

Coordinator: Welcome, and thank you for standing by. At this time, participants are in a listen-only mode until the question and answer portion of today's call. To ask a question at that time, please press star then one and state your name when prompted.

Today's conference is also being recorded. If you have any objections, you may disconnect. Now I'd like to turn the conference over to your host, Shawnda Schroeder. Thank you, you may begin.

Shawnda Schroeder: Thank you. And welcome everybody. My name is Shawnda Schroeder and I'm an Assistant Professor at the Center for Rural Health at the University of North Dakota. And I also serve as the principle investigator of the Rural Health Research Gateway. Also just referred to as Gateway.

So today the Rural Health Research Gateway is hosting a webinar entitled "Supply and Distribution of the Behavioral Health Work Force in Rural America." For those of you who may not be familiar with the Rural Health Research Gateway, Gateway 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 dating back to 1997.

Our goal really is to primarily help move all of the new research findings of the Rural Health Research Centers to the various end users as quickly and as efficiently as we possibly can. Our website can be used to find abstracts of current and completed research projects, publications from those projects, and information about the research centers themselves.

Following today's presentation this webinar will be posted on the Rural Health Research Gateway website. You can find Gateway at the link provided on the left hand side of your screen or at [rural health research dot org](http://ruralhealthresearch.org). You can join our Gateway alerts to receive periodic emails any time a new publication is available. And that is also how we will disseminate the archive of today's webinar. You can follow us on Twitter, like our page on Facebook, and receive daily notifications on rural health research.

As mentioned we have muted all lines. But I encourage you to use the Q and A box at the bottom of your screen if you have any questions for our presenters. At the end of today's presentation, the HRSA operator will open the meeting for questions, and those written in the chat box will be read if there are no calls coming in.

If -- at the end of today's webinar -- we have questions still remaining in that chat box, I will share them with presenters and then disseminate them out through our alert system following today's webinar. So thank you for joining us and now I would like to introduce our two presenters.

Today we have Dr. Eric Larson, a Research Associate Professor at Medex Northwest Department of Family Medicine, University of Washington. Eric grew up in Minneapolis, Minnesota and earned his undergraduate degree in Geography at the University of Minnesota. He earned a Master's degree in Medical Geography at the University of Calgary in Alberta.

In 1988 he entered the doctoral program in Medical Geography at the University of Washington. While attending UW he joined the newly formed WWAMI Rural Health Research Center in the Department of Family Medicine. That job evolved into a career in health services research focused especially on rural health and rural health work force issues.

After working at the Rural Health Research Center and the Center for Health Work Force Studies for 17 years he joined Medex Northwest -- the UW's physician assistant training program 2006 doing PA research and teaching in the Medex Master's Program. In 2012 he again rejoined the WWAMI Rural Health Research Center but now as the director of the center. His primary research interests are in rural health workforce and evolving roles for physician assistants and other non-physician clinicians.

He is joined today by his colleague Holly Andrilla. She's a Seattle native and a research scientist and biostatistician at the WWAMI Rural Health Research Center. She has worked there since 1993. She's an expert in managing large data sets, designing, performing, and interpreting complex statistical analyses, and conducting survey research.

She worked closely with the late Dr. Rosenbaud on a study exploring the geographic and specialty distribution of physicians trained to treat opioid use disorder, and has continued to work in this area. Ms. Andrilla recently led a national study to quantify the availability of medication-assisted therapy in rural areas of the United States.

She has participated in numerous workforce studies of physician assistants, dentists, dental hygienists, registered nurses, advance practice nurses, and other healthcare groups. Thank you both very much for joining us. And I'm now going to turn things over to Dr. Eric Larson.

Dr. Eric Larson: Hi. Hello everybody, this is Eric. I want to thank you all for joining us today and also want to thank Shawnda and Kristin for putting this webinar together.

I also want to start off by acknowledging our co-authors who are not here today. Holly and I are two of the co-authors of this work. Davis Patterson -- our Deputy Director -- and Lisa Garbison -- one of our senior scientists -- also participated in this work. I also want to acknowledge the contributions of Gina Keppel and Cynthia Coulte for their assistance with this project.

What Holly and I are going to do today is we'll share the podium here. I will do about the first half of the presentation, essentially looking at the rural urban distribution of the behavioral health work force. And then Holly's going to take over and present some really interesting new work on regional variation in the distribution of the rural behavioral health work force.

So the purpose of this work is primarily to describe the supply of several key types of behavioral health providers in rural America. There's over 15 million rural Americans that face some kind of behavioral health issue. And the supply of providers to treat things like substance abuse, mental illness, or medical psychiatric co-morbid conditions is usually a lot lower in rural area than urban ones.

