

Medicaid Innovation Accelerator Program Webinar

Data Analytics in Support of Long-Term Services and Supports

August 22, 2019

[Intro/logistics]

KEITH BRANHAM, CMS: I am a research analyst with the Medicaid IAP data analytics team in the data and systems group for the Center for Medicaid and CHIP Services. I'll be moderating today's webinar. The agenda for today's webinar is:

- Introduction to speakers
- Short overview of IAP
- Three speakers
- Q&A

First we'll have a speaker discuss overall data analytic approaches in support of long-term services and supports (LTSS). Then two state speakers. Massachusetts will discuss quality measurement and value-based payment (VBP). Virginia will discuss Commonwealth Coordinated Care Plus.

First we'll hear from Beth Lewis, Senior Research Leader at IBM Watson Health. Second we'll hear from Jill Morrow-Gordon, Acting Chief Medical Officer and Director of the Office of Clinical Affairs at MassHealth. Finally, Jeanette Trestrail, the Program Manager for Data Encounter and Compliance in the Integrated Care Division of the Virginia Department of Medical Assistance and Services.

[IAP described] In this interactive webinar states will learn about objectives in LTSS analytics, challenges for LTSS programs and data, approaches being pursued by state, state considerations and limitations, and finally lessons learned and looking ahead. First, Beth Lewis.

BETH LEWIS: I'd like to talk about what we mean when we talk about LTSS. Long-term services and supports or LTSS are services provided to Medicaid beneficiaries based on level of need. LTSS can include services to help Medicaid beneficiaries manage their activities of daily living such as mobility, dressing or bathing, or for their instrumental activities of daily living such as paying bills, medication management or scheduling medical appointments. LTSS includes those services provided in an institution such as the daily care provided in a nursing facility, long-term care (LTC) hospital or intermediate care facility for individuals with developmental disabilities. Alternatively, LTSS can be provided in the home or community to serve participants with the same level of need as those served in institutions. These home- and community-based services or HCBS can include services such as personal care attendants, homemaker or chore services or home-delivered meals. LTSS can be provided under a fee for service system, though increasingly states are providing these services under a managed care delivery system as well.

Why would a state choose to pursue data analytics for their LTSS program? There are a few reasons. If a state is providing a CBS then there are specific CMS reporting requirements they will need to abide by.

States need to demonstrate that they meet federal quality assurances, such as that those participants receiving LTSS in home or community have met the level of care required by their programs; that their service plans meet their needs and their individual goals; and that participants' health and safety is monitored and assured. States use data analytics to monitor program performance in order to report to CMS but also to track and trend the data if you identify any problems in program performance, to plan for systemic operational improvements, and to monitor the impact of any of those improvement plans.

States also use data analytics to track and trend expenditures. For example, CMS requires that HCBS programs offered under a variety of Medicaid authorities must be budget neutral. States use data analytics to track and report utilization and expenditure data annually to demonstrate that the services remain budget neutral when compared to those services provided in an institution. Beyond meeting CMS reporting requirements, states often use data analytics to tell the story of their program. By this I mean using the data to briefly introduce the populations receiving LTSS, to demonstrate the demand for services, to advise of the cost neutrality or cost savings when providing these services, and to report on participants' quality of life while receiving services. For example, a state may want to present their story to their legislature in order to secure more funding for additional HCBS program waiver slots or to brief their own program leadership as to how the program is benefiting participants, the state budget or both as a means of reporting improvements.

Finally states use data analytics to improve transparency. States are moving forward with data analytics to report in a data dashboard, offering a snapshot in time of program performance to participants, advocates, providers or other interested stakeholders. States may start by providing enrollment or expenditure data, but then will enter reporting on provider performance. For example, a state may choose to use data analytics to report on provider performance on a number of metrics, leading to a star rating on a nursing home report card, as in Minnesota. Or they may choose to use the data to report on providers who meet their goals for placing participants into competitive employment, as in Oregon. As more states move to using value-based purchasing or payments in their program, the data analytics that allow for comparison of provider performance may also have helped substantiate the award of any incentive payments.

While states may want to pursue data analytics there are a few challenges to keep in mind specifically for LTSS. The first is that LTSS data can be hard to collect. Not all states have integrated their various data points into an electronic system that allows for data aggregation and reporting. For example, one performance measure may require a state to analyze how many of their waiver participants are receiving services in the amount, duration and scope specified in their service plan. The data points required for this analysis may not be available electronically, particularly for data analytics surrounding quality information. States often have to complete record reviews, which are labor intensive. States also have finite state resources and a number of state staffs that are dedicated to analytics and who often also have a number of other responsibilities including day-to-day operations of the program, monitoring and oversight of the program, and completing required actions such as amending the documentation authorizing the program. States often find balancing the staff time, expertise and other resources necessary for data analytics to be a challenge.

