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ARIA JAVIDAN:

Hello everyone, the webinar will begin in one minute. Hello everyone, my name is Aria Javidan, and the project manager for the national consortium of telehealth resource centers. Welcome to the telehealth series, today's is Telehealth Equity Among Medicare Beneficiaries. This is by the telehealth resource Center.

These webinars are to provide timely information to support and guide the development of telehealth programs. To provide some background on the consortium, located to the country, there are 12 telehealth resource centers.

Focused on telehealth policy and advocacy. This is to advance the effective use of telehealth and access to telehealth in underserved communities. A few tips before we get started today. Your audio has been muted. Please use the Q&A function of the Zoom platform to ask questions.

Questions will be asked at the end of the presentation. Please note that closed captioning is available and is located at the bottom of your screen. Today's webinar is being recorded and you will be able to access this and past webinars on the YouTube channel.

With that, I will pass it over to our director of South Central Telehealth Resource Center.

SPEAKER:

Hi, thank you are you and two thank you Aria Javidan and Joe for putting this together. I am glad to have Doctor Cari Bogulski here. She has her bachelors in art and psychology in Spanish and the master of science and doctorate in cognitive psychology from Penn State. She has worked in various roles as a senior data analyst in Northwestern community health and research. She is currently an assistant professor in the Department of biomedical informatics at UMS.

Her research is focused on Health Equity, healthcare access, in rural and urban communities. She brings you expertise in program evaluation, community-based participant research and she is currently working on several projects at the rural telehealth evaluation center. Thank you, Cari.

CARI A BOGULSKI:

Great, thank you. Can everybody see my screen? Can you see the correct view of the presentation? It is hard to tell sometimes.

ARIA JAVIDAN:

Yes, looks good.

CARI A BOGULSKI:

Thank you so much for that introduction. I will be presenting on some findings from one of the projects that has been funded as part of the world telehealth evaluation center, which Hari is the director of. This particular project I'm going to be presenting on today was a year 2 project.

We are funded to conduct five one-year projects every year. We are in the middle of your three, tearing up for year four. Year 2 was a little delayed because of the process of getting Medicare data. We have preliminary results and are working on the write up for manuscript right now.

These are coming out right off the presses. So just a little bit about our group. Our director and fearless leader is Hari who is well-known to this group also as the director of the telehealth resource Center. Our deputy director is Corey Hayes who is not only an assistant professor of biomedical informatics and psychiatric pharmacy practice but also help scientists.

Our team for this particular project that I'm presenting on today consists of myself and George. We are colleagues for this project. Then we have these two doctors who were key staff unless and Claire Brown has been advising in particular on the telehealth spending version of this particular project.

And then (Unknown Name) is our research manager without him everything would fall apart and nothing would ever get done. I am really grateful to everyone who made this project possible.

And just a little bit of a funding disclosure to say the study was supported by this particular grant mechanism for the world telehealth resource Center program. But the views that we are presenting do not represent their views or the Department of Health and Human Services.

Also, during the course of this project, Doctor Cory Hayes was funded by a separate grant through the DA that you can see the specifics of year and Doctor Brown was also supported by the rural Institute of health disparities at NIMH. Suggest an overview of what will be talking but today, we are going to go through the background of this particular project as well as leading into the methodology.

I will be presenting preliminary results and some of our key findings for that aim. Then we have the preliminary results from week two and just orient new to how this is structured, this is about telehealth utilizers versus nonusers.

Some medical health beneficiaries who utilize telehealth and those who do not. And then the second is about spending. So little bit of background which will be an old hat for everyone in this call, I am sure. Telehealth has the potential to address a lot of health disparities that currently exist for underserved populations.

Such as those experienced by rural residents, racial and ethnic minorities and those with chronic conditions. We have the potential to reach those who have a hard time accessing healthcare services that they desperately need. As we all know, the first few months of the COVID-19 public health emergency saw unprecedented telehealth expansion.

Although the rates of telehealth utilization have dropped since then, they remain much higher than the pre-COVID era. Although this does vary quite a bit by specialty. This project in particular which we called the Health Equity project which is overstating a bit of everything that is involved in Health Equity.

This project in particular examines how telehealth expanded for these underserved populations. To do that, we used a 20% random sample of national medical care claims. So medical beneficiaries and a 20% random sample of all of their claims.