That's all pretty well known. But what the purpose of this was to put some numbers around this. How much lower is supply? How much variability across types of geographies is there? And how different are the shortages or -- well there aren't any surpluses but -- how different the shortages are across a region, states, and rural urban and intra-rural divides?

Next slide. Sorry, we're getting our - okay. So of course I want to acknowledge that this is - this work is of course our own. And no endorsement of its findings by FRHP, HRSA, or HHS should be inferred. Oh I was going to say one other thing about this study was investigating the supply.

We also wanted to create a methodology doing this that was fairly easily repeatable so we could use it to track progress in -- or lack thereof -- in addressing the supply of behavioral health providers in rural areas. So we had three data sources that we used in this study. First was the National Plan and Provider Enumeration System. We just refer to it as the NPI file, National Provider Identification File. We downloaded it in October 2015. Huge list of every provider that bills CMS.

And let's see the second thing we used was the US Department of Agricultural Research Service Urban Influence Codes. Those of you who do rural health research will be quite familiar with those. We broke them down in a couple different ways which we'll show you in a few minutes. And then finally for calculating physician - or, no, sorry, provider population ratios we used 2014 Claritas population data. Next.

So we broke - we looked at the rural urban dimension in a couple ways. First just breaking down into - by the way we'll get to which providers we evaluated in a minute. We'll just start off with the geography here. Let's see. In - we looked at metro versus non-metro counties.

So metros are (unintelligible) one and two and metros are three through twelve. We also did an analysis where we broke down the non-metro counties into their micropolitan and non-core groups. And you'll see some of that analysis as we go forward here.

We examined five groups of providers. Psychiatrists, psychiatric nurse practitioners, psychologists, social workers, and counselors. You note there a little note there that says that the provider types are represented in NPI data in varying states of completeness. And that had to do with the fact that to be in the NPI file a provider has to actually bill CMS.

And you only get counted in this study if you are in a - we're not looking at groups that might be billing CMS. We're only looking at individuals who might be billing CMS. Now we're fairly confident that the counts that we got out for psychiatrists and psychiatrist nurse practitioners are pretty close to the real numbers. Because we - they match up with some other independent counts of those two types of providers.

Little more confident about the psychologists as well. Social workers and counselors are - is a complicated thing. Because many of them of course don't bill under their own IDs. And many -- if they do bill CMS -- and many of them do not bill CMS. So I think it's probably clear that social workers and counselors - when you see the numbers for them you're probably looking at under counts of the providers.

Okay, let's go on to our first map. First thing to note about this map is that all the metropolitan counties on this map are greyed out. All right? So we'll do some rural urban comparison later on in the presentation but for purposes of this let's just look at the rural distribution of psychiatrists. So this is all the rural counties that either white or some shade of green, right? Now the national rate of - the national supply of psychiatrists is about 15.6 psychiatrists per 100,000 population.

And what you'll notice is that the white, the light green, and the middle green are all below 15. So all those light greens are - represent counties that have less than the national - a provider population ratio less than the national rate. The dark greens have one that meets or exceeds that rate. I think the biggest take away from this though is the wide swath of white counties. Up through the inter-mountain West and the Midwest and also down into the Southeast.

The number - it's enormous number of counties have no access to psychiatrists. I don't think that'll be news to probably most of them - the audience who have followed this issue closely. But it's pretty stark to see it portrayed this way.

Let's go on to the next map, which is - shows the distribution of psychiatric nurse practitioners. Similar pattern. There's only about 2.1 psych nurse practitioners per 100,000 population in the US. Most counties have none. Most rural counties have none. Again the rural - urban counties are greyed out. Most rural counties have none.

The light blue is below the national average and the two darker shades are at or above the national rate I should say -- the national population ratio. Yes. So here's another way to look at this metro non-metro issue. So if we look -- go back to the psychiatrists again -- 27% of metropolitan counties lack a psychiatrist. And that ratio there, 17.5 for metro - per 100,000 population for metros. In non-metro counties that rate is about 5.8 or about a third of the ratio.

Sixty-five percent of non-metro counties lack a psychiatrist. So your eyes weren't lying to you when you were looking at that map. You see a similar pattern for psychologists, 19% in metro counties lack a psychologist, 47% of non-metro counties lack a psychologist. And psych nurse practitioners, they're more rare. So you're not - probably not surprised to see that 42% lack a psych nurse practitioner (NP) in metropolitan areas. And 81% lack a psych NP in non-metro counties.

Going on to the social workers and the counselors. They are more common. Nine - only 9% of counties -- metro counties -- lack a social worker. Well that still seems like kind of a lot to me. But remember that's - it probably

represents an under count. Six percent of metropolitan counties lack a counselor. This includes people like school counselors, analysts, and marriage and family therapists.