Second, LTSS populations are varied. Not all of the populations will find the same data meaningful. For example, a metric about the success of a provider in placing participants into competitive employment

may be particularly meaningful for young adult participants with developmental disabilities, but will be less meaningful for those providers serving participants who are elderly. Participants who are elderly might find more meaning in decreasing medication errors for falls at home. The same amount of effort is needed to develop and test the metric, collect the data and analyze it, but the analysis will be applicable in these cases to smaller numbers of people than other healthcare metrics at large such as appropriate receipt of a flu shot.

Finally, in general LTSS analytics are in earlier stages than other healthcare analytics. For example, predictive analytics such as the ability to predict which participants in an HCBS program are more likely to be discharged from a hospital to a New Hampshire versus returning home at discharge does not yet exist in LTSS. There are also fewer outcome measures that have been developed, validated and endorsed by national entities such as the National Quality Forum.

As we look back at our experience in providing technical support to states under IAP, there were a few states who pursued goals related to data analytics and LTSS. One state, Pennsylvania, was engaged in early implementation of a managed LTSS program after spending many years in a fee for service delivery system. The state staff had selected metrics to monitor the performance of the program, particularly during the transition phase, and needed a data analysis completed to ensure that all five goals of the program were adequately measured. The state also followed other states' approaches to data dashboards and metrics targeted at LTSS workforce retention, how to balance transparency with sufficient data privacy and predictive analytics. Another state, Mississippi, sought to use the data that they were collecting in a more meaningful way and to develop analytics that would demonstrate impact in state expenditures if additional HCBS program slots were pursued. Additionally they followed other states with similar fee for service LTSS programs and the metrics they used to monitor performance and ultimately received guidance on how to use data to tell their story to their executive team, as they presented strategic options for changes to their HCBS program.

As previously discussed, other states who did not participate in this cohort are also using data analytics as a way to compare performance of entities, the providers of managed care plans, for example, in order to award some type of VBP incentive.

As a state prepares to pursue expanded or enhanced data analytics, it is important to consider the following:

- States should collect complete data documentation such as data dictionaries or data file specifications of its current data, including data collected and stored by vendors. This inventory will help a state identify any strengths or limitations of the current data.
- States should keep in mind the goals of the program and the participants the program serves and then collect the metrics being collected with those goals. This may involve revisiting the program's goals regularly to ensure that data collected is answering the intended questions or may involve some type of data analysis as the program matures.
- If a state operates a managed LTSS program they should plan to clearly and explicitly communicate expectations and requirements for data collection and reporting to its managed care plans. States

with long-established MLTSS programs such as Arizona or Minnesota have indicated that they add these requirements directly to their contract language.

As we look ahead and consider lessons learned in data analytics in support of LTSS, a few takeaways emerge:

- States should plan to start small. A state pursuing data analytics to monitor its implementation of an MLTSS program realized that immediately collecting data on 200 metrics was too much. While the MCPs might have been able to collect and report this many data points, state staff may not have the resources or bandwidth to aggregate and analyze these data timely, which may limit the data's utility in highlighting problems or in pursuing potential solutions. The state found out when they really looked at it that the data that was immediately important during the transition from a fee for service to a managed care delivery system was available by analyzing only a fraction of their metrics.
- States should plan to devote adequate staff time and resources to pursue good analytics. One state, Arizona, advised that they had 1,000 analytic staff specifically dedicated to their Medicaid program with a subset of this team devoted to LTSS analytics. Staff expertise in data sciences and statistics may be needed to complement those with public policy backgrounds. Such a team makes it possible to harness all of the potential end user data and to use the data to make decisions about a program's next steps.
- States should consider the messages they wish to send with their data and these messages should be carefully crafted for reports and dashboards. The messages can be supported with user-friendly and engaging data visualization. In the case of data dashboards, it is again best to start small with a few significant data points to ensure that the messages are received as intended. Stakeholder feedback can assist states in assessing their messaging.
- States should find good partners. The states we worked with found state-to-state calls particularly useful as they could speak about particular situations instead of hypotheticals. Conversations often began with "We were thinking about this..." and their partner state often responded with "We've tried that. Let's talk about what worked and what needed modification." Partner states can talk about lessons learned and ways to potentially mitigate data or messaging challenges for states that are newer to data analytics.
- Finally, as LTSS data analytics is behind the larger field of healthcare analytics, it is important to keep in mind that we're in a state of constant evolution. Metrics are often updated to be more precise. Measures receive validation or data point staff to a different area in need of improvement or intervention. States should be prepared to be agile in this space during this time of near constant change.