So, the specific aims of this project, number one, we wanted to assess trends in telehealth utilization among Medicare beneficiaries. Including comparisons between rural residents and racial and ethnic minorities and those with chronic conditions. The second was to compare monthly telehealth spending with the allowed amounts for those who have Medicare data and how that is structured among the care beneficiaries overall and telehealth utilizers specifically prior to the COVID-19 health emergency.

Concluding comparisons between rural residents and racial and ethnic minorities in those chronic conditions. Those were kind of the three groups of comparisons that we did for both the first and second. For our methodology, we conducted the study using a data set from a 20% sample of beneficiaries.

We have data from 2018, 2019, and 2020. This is restricted to Medicare beneficiaries who are not enrolled in Medicare managed care plan in any month or year of data. They had to be enrolled in a or B and have estate buy-in program to be included for analysis here.

The reasoning behind that is we wanted to have their whole universal claims and know everything that was going on. With their healthcare. For coding, race and ethnicity was operationalized as using the research Triangle Institute variable in the Medicare beneficiary file.

That is a method that has been used to try to make up for some incomplete data that has been demonstrated to pretty well reflect race and ethnicity and zip codes. Urban and rural residents were coded in a given year. Then we have the master beneficiary file with rural and urban commuting area codes.

Primary because 1-3 were urban and 4-10 were rural. For chronic conditions, we assessed 30 chronic conditions coded using the chronic conditions data warehouse and algorithms. Each condition has a different set of criteria and we went through each of those separately.

Depending on the condition, there is a one or two look back period. They have specific procedure codes or diagnosis codes that you want to look at to see if they have this diagnosis code, that is indicative that they had this chronic condition. For some conditions, you had to look at the past two years to figure it if the person had that condition in the year that you are looking at. So this algorithm, depending on the specific condition, uses a combination of inpatient claims and skilled nursing claims as well as the patient and carrier claims.

You are utilizing this whole universe of different kinds of services. And so because, even though we have three years of data, we can only assess chronic conditions in two years because we need a two year look back. For most of the conditions. Most require a two year look back period. So we have this for 2019 and 2020.

Telehealth utilization is assessed using carrier claims including any carrier or fee for service claim that had the service 02 and a modifier of GT, GQ, 95, G 0 or a CPT code of one of the ones on the screen.

That is how we were operationalizing what telehealth utilization was and if anyone met those criteria in a given year, they would be categorized as a telehealth user.

So we're looking at this overall analysis of beneficiaries. We're looking at trends among this national sample and looking at these comparisons. See recoded as a telehealth utilizer if you had at least one instance of telehealth utilization in a given year.

This is a very busy table but I come from psychology where we do not have tables this very vague and I have quickly gotten comfortable with giant tables that are hard to look at.

I will walk through it and try to highlight some of the findings here. The first thing that I want to point out here is that every column, every percentage that is in parentheses is a column percentage.

Read it here in 2018, we had 55.6% of all telehealth users who were rural and 44.4% were urban. -- 44.4% were urban. Looking over the past years, and given present, what you can see is that the percentage of all telehealth users who live in rural areas goes down. It goes down quite a bit in 2020, relative to 2019. This is perhaps very unsurprising given what we know about the telehealth waivers.

Dentistry CMS centers and Medicaid/Medicare services. The waivers that were issued for

reimbursement. Specifically in this case that urban residents were able to... there were fewer restrictions for urban residents to receive telehealth prior to 2020 when these waivers were issued if you are an urban beneficiary to receive telehealth that would be paid for by Medicare, you need a specific chronic condition.

And so it is perhaps unsurprising that when the restriction was waived, urban utilization skyrocketed up to 82% of all telehealth users in 2020 who were urban. So then looking at race and ethnicity, non-Hispanic white beneficiaries were vast majority of telehealth utilizers.

But this percentage even increased a little bit from 2019 to 2020. So the percentage of all telehealth users was around 78% in 2019 and closer to 80% in 2020. So every subgroup saw an increase telehealth utilization in 2020.

That is not shocking finding, no one is surprised, this is not groundbreaking. We are specifically interested in this project if the expansion happened equitably for all of these subgroups. So in addition to the increase in the percentage of utilizers identifying as non-Hispanic white, yes there was also an increase in non-Hispanic Asian and Pacific islanders.