And you can see what the numbers look like for the non-metro counties. Twenty-seven percent counties lack a social worker, 18% lack a counselor that wound up in the NPI slot. Okay.

There's one more way to look at this is to look at the - look at this by urban influence code group, where we look at the metropolitan versus the micropolitan versus the non-core. The blue ones are the metros, the red ones are micropolitan, and the green ones are non-core.

And you can see that supply of all type - all three types - I'm sorry, all five types drops off in a pretty - very consistent way across each type of provider - counselor, social workers, psychologists, psychiatrists, psych NPs. The supply is lower in all cases in micropolitan and non-core counties compared to metropolitan counties. There's another - go, next slide. Thanks.

And then there we look - one last thing looking at this dimension. US counties without mental health providers by again micropolitan, metropolitan, and non-core. I think that (unintelligible). And anyway this isn't - so 24% of non-core counties lack in counselors, 35% lack in social workers, 61% psychologists, 80% psychiatrists, and 91% of non-core counties lacking a psych nurse practitioner.

So I think that paints a pretty clear picture of the rural urban dimensions of the really large differences in mental health provider supply, at least for these types across rural urban dimensions. And now Holly's going to go on and talk a little bit about how - some of the regional dimensions of these issues.

Holly Andrilla: Hello there. I'm going to talk to you a little bit about some differences that we found in the behavioral health supply by US Census Division. And just to remind everybody what the US Census Divisions look like we created this map.

And I want to have you just keep in mind as we're talking about this -- a couple of Census Divisions -- the first one that I want you to keep in the back of your mind is the West North Central. And that's the sky blue Census Division in the middle that includes the Dakotas and Minnesota.

And then the other one that I'm going to refer to that I want you to keep in mind is the red Census Division, which is the East South Central. And then I think most people usually know where the New England Census Division is and that's up at Maine and the far upper right corner, the sort of powdery blue color.

So we were interested in the differences that we found across - rural and urban differences. But there are even larger differences in the ratio of providers to population by Census Division. And we found that there's a more than three-fold difference in the psychiatrist and psychologist provider to population ratio between the highest and lowest supplied Census Divisions.

And you might be thinking well of course that's true because the Census Division has different proportions of their population that reside in urban and rural locations. And the more urban ones would be better supplied. But this difference was consistent when we looked at counties just overall and urban counties only and rural counties only.

That disparity across Census Division increased to a five-fold difference when we considered the numbers of social workers and psychiatric nurse practitioners across the highest supplied Census Division and the lowest. And again this difference was not due to the makeup of the Census Division. But the difference was consistent overall and in rural locations.

In urban locations it was about four times the rate. But so it wasn't quite as big a difference in urban places. And then we decided to look across Census Divisions at the percent of counties that don't have each of these different kinds of providers. And in this table I've highlighted the highs and the lows in each column to draw your attention to them.

So if we look at the percent of counties without a psychiatrist by Census Division overall if we look at that first column of this table you'll see that 6% of the counties in New England -- and New England is pretty consistently the best-supplied Census Division with respect to behavioral health providers -- 6% of those counties lack a psychiatrist as compared to a number that is more than ten times as high, 69% in the West North Central. That was that sky blue Census Division that I asked you to keep in mind.

And then if you look at that, if you just look at the rural counties you'll see that in the New England Census Division it increases 9%. But in the West North Central and in the West South Central it increases to 77% of counties lack a psychiatrist. If you do the same analysis for psychologists again you see that New England has the largest supply. They only have 1% of their counties overall that lack a psychologist. And none of their non-metro counties lack one.

And then you compare that with overall the West North Central, where more than half of their counties overall don't have a psychologist. And over 60% of

the non-metro counties. I think I mentioned to you to keep track of the East South Central. And that's because you see that they're the high Census Division in terms of percent without a psychologist.

And then we decided to look at - to group all of the five provider types that we had looked at -- the psychiatrists, psychologists, social workers, psychiatric nurse practitioners, and counselors -- and said were there counties that didn't have any of these providers? And there were. In - overall there was 1% in New England. In the West North Central a fifth of their counties overall lack any mental health provider.

And when I say that of course we do recognize that primary care providers do provide mental health services. But of these five types a fifth of the counties overall in the West North Central don't have any of these providers. And when you look at just the rural communities that increases to a fourth, 24%.

We have taken this work even farther. We created state-level analysis for all 50 states. And they're available on our website at this web address. There's a full national report there as well. And I'll just give you an example of what one of those sheets looks like.

