, we've had to be creative and flexible with how we are reaching out to, and engaging the individuals that we're working with, making sure that we're doing that assertive outreach, particularly for those people that are in early recovery. I know with the pandemic, it really affected how treatment providers were able to deliver treatment services. A lot of them moved to remote, doing it via telehealth. And there was a similar trend with support groups, Alcoholics Anonymous, Narcotics Anonymous.

And I know for myself, just thinking back to my own experience in early recovery, getting connected to those support groups and attending them regularly in-person, and building those relationships with the people that I met, was really vital and key to my success in early recovery. So we want to try to do as much as sort of outreach to people as we can to try to keep them engaged, because a big part of addiction is the isolation that people are dealing with. So obviously, with COVID-19, there is a lot of increased isolation. So we want to make sure we decrease that wherever we can.

So added our warm line, which is a 24 hour-a-day, seven-days-a-week, hotline that somebody can call and get connected with a certified recovery specialist. When we started our warm handoff program in 2015. We've always been a Monday-through-Friday, 8:00 to 4:00 organization. And we quickly learned when we start working with hospitals, and especially emergency rooms, that people are presenting at the emergency room at all hours of the day, including evenings and weekends. So we wanted to get creative and think about how can we expand our efforts to be available, and provide people with treatment and resources on demand whenever it's needed. So we added an afternoon shift. So we added a 3:00 to 11:00 shift throughout the week, and then a shift on the weekends as well, where we have staff present in the hospital. But to supplement that for those overnight hours and extended hours on the weekend, we added this warm line where we contracted with our local crisis departments, and any calls that come in that are drug and alcohol related, an individual seeking treatment, or somebody calling from the hospital looking to make a referral, they make a three-way call to one of our certified recovery specialists that are on call.

And one of our main objectives when setting this up was to increase the number of people that are transported to the hospital that in an overdose situation when working with our local EMS departments. We heard a lot that they would arrive on scene, administer Naloxone, and that person refused medical treatment, they would refuse transport to the hospital. But we've been able to, through this warm line, get connected with patients right there on the scene, over the phone, talk to them about some of the benefits of seeking treatment or going to the hospital to get the care that they need, and letting them know that somebody would be there to meet them and help them navigate, getting connected with treatment as well.

And we're seeing really high success rates as far as engagement. We have about 75% of individuals that call seeking treatment, they're following up with an appointment the next business day. Sometimes we're able to get them connected just via over the phone or they do not have to come in and meet with one of our staff in-person, but if they don't have insurance or other sort of complications with them connect them to treatment, oftentimes we'd have them come in, and we can work with them on a more individual basis.

And I will say, since adding the extended hours and the warm line, our engagement rate has gone up significantly, in terms of the number of referrals we get to the individuals we connect with and send to treatment. It was about 50%, I'd say, for the first couple of years in terms of the individuals that were referred, and we met with and got connected to treatment. It's up around 75 to 80% now, and I think it's because of increasing our access. And like I said, being available on demand when people need it.

Kristine Sande: All right, thank you very much. At this point, we will open the webinar up for questions. So there is a Q&A icon or button at the bottom of your screen. And if you click on that, the questions box will open up and you can answer, or you can enter your questions for our speakers today. And I'd just like to take a minute to say thank you to our speakers for sharing that great information. It was really nice to hear the research around mortality. And obviously, there are some challenges for rural there. So it was great to then hear some practical community based solutions that maybe give us some hope. So thank you all for that. And it looks like we do have some questions. The first one, let's see, for the community based program. And it just moved on me. Sorry about that. And I can't get it back.

Matthew Garnett: I answered that question in the type. I apologize.

Kristine Sande: Okay.

Michael Krafick: I'll just answer it verbally. So the person was asking about whether Naloxone certificates or medication expire. So the training itself, the certification that we offer with the training, does not expire. The medication itself does have a two-year shelf life. So when it's manufactured, it's good for two years beyond that date. But the FDA recently extend that to 36 months. So here soon, the medication that will be coming out will have a three-year shelf life as opposed to two.

Kristine Sande: All right, thank you. Let's see a question I believe for Matt, about traffic fatalities. Any thoughts as to the reason behind the disparity in urban and rural traffic fatalities? Says one might expect higher rates in urban due to greater traffic volumes. But are there any known factors or contributing factors like speed or alcohol?

Matthew Garnett: Yeah. That's a really good question, and an important question. So up front, this data doesn't necessarily answer that question. But there has been a lot of research done by the CDC's Injury Center, the National Highway Traffic Safety Agency, and a lot of state and local departments of health and transportation have done have studies that look into this. And generally speaking,

there's a couple of different factors to think about. So there is speed and other risk behaviors. So things like seatbelt use, and drinking while driving, and disparities in urban and rural areas, in terms of rates of that occurring. And then the other thing to think about too, is access to care. Travel times to the nearest emergency room in rural areas are going to be longer, and then access to higher level care. So maybe you're within distance to a hospital to get care if you've been in a crash, but maybe that's not the trauma center and you need to get to the trauma center, and there's a delay in travel to there. So access to care is an issue too.