We have 1.5, 1.8, 2.8. On the flipside, non-Hispanic Black and African-American beneficiaries saw a decrease in the overall percentage from 9.6% in 2019 to 8.4% in 2020. Hispanic and non-Hispanic American Indian and Alaska native fisheries also saw decrease in the overall percentage of telehealth utilizers.

And finally, looking at the presence of chronic conditions, and as a reminder, we assessed 30 chronic conditions. I grouped beneficiaries into five categories. Either having zero chronic conditions, one chronic conditions, to chronic conditions, three chronic conditions or four or more.

What you can see is that the percentage of telehealth utilizers who had zero chronic conditions went down slightly in 2020. 5.4% relative to 5.8%. And the percentage of beneficiaries who have four or more chronic conditions went down actually quite a bit. 62.5% in 2019 to 54.1% in 2020. But those with one, two, or three chronic conditions, those went up slightly. From 10.1-11.1. And 10.6-14.3 for 2 and then 11 to 15% for three.

So this is looking at the 30 chronic condition specifically. This is also, again, quite busy. What you can see here is that on the Y axis, we have the percentage of telehealth utilizers and non-utilizers who meet the criteria for each of these 30 conditions.

And then the yellow bars on the left, for anyone experiencing colorblindness, the leftmost bar that is yellow is a non-utilizer. In the green bar on the right is utilizers. So, you can see that telehealth utilizers

and a lot of the bars, not all of them and not for all conditions but telehealth utilizers in orange were proportioned. The non-utilizers that met the criteria for these conditions.

Of all telehealth utilizers, do you think the criteria of all telehealth 90 lighters, -- non-telehealth utilizers, do they meet the criteria? So, some of the sort of key takeaways that I wanted to highlight from looking at this, and again, looking at this on the top but we are currently working on a logistic model to kind of tease out some of these interactions.

Between, you know, rural/urban and race or ethnicity, those kind of things. But among the Medicare beneficiaries, telehealth utilization surged in 2020 relative to 2018 and 2019. This is unsurprising, anyone probably could predict this given we know what happened. But urban telehealth surged a lot more than rural telehealth.

The rural increase was over 2000 present for the urban increase was over 11,000 present. -- So it is not surprising given what we know what happened at the policy level for a telehealth reimbursement for Medicare. Also, for non-Hispanic Black and African-American, American Indian and Alaska native and Hispanic beneficiaries were a small proportion of all telehealth users in 2020 relative to 2019. So even though telehealth expanded, of all of these groups, there were more telehealth beneficiaries using telehealth than the relative percentage of all telehealth utilizers who were Black, American Indian, Alaska native, and Hispanic was smaller in 2020 relative to 2019. So, expansion was largest for non-Hispanic white beneficiaries.

And non-Hispanic Asian Pacific islanders. In addition, Medicare beneficiaries with one, two, or three chronic conditions were a larger portion of all telehealth users in 2020 than in 2019. But those with zero chronic conditions or those with no chronic conditions and those with four or more chronic conditions.

Those who had the most health concerns, they were a smaller proportion of telehealth users in 2020 relative to 2019. So those who are the sickest and the least sick had those smaller proportions in 2020.

Of the 30 chronic conditions, we have this graph of graphs that I had with all of the conditions, only nine of the 30 chronic conditions, we showed a large portion of all telehealth users in 2020 and 2019. For example, hypertension was 68.5% of all telehealth utilizers who had hypertension in 2019. And 68.7% of all telehealth users in 2020. It is worth noting that hypertension and hyperlipidemia are the two most common chronic conditions.

So it is noteworthy, I think, of those that actually had an increase in overall percentage. You can see that it is some of these bigger chronic conditions. In the rest of the chronic conditions had slight

increases.

OK. So we are moving on to address the switches telehealth funding in non-Medicare beneficiaries. So we are looking at monthly telehealth spending. So with the last, we're looking at results by year. So 2019 versus 2020.

Now we are looking at spending in a month. And we are looking at the monthly allowed amount which is the variable that we are using in this analysis among Medicare beneficiaries overall and then among these groups.

So, this is a very simple chart, this is just looking at the overall amount of money that was spent in each month on telehealth, using the same definition of what telehealth means and just adding that anything that was in a given month from January 2018 through December 2020.