So for every single state we've created a two-page downloadable document that has the map specific to that state of the provider ratios for psychologists. Yes - I'm sorry, psychiatric nurse practitioners and psychiatrists. And then it has the ratios of the provider to population and the counties that lack those providers.

Dr. Eric Larson: Could I just add that -- if you're interested in the particular providers that were included -- the full list of all the codes that are in these five types of providers

you'd need to consult the national report, which has that in the data and methods section.

Holly Andrilla: Oh that's a good point. And the link to that is part of the state data brief. So you should be able to find that pretty easily. So just to kind of summarize what we've talked about. We - I think that people knew that rural urban differences or disparities existed for psychiatrists.

But what we've learned is that those disparities extend to include all of the five provider types that we looked at. We discovered not surprisingly that non-core rural counties have the greatest shortages. Almost a fifth of them don't have any behavioral health provider. We also -- in comparing the ratio of providers to population in those counties, the smallest ones -- it's less than half of metropolitan counties.

And we discovered that there's significant regional variation in the supply of the behavioral health providers and that the South and Midwest have less than half the supply than does the Northeast.

Dr. Eric Larson: Okay. I'm going to talk a little bit about the limitations of this. I think many of you are probably already thinking this, but you know, the biggest limitation on this study is that there's a major group of mental health care providers that's not included in the analysis. And that's primary care providers.

And that includes both of course family physicians, general internists, physician assistants, non-psych - nurse practitioners who are not psychiatric nurse practitioners. All make large contributions to the mental health work force. Especially in rural areas.

Just to stick with you know, physicians for a minute. There's some SAMHSA data out that shows that FPs treating - about 5% of the business were their patients between the ages of 18 and 64 have - you know, have a primary diagnosis for a mental health issue. There's some other data out that shows that in something like 30% of visits to family physicians for patients over 60, mental health issues are included as part - are mentioned in at least one of the diagnosis codes for the visit.

So this is - they're a huge contributor to providing care for the rural population. And they're not part of this study. This study is essentially an analysis of the contribution of behavioral health specialists to mental health in rural areas.

Second of all -- sort of near and dear to my heart given my other career here -- physician assistants are not included in this study because they're not differentiated in the NPI into ones that are specialized in behavioral health. So we couldn't include that. Nor are -- as I mentioned already -- nor are more generalist-oriented nurse practitioners who are a big part of the provider workforce in rural areas.

We mentioned earlier that not all providers are in an NPI file. If you don't bill CMS you aren't in there. And a lot of providers -- I would think especially some of the counselors and the social workers -- are not there. And - because they don't bill CMS or they because bill under a group number. Let's see. Which I guess we just covered.

And then to - on the other hand, you know, psychiatrists, psychiatric nurse practitioners, and psychologists are -- we think -- well represented in the NPI when compared to other data sets like the AMA file. And one of the nurse

practitioner files whose name has just left my brain, I'm sorry. But anyway, so we think we're looking okay there.

Moving on to the sort of last little piece here. We do want to investigate this issue of primary care providers and have proposed a project to look at this issue. We can use the Medicare data -- which we'd like to do in year two -- examining who treats Medicare beneficiaries for anxiety and depression in rural America.

Roles of other professions in rural health (unintelligible) need to be explored too. The other thing is that I want to go back to the point I made earlier. Which is that this is easily repeatable and easily adjusted to different lists of providers. It's - you can use it to track or you can say well you guys didn't include this person or that person or this type of provider. And you know, as long as there's a code for it in the NPI we can at least take a look at them.

And so it's a fairly powerful and simple methodology. The NPI file's -- I think Holly would agree -- not super hard to work with. And it's very powerful as long as you sort of acknowledge its limitations. Okay. So that's the Rural Health Research Gateway that Shawnda and Kristin and everybody run so ably. You'll find our work there on the - and access to our website through the Rural Health Research Gateway. And next one please.

Let's - oh there it is. The contact person for this is Holly, and there's her email address. And there is our website listed there below Holl)'s name. So at that point we're happy to take some questions or comments and we're all ears.

Shawnda Schroeder: Thank you Eric and Holly. I do want to mention that -- just as Eric has said -- if you're looking for the original brief that showed the US map and the

distribution of the behavioral health work force, that policy brief is currently available on the Rural Health Research Gateway.

And I encourage you to stop there to see more work that both Holly, Erik, and all of their colleagues at WWAMI have been working on. But at this time I would like to turn it over to HRSA to see if there were any questions on the line.

Coordinator: Thank you. For participants on the phone line if you would like to ask a question at this time please press star then one. Again, if you would like to ask a question on the phone line please press star then one.

One moment while we wait for questions. Currently there are no questions in queue. Again, if you would like to ask a question please press star then one.