But yeah, so there's a lot to consider there. I don't necessarily think that you can pin it on any one or two things, but there's a lot of research in that area in general.

Kristine Sande: Great, thank you. Related to the substance use research, if a person that lives in a rural area overdoses in an urban area, which category would they count in? Where the event happened? Or where the residence of the individual is?

Holly Hedegaard: So this is Holly. And for that particular question, for the analysis that I showed you today, the urban-rural classification was based on the person's county of residence, not necessarily where the overdose happened. And part of the reason why we do that is in order to calculate a rate. So, in response to the question, these are categorized based on the person's county of residence, not necessarily where the overdose itself happened.

Kristine Sande: Right. So, another question is, are there gaps in the research and data needed to establish effective interventions? Any thoughts on that from anyone?

Holly Hedegaard: So, this is Holly again. And I'm just thinking that, for every one of these topics, we've sort of seen different patterns. And so I'm sure within a given topic, there's a lot of a deeper look that needs to be done. And I would also say, sometimes looking at the national level, it tells you something different than if you look within your own region or within your own state. So for example, I spoke to the issue of drug overdose deaths, but certainly that has a very strong regional component. And the types of things you would learn in your own region are going to be very different, potentially, than what we would see from a national perspective. So certainly trying to look at results at a more granular level, is going to be more useful for thinking about interventions that happen locally.

Kristine Sande: Thank you. I think there were a few questions that got entered into the chat. So I'll try to go back and find those. Here's a question for Sally. Do you see any indications that the suicide rates are increasing this year due to COVID-19? Any thoughts on that?

Sally Curtin: That's a really good question. And of course, it's one that everyone has been asking. And we do not yet have any data, even preliminary data for 2020. Of course, we have seen research that has said that, calls to suicide hotlines have increased. I saw one study that like it was an 800% increase in the beginning of the pandemic. But there's been just a couple of small studies in small areas, which have not found an increased rate so far. But we're going to have to wait and see. At least nationally, we're going to have to wait and see. And it's going to be another six months or so, I think, before we're going to have the preliminary data to answer that.

Kristine Sande: Thank you. Yeah, I think that's an area where everybody's very interested to see that data, but it has to be ready first, I suppose. Related to the drug overdose deaths research, there's a comment that it would be interesting to see that by selected drugs broken down by region. Were you able to do that regional breakdown? Was there similarity across regions?

Holly Hedegaard: So this is Holly, and not in this current report that I was sharing with you, but in a past report looking at results from 2017, we did see definite regional differences in terms of the drugs that are most frequently found in drug overdose deaths. So for example, regions to the east of the Mississippi River had the highest rates of fentanyl overdose deaths, and especially like the Great Lakes States and going up into the Northeast. So certainly in that region of the country, fentanyl was really sort of driving the rates. Whereas in other areas of the country, methamphetamine is really what's driving the rates. So the methamphetamine rates are much higher if you look to the west, so if you look in Oregon, and Washington, and California, and Nevada, Arizona, and then North Dakota, South Dakota, Colorado, that area.

So there definitely are regional differences in terms of the drugs most frequently found in drug overdose deaths. And one study that I've seen within a region, that's where the patterns really are somewhat similar between urban and rural. So for example, if methamphetamine is the highest for the region, then the pattern of it being high in urban and rural is somewhat similar. So, again, that's not in the report that I spoke about today. It's from some other studies, but there definitely are regional differences in terms of the drugs involved in drug overdose deaths.

Kristine Sande: Thank you. Again, related to the research, have you done research that looks not just at rural-urban differences, but disaggregates mortality in ways other than just population density and urbanicity?

Holly Hedegaard: So this is Holly again, and typically at NCHS, we use the breakdown that we saw today. I don't know if others have... If there are other classification schema for this urban-rural that's based on different types of items. It would be helpful for the person who asked the question to provide a little bit more detail, what are the characteristics that you're looking at when you think of something other than population.

Kristine Sande: Great, thank you. And I know that there was one comment in the chat from earlier that the classifications are somewhat difficult, in this case in Arizona, and that the counties, there are so big and might contain a micropolitan area and an urban area, as well as very remote places, all in the same county. So I think that's maybe one of the reasons people like to see things cut different ways. But all right, I am not seeing any other questions at this point. And it does look like it's 3:00. So I think at this point, we will wrap up today's webinar.

Again, thank you so much to our speakers for sharing with us, and answering our questions. And thank you to all of our participants as well. A survey will automatically open at the end of the webinar, and we would encourage you to complete that survey to inform our future webinars. The slides used in today's webinar are currently available at www.RuralHealthInfo.org/webinars. In addition, a recording and a transcript of today's webinar will be made available on the RHHub website, and sent to you by email in the near future so that you can listen again or share this presentation with your colleagues. Thank you again for joining us, and have a great day.