How much was spent on telehealth. And you can see that telehealth spending, overall, peaked in April. Then it was starting to show sort of a surge backup with this number in 2020. This is the latest data we have so far. We think they are working on trying to expand out to 2021 data to see.

This is interesting because you are also reaching the end of the year that this was also coincident with when the third wave of COVID was surging. So this is taking blue line and taking the last third of the line on the previous graph and over lining it on the COVID-19 pieces.

You can see that the peak of telehealth spending was coincident with the first wave of COVID. And even to the second wave, telehealth spending was declining but started peeking again towards the end of 2020 when the third wave of COVID was really rising.

So, this looks like the same graph that I assure you it was not. This is per beneficiary telehealth spending. It is taking that first graph of overall spending and dividing it by the total number of Medicare beneficiaries in that month you have coverage. So again, it has a very similar pattern, it is just a different value on the y-axis with average total health spending per beneficiary.

But this graph is per telehealth utilizer spending overhaul. Two overall. This is the overall amount of telehealth services each month and dividing it by the total number of beneficiaries to use telehealth at all.

They do not have to use it in that month. Just if they are a person who is utilizing telehealth at any point of that year, they were in that denominator. So what you can see is that there was a drop in March 2020 as things were perhaps the most hectic.

But then if you kind of ignore that debt, you can see that there is a slight increase in the per utilizers spending. It continues to kind of go up over time. So what we wanted to do next was take this same chart and look at telehealth spending per telehealth utilizer.

We can compare them between racial and ethnic minorities and then different chronic conditions. So this is the overall comparison and we have been in yellow on the top and rural is green mostly on the bottom. What we can see is that even though before March 2020, you had urban beneficiaries who were much more limited in their ability to receive telehealth services, per telehealth utilizer, spending was higher. Again, this is perhaps unsurprising giving that to be an urban beneficiary receiving telehealth services, it is much more restricted to those who had certain disease, stroke, and a few other specific conditions in order to receive telehealth services prior.

So it makes some sense, at least in my mind, that you may have overall spending that is a little bit higher because of the universe of people who could use telehealth and the urban beneficiaries was much more likely to have a chronic condition.

But when you look after the declaration of COVID-19 public health emergency, urban beneficiaries are still much higher was prayer telehealth user spending but the gap is even larger. So again, we go back to the results and it is more the expansion was even greater for urban beneficiaries.

It is now opening up to those who are perhaps less sick, potentially, because of the restrictions that were lifted among who in urban beneficiaries could utilize telehealth services. But still, per telehealth user, spending was greater among urban beneficiaries relative to rural. So now, looking at per telehealth utilizers pending for those, yeah.

OK, sorry. For chronic conditions, so, I am trying to use our tax colors but sometimes I hard when we have a lot of categories. The gray line that is on the bottom has users was zero chronic conditions. Then there is a light yellow line that has these chronic conditions, a light green line is to chronic conditions and a darker yellow line is read. Then the top line with the darker green is four or more chronic conditions.

What you can see is a done this drop in March 2020. Telehealth utilizers pending for all of these groups. And then the steeper the line, if you look at what the average slope is of the sign, if it goes up or down over time, that the slope is increasing a lot more for 0, 1, 2, 3 chronic condition beneficiaries. It is a little more static for four or more chronic conditions. Again, ignoring the deaf that happens in March 2020, if you imagine the dip was gone, it almost looks like it is kind of the same slope.

Again, we were literally rounding us up last night and looking at doing these models from a more statistically robust way. That is what it looks like descriptively. It looks like prior telehealth utilizers



pending had the largest increase for those with the fewest chronic conditions in the COVID-19 era versus the pre-COVID area.

So, some of the key findings for this with telehealth spending is among Medicare beneficiaries, overall the spending surged in 2020 and peaked in April 2020. However, per utilizer spending has shown a continual increase.

Gaps in telehealth utilizer spending have grown between urban and rural beneficiaries. So that again, even though urban was higher in the pre-COVID area, that got even larger during COVID. However, the gap in prayer telehealth utilizer spending has decreased among those without chronic conditions.

With those who have fewer chronic conditions seen more increases. And that is really the end of the presentation that I have prepared. I have a lot of extra slides if people have specific questions about other comparisons, I would love to entertain questions.