Shawnda Schroeder: If there are...

Coordinator: One moment.

Shawnda Schroeder: ...oh, yes.

Coordinator: Renee, your line is open.

Renee: All right. Yes, I was wondering how we could obtain the slides for today's webinar?

Shawnda Schroeder: This is Shawnda Schroeder with the Rural Health Research Gateway and we will be making those slides available in two ways. One is that you can visit our page [rural health research dot org](http://ruralhealthresearch.org) and click Webinars where we will include a transcript from today, access to the slides, and the recording.

Otherwise we will send all of that out through our research alerts as well which you can subscribe for. So they will be available through both of those mechanisms.

Renee: Great, thank you.

Shawnda Schroeder: Yes.

Coordinator: As a reminder, if you would like to ask a question please press star then one.

Shawnda Schroeder: We do have one question in the chat box. The question is what strategies do you see as beneficial to increasing behavioral health providers in the underserved rural areas?

Holly Andrilla: This is Holly. And this is a question that people ask regularly. And I wish that I had a good answer. One thing that I'm trying to think -- it was at the Natural Health Association meeting -- there were some rural communities that were trying to implement telehealth.

I mean the problem of course is that not only is it hard - it's hard to get somebody there because the person that's providing this care has to live there and not, you know, all the same issues exist that exist for other professions that, you know, then they have a spouse that doesn't have a - can't do their career there. So we have seen some communities trying to use telehealth.

And the - as technology improves we're hoping that will improve. Now of course in lots of rural places the broadband access is not as good. But that's also supposed to be being improved. And so that seems like a potential option from our perspective. You know, that sounded promising to me.

Dr. Eric Larson: This is Eric. I think another piece is just making sure we understand how behavioral health care is actually being delivered in communities. And part of the, you know, the reasons for exploring this big blank area what - of exactly what primary care providers do and how much they do to the extent we can figure it out is important.

There's also you know, potential in the generalist work force of PAs and NPs to participate in this - in the behavioral health work force possibly to a greater extent than they do. There's also you know, the emerging notion of behavioral health aides. Which I don't know that much about, but this could be another type of profession that might be able to help our remote communities with, you know, behavioral health issues.

The other thing is that you know, communities may have different, you know, I always worry about you know, going to be a person in the West I worry about our extraordinarily high suicide rates in the inter-mountain west in particular. Especially among men. And there's - I think there's going to be more and more sort of community-based efforts to look at that. And to find local solutions to addressing that problem.

And sort of being alert for what communities are doing and how they might be assisted is - in dealing with some particular problems. Say like suicide prevention is an important one.

Holly Andrilla: The other option that's not exactly telehealth but a kind of a similar idea that has been done in Washington in a different context. It was done as a support for opioid management - is a support of almost like a telehealth option where providers -- primary care providers -- could get access to specialists for complex cases and backup remotely. And that's another potential option to

empower or better equip the primary care work force to address some of these issues.

Dr. Eric Larson: The project's called...

Holly Andrilla: Rome , yes.

Dr. Eric Larson: Yes.

Holly Andrilla: It was project Rome in Washington.

Dr. Eric Larson: Yes.

Shawnda Schroeder: Thank you. We have quite a few questions showing up in the chat but I'll wait and see were there questions on the line before I interrupt them?

Coordinator: Currently there are no questions on the phone line.

Shawnda Schroeder: Okay. I will continue to narrate them from the chat box. Another question we have was I didn't hear mention of CDP. Were they included and -- if not -- can you discuss why?

Holly Andrilla: I'm sorry, I don't know what CDP is the abbreviation for.

Shawnda Schroeder: Oh, CPP. It's the - let's see, it looks like...

((Crosstalk))

Shawnda Schroeder: ...let me check the chat box. No, it is C-D-P in the...

Holly Andrilla: Maybe Lisa, maybe you can type what it is?

Shawnda Schroeder: Chemical Dependency Professional.

Dr. Eric Larson: Oh, okay that's...

((Crosstalk))

Holly Andrilla: Oh. Yes, we did not do that. I mean, of course that's a - I don't know where analysts took counselors that were separate. I'm looking...

Dr. Eric Larson: They'd have to look at the - they'd be under counselors. I'm going to have to look at the - it's the whole counselor list.

Holly Andrilla: It's very lengthy. They were not separated out. So that's a good question. I will have to get back to you on that. I don't remember off the top of my head if that list - if they're a part of our counselor list.

Dr. Eric Larson: Yes. I'm sorry, we will have to follow that one up with - I'm sorry who was the person?

Holly Andrilla: Lisa.

Dr. Eric Larson: Lisa, okay. Thanks for that. Really good question, we will follow it up.

Shawnda Schroeder: Another question -- you've addressed it slightly -- was do you see telehealth -- such as telepsychiatry -- as a solution to barriers for access to behavioral health providers? You did address this slightly but is there anything more you want to say on the topic?

Holly Andrilla: I don't - I mean I don't think it's realistic to think that every small place is going to get a psychiatrist. So I think it's a possible way to - for small places to have access. So I think it is potentially a good option.

Dr. Eric Larson: Yes, especially as the video conferencing technologies get simpler and cheaper. I mean, it was a pretty high barrier there for a while. And we had dedicated systems that you know, only worked in the presence of an you know, an IT attendant and that sort of thing.

But as with Skype and Zoom and stuff like that I think that there's probably more potential for that without some of the technological and cost barriers that are associated with dedicated VTC systems.

Holly Andrilla: So I want to just circle back to Lisa's question because I have managed to look - pull up my list of codes. And one of the counselor types is an addiction counselor. But I don't know -- and I'm going to look into this because this is a particular area of interest for me -- if there's a separate categorization of - in the NPI for chemical dependency folks. And I will research that and then I'll let you know.

Shawnda Schroeder: Thank you. Next question. What challenges for rural health research do you encounter due to varying definitions of what rural means? Do you think subjectivity and lack of a general measurement -- apart from UIC and other codes -- can actually hinder generalized abilities?

Dr. Eric Larson: Oh, you know, I think any time you define rural for research purposes I mean you always need to start out with what is the question? And how does data come to you? And will other people understand your issues? Every definition of rurality is a tradeoff. You're either going to over bound or you're going to under bound the answer.

And I think the -- between the USDA and the FORHP and the Census Bureau -- we have - and a lot of definitions that are useful. I think you need to carefully select which one is going to be the most helpful in this particular case. I think for this sort of thing counties are a unit of area that work pretty well. It's, you know, they're linkable to other data sets, which is helpful.

We didn't do any of that in this particular case. They're well understood. But there is no definition of rurality here that's perfect. I think you need to sort of find a place to stand temporarily that seems to work for you. And this is also - I - we also did this to some extent with repeatability in mind. And counties, you know, counties don't change much. And that's a major advantage here.

Are we under bounding rural in some places and over bounding in - rural in other places? Absolutely. RUCAs can get - help you get around that. But they're - they change warrant at this just seemed amenable to a county.

Holly Andrilla: And services are frequently delivered at the county level...

Dr. Eric Larson: Yes, that's...

((Crosstalk))

Holly Andrilla: ...which also made sort of logical sense to go to a zip code for this kind of count didn't make any sense to us because people don't access services that way. But frequently counties are the unit of organization that provides services.

Dr. Eric Larson: Yes, and the other, you know, the other thing is that the aspect of rural that UAC codes pick up on is basically the size of the largest community in the

county. Which is generally going to you know, be related to the level of health services that are available in the county roughly. I mean that's what a, you know, a geographer - that's the sort of geographer in me saying that. And you can see the expression of that in those bar graphs that I showed.

You know, which showed the effect of (unintelligible) being in a non-core county. There's a population issue, but there's also the adult that it relates to the size of the largest community which relates to the number of specialist providers that can actually be supported in a county. So but is it an issue? Sure.

Shawnda Schroeder: Another question we have is how can we differentiate -- or can we -- the prescription drug abuse and narcotic abuse issues in rural communities from the needs of behavioral health?

Holly Andrilla: Well I'm not sure we want to differentiate them. I mean, I don't - that is a behavioral health issue. And so I guess I'm not exactly following why you would want to do that. Unless what you're trying to do is establish that you have a more acute issue with the drug epidemic.

Shawnda Schroeder: The next question we have, were only clinical psychologists included? Or did you also include counseling and school psychologists?

Holly Andrilla: They were included in this category.

Dr. Eric Larson: Yes, let's see. Clinical psychologists. Addiction, adult development and aging, clinical, clinical adult adolescence cognitive and behavioral...

Holly Andrilla: Educational...

Dr. Eric Larson: ...educational, family and group psychotherapy, mental retardation and developmental disabilities. And then we also included the prescribing psychologists. And I think there's like three states that allow prescribing by psychologists.

Holly Andrilla: And school is one of them.

Dr. Eric Larson: Oh, said school, yes. You know, the thing about school though is there's a question there about whether all school psychologists of course would make it into this file. Because they are probably not very likely to be billing CMS. But clearly some were or they wouldn't have to code the taxonomy code for it. That answer the question?

Shawnda Schroeder: I believe so. I'm speaking on behalf of those in our chat box, so I'm going to...

Dr. Eric Larson: Right.