SPEAKER:

Thank you, Cari for the nice overview. Joe Schaffner is the assistant director for the telehealth resource Center. Aria Javidan, can Joe go ahead and take questions? How do you want to do this?

ARIA JAVIDAN:

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JOE SCHAFFNER:

Feel free to use the Q&A function to interact according to the chat function or is that just us?

ARIA JAVIDAN:

Either one will work. Q&A or chat.

JOE SCHAFFNER:

If you have any questions for Cari Bogulski. Thank you, I am curious, you may have said that they may have missed it but after the declaration of the public health emergency, you stated that there was a larger gap in spending between urban and rural.

Was there a reason identified for that? Yeah, they are.

CARI A BOGULSKI:

Yeah, so we are still working on sort of analyzing what this means in particular. But I, I think it is especially interesting because again, the urban beneficiaries who were utilizing telehealth before COVID, they may have been using...

I mean, they had end-stage renal disease or had suffered a stroke. It was people who had a lot of health concerns who could have been very expensive to manage. Then it got opened up to anybody in an urban area who could use telehealth services.

So we're still kind of working on what exact the this means. But it could be the case that the way that telehealth was being utilized even among those with chronic conditions before COVID, it was not necessarily...

One big limitation with this kind of data is you do not know what telehealth is substituted versus supplemental. Right? You do not know which of the use, if it is taking the place of an in person visit or if it is an additional check in or something like that. That is something I am interested in for the future. It is the pre-March 2020 spending.

Is that mostly happening for supplemental visits? Maybe those using these visits to do things in addition to there in person work. So they were not doing the bulk of their care via telehealth services but during COVID that shifted and they had a lot more of the substituted kind of something that would have been done in person suddenly became something that they were doing over telehealth?

To answer your question, I don't know. We are still kind of working on some other explanations that could address that very question because I think it is interesting. Especially because you had urban beneficiaries who did not have running conditions in that group and the spending is higher.

JOE SCHAFFNER:

Everything mentioned is just as interesting. Like I said, it would be interesting to know. It looks like you started to answer one of the questions that we have here, I will go ahead and read it for the audience. Have you gathered any data for the 2020-2023.? How does it compare to the state you are presenting?? Yeah, I was just typing a response. We are working on getting the data from 2021. I think it will be really interesting to look at because we all kind of know that the way that people were utilizing healthcare and living their lives in 2021 was really different than 2020.

Especially because the vaccine really was happening at the end of 2020 and a lot of local policies were changing. I'm really interested in that but unfortunately we don't have the data yet. So we acquired the 20% sample of the actual claims.

We did not do, I think, there are two different types of Medicare. They just take a long time to acquire and there is a bit of a delay. So we have not gotten those yet but we are very interested in digging in. That is a great question.

JOE SCHAFFNER:

And I know a lot of broad infrastructure and money came in during that time as well. That probably changed a lot of things to. Another question is if it is possible to somehow analyze data looking at education level or income level in telehealth users?

CARI A BOGULSKI:

Yes, I am not aware of a high quality variables that exist in the Medicare data. Now, what we could do is sort of look at the median income level or look at the county level. Or the ZIP Code level.

We could kind of look at the demographics of a particular area but I am not aware of high-quality data that is in the beneficiary to look at those things. That is a great question that I wish we had the data to speak to more but unfortunately it is not part of the data set that we have. But we could look at it in the particular area this person comes from, what is the average education level and median income?

That is a really good question.

JOE SCHAFFNER:

I not seeing any other questions here. Do you have anything on your end?

SPEAKER:

No. I think this is valuable information and I think it will help with shaping things. Or at least provide some information. Thank you, Cari, for taking the time to present this.

JOE SCHAFFNER:

Thank you.

ARIA JAVIDAN:

Thank you. I will just bring up our closing slides here. Just a reminder that our next webinar will be held on Thursday, July 20. That will be hosted by the Pacific basin telehealth resource Center. Please check the website for more information.

And lastly, we do ask that you take a few short minutes to complete the survey that will pop up at the conclusion of this webinar. Your feedback is very helpful to us. Thank you to Cari and to the central telehealth center for hosting this webinar.

Have a great day, everyone.

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