Shawnda Schroeder: ...sample these though. The other question that this same group has asked is are you planning to look at providers by ethnicity at all?

Holly Andrilla: No. Ethnicity is not one of the variables in the NPI data set.

Shawnda Schroeder: What do either of you see as the role of peer support providers in augmenting the behavioral health work force? Also, training programs like mental health first aid?

Dr. Eric Larson: Well I - I'm sorry, in the - can you repeat that Shawnda?

Shawnda Schroeder: Absolutely. What do you see as the role of peer support providers in augmenting the behavioral health work force? Also, speaking to training programs like mental health first aid?

Dr. Eric Larson: Well I have no - don't have any expertise in that. And I wouldn't want to claim some. I know that several community-based and first responders -- first - community-based first responders and community-based, you know, behavioral health aides -- that sort of thing obviously contribute and contribute well.

But sort of exactly how they, you know, contribute to the consolation of providers in a community is probably a local issue. Holly do you have anything to add?

Holly Andrilla: Well I don't know if this person -- this is Jeff -- is referring to this in terms of the drug epidemic. And I know that those people are really important. And that's one of the things that aren't - that isn't counted in this in terms of addressing that epidemic. Is the programs like NA and CA -- Narcotics Anonymous -- and those and the peer support that people get there and their sponsors and so forth.

And that, I mean that's one of the - a big part of the work force. But by definition, they don't want - that's not accountable group. So I think they play a really key role in the recovery that people are participating in, but we can't count them. Especially not in the NPI data. I'm not sure if that's what you were talking about.

Shawnda Schroeder: We actually have two individuals who did follow ups to the question about race or ethnicity. And I'm going to just read them both and let you speak generally to both. But one had asked it would be interesting to look at

ethnicity, race, makeup of populations in particular counties and how that correlates with your data about work force. And whether or not you've considered doing that. And an additional question very similar was is there a particular reason why race, ethnicity has not been explored?

Holly Andrilla: Well the reason it hasn't been explored is because that data isn't in the NPI data set. One thing about the NPI data set that is fabulous is that it's free. So anybody that's listening could go on to the website and download it. And that - one of the things that makes it really easy to repeat this research.

So that - so I think the idea of looking at the race, the county, you could do say percent minority and map those counties. Or see how those counties correlate with the low supply counties. I think that's a really interesting idea.

Dr. Eric Larson: Oh, yes, that's a really good idea. There's, you know, if you could think of -- since you're working at the county level I mean -- there's a host of interesting demographic and economic variables available of course. And there's another - well it is still free, the AHRF file. County based file.

Holly Andrilla: Oh, right.

Dr. Eric Larson: So that could pretty easily allow you to get into that - into those issues. And see what supply looks like with respect to a bunch of demographic and economic variables. That's a great idea.

Shawnda Schroeder: Do either of you know if there currently is data available to track the prevalence of telepsychiatry?

((Crosstalk))

Holly Andrilla: I don't know that.

Dr. Eric Larson: No, I would bet...

Holly Andrilla: There is a...

Dr. Eric Larson: ...there are...

Holly Andrilla: ...well I think it's the Iowa Rural Health Research...

Dr. Eric Larson: Oh, that's right.

Holly Andrilla: ...that specializes in - there's a - they have a telehealth sort of focus. And so it might be worth going to the gateway and seeing what they're doing. And if you had a specific question addressing that rural health research center.

Dr. Eric Larson: Yes.

Shawnda Schroeder: Another question was could you see behavioral health providers in public health for those rural communities?

Dr. Eric Larson: Sure. I mean if public health departments have the funds and other resources necessary to provide, you know, to pay providers. I - there's certainly no reason why they couldn't be part of the list. And I - they would probably wind up in the NPI and be counted in a study like ours if they do it.

Shawnda Schroeder: Another comment. This isn't really much of a question but a comment instead. But in addition to raising education level, which we've - in addition to race, education level could be interesting too to overlay with the county data, especially in the mountain Pacific region.

Holly Andrilla: There - that's an interesting comment. There was some work done -- it's a little bit old right now so I like to think of our work as the updated version of it -- that looked at the supply of behavioral health providers at the county level and did correlate - did some correlations between some different level - some different county-level measures.

And I want to say that poverty was one. I don't remember if education level was. It might have been. So I love those ideas. Somebody else thought of it -- some of them -- and done so it's a little bit old data at this point.

Shawnda Schroeder: We do have another question. How does one get the NPI data for their individual state?

Holly Andrilla: You can - when you go to the NPI site I believe you can download just by state. But if you couldn't, then what you would do is download the whole thing and use your state's FIP code -- which is part of the field -- to just select the cases that you are interested in.

So if you search on national plan and provider enumeration system you'll get to the website and then you'll download it. The issue that you'll have is it's a really big file. So we've had to use -- to unzip it -- we've had to use the program I think it's called Seven. It doesn't unzip in a standard unzip package. And some people have had trouble. But it is very doable.

Dr. Eric Larson: Yes, and then you also have to spend some time communing with the provider taxonomy list. It's long and you have to sort of read the whole thing and make sure you understand it. And you know, if you're not a behavioral health person yourself it really helps to consult with a behavioral health specialist

when going through that long, long list of taxonomy codes when you're selecting the providers you want to look at.

Shawnda Schroeder: Also on a little bit more of a technical note regarding data. Could your data be correlated with Gallup data on wellbeing measurements? Or the wellbeing scale that they use?

Dr. Eric Larson: If it's at a county level. But I'd have to look...

((Crosstalk))

Holly Andrilla: So, so...

Dr. Eric Larson: ...at the data, it would have to be at the right level.

Holly Andrilla: ...it sounds like this person wants us to take the county - our county level measurements and then correlate it with a measure of wellbeing and see. And the hypothesis would be that places that have more providers would - that there would be a higher correlation. I mean I think that would be interesting. A positive correlation, more providers the higher. Yes, I think the short answer is yes.

Shawnda Schroeder: This seems like a little bit more of a fun question or overarching but do you have suggestions or innovative ways to increase the behavioral health provider numbers in the rural areas that you've identified?

Dr. Eric Larson: Recruit people into -- via pipeline programs -- into professional programs who are from rural areas. And do what you can to train them in rural areas. I think that's the probably the old answer, the easy answer, and probably the right

answer. That rural providers -- not just docs but rural providers of all types -- tend to come from rural places if they are trained in rural places.

And if you want to build that work force. And this of course assumes that you've got a population base that will support a provider. You know, it's big enough to support a provider of a certain type. That's the way to do it. I mean pipeline programs, I - from junior high school - sorry middle school on, high school, and the way to get rural providers.

Shawnda Schroeder: Another comment is somebody is currently in graduate school for a psych NP and lives in a rural area and is hoping to provide services in that area. But they worry about not having that supervision as a new provider. Any comments to that piece?

Holly Andrilla: So you must be from a state that requires either a collaborative or a supervisory agreement with a physician. And we've run into this sort of the parameters that people work under - recently were considering this because of the new legislation that allows NPs and PAs to get a DEA waiver to prescribe buprenorphine to treat opioid use disorder.

And they're talking - there's people that are talking about how are they going to do that if their physician that they have a particular relationship with doesn't have a waiver? And there has been some suggestions that people form relationships that are unique to some little slice of their work.

Now I don't know if a psych NP could do that. But, you know, it's so state specific. But that's a strategy that some of the PAs are using. In the other context they're developing a relationship with somebody just for that slice.

Shawnda Schroeder: And there has been some clarification. It seems that this is individual discussing that the worry is about working on their own in a new position as the only behavioral health provider in that rural community.

Holly Andrilla: Well that's where the idea that I was talking about earlier -- the telesupport if you will for providers -- I think is key. And you're not unique in that. You don't want to be doing it all by yourself. People want back up and they want collaboration and they want support and they want somebody that they can get help from.

Shawnda Schroeder: Thank you. I am looking and I don't see other questions in either the chat or the Q and A box. But I will ask -- as we're just close to the end of the hour here -- I will ask our operator if we have any other calls on the line with questions?

Coordinator: There are no questions in queue at this time. Again, if you would like to ask a question on the phone line please press star then one.

Shawnda Schroeder: And as we wait there have been many questions about where to find the slides today. And I will just mention that they will be available on our rural health research dot org website. And I've actually provided the direct link now on the left hand side to where the webinars are located. And it is rural health research dot org back slash webinars.

Hearing no additional callers and seeing no additional questions in the queue on the Q and A box or in the chat. I do want to again thank both Eric and Holly for being on the call today. And for speaking. It seems that this is a very popular topic. And I do want to thank all of you who sent in questions. And - through the chat box or the Q and A. So thank you very much. And if there are additional questions -- I don't want to speak for them -- but I am thinking

that both Eric and Holly would be happy to answer questions following today's webinar if you should have them.

Holly Andrilla: Of course.

Dr. Eric Larson: Absolutely. No problem.

Shawnda Schroeder: Thank you very much everybody for joining us today.

Holly Andrilla: Thank you, Shawnda.

Dr. Eric Larson: Bye, Shawnda.

Coordinator: Thank you for your participation in today's conference. Participants you may disconnect. Speakers, please stand by.

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