KEITH BRANHAM: Thank you. Our first state speaker is Jill Morrow-Gorton from MassHealth.

JILL MORROW-GORTON: [trouble moving slides so will proceed without them while someone troubleshoots] I would like to talk about the Massachusetts LTSS project, which was a quality measurement and VBP project. I'd like to share with you the practice that Massachusetts used to develop

the strategies for quality metrics and VBP for LTSS programs. I'd like to highlight the role of the IAP in that work, which was actually wonderful. I'd like to discuss some lessons learned and outline some next steps in implementation of this work.

Talking about the practice, we started with development of a quality measure set for LTSS fee for service providers. We learned the lesson of start small. We actually started with hundreds of measures and pared it down to four. We then took the step of evaluating the viability of the quality measures based on data stability. We benchmarked the data, and then we framed the financial simulation model process for VBPs, which allowed us to flex in terms of the amount of— we use the withholds—but the amount of withholds we would be doing.

[slides fixed] We're at the 5th bullet on the slide everyone can see, slide 17. We then applied a provider scorecard concept to those quality measures using the benchmarks in the simulation. The next step will be to apply VBPs based on the scorecards and we're not quite there yet.

I'd like to give you a sense of how the Office of LTSS is organized. We group them into four groups: community-based programs, home-based programs, institutional programs, and then coordinated care. You can see the percentages of dollars that each program uses. Community space programs are things like day habilitation, a day program for people with intellectual disabilities. Adult day health is a day program for people with health conditions. Adult foster care is a program where people live with a family and the family provides their care.

We have 667 providers, so we've got lots of providers, and that's in that set of programs. If you look across we have lots and lots of providers in Massachusetts. We serve quite a number of members as well. Home-based programs are usually things that people either receive at home or their DME, oxygen, orthotics-prosthetics kind of things. Institutional programs, our three are nursing facilities, two are chronic disease and rehab hospitals—in the rest of the world those get called inpatient rehab facilities or IRFs—and long-term acute care hospitals or LCACHs. Then we have a couple versions of what we call coordinated care, which are really integrated care, and those are primarily run by health plans or other organizations.

So our first step was to do measure set identification. We used the CMS IAP Incentivizing Quality in Outcomes, the IQO, to do this, using that technical assistance and support, talking to tons of national groups and resources from NQF to AHRQ to NASUAD and others and multiple states. Our goal behind our quality measures was to create a core set of measures that could be aligned with and applied across a range of LTSS services. We serve a broad cross-disability population, people with intellectual disabilities, physical disabilities, head injury, elderly, so it's a broad population. Multiple payment types. Many of our services are fee for service but we also wanted to be able to have our integrated care programs and some of the others be involved in that, and to align with the new MassHealth payment reform initiative in terms of accountable care organizations.

Our potential scorecard performance measures, and I say potential because through the process we had to evaluate whether or not these were going to be useful, we chose four. Those were 30-day all-cause hospital readmission, which is an NQF measure. What we tried to do was pick measures that were standardized measures so they were endorsed or made standard by some entity, and measures that we could measure based on administrative claims. We don't have staff to go out and pull data from records

and so we were hoping to start small and start with just administrative claims. So 30-day all-cause readmission. Potentially preventable ED visits, and this was based on a modification of the NYU algorithm which categorizes ED visits based on a number of categories—nonemergent, emergent but primary care treatable, and emergent care needed but might have been treatable or prevented with timely intervention in the ambulatory care. We also wanted to look at hospital admission for ambulatory care sensitive conditions. Again this is something that if people get good home care and people recognize symptoms early they can be seen on an ambulatory basis rather than being admitted to the hospital, and we can prevent hospitalization.

Then community tenure. Community tenure is a measure that started out in the behavioral health world looking at inpatient psychiatric admissions but it's been expanded to different populations. What we wanted to use that to measure was the amount of time that people spent in the community versus in a hospital or other institution such as a nursing facility. We looked at this as a measure of clinical and quality of life improvement and risk reduction for people.

Our next step was to take the data and look at the data stability and some benchmarks. Our IAP partner was very helpful in terms of how to think about this, and I have a graph to show you how they helped. We needed data that was stable across years because if your data's not stable you can't improve it. It goes bouncing around and you can't predict what the value would be next year if you didn't do anything, then you can't do an improvement activity with it. We discovered that rare events such as readmissions are often not very stable, so if you look at the graph you see that those dots are just sort of random all over the place. This was matching readmission rates from 2016 to readmission rates for 2017 for each provider. There was no correlation. We should have seen a line if the data was stable.

The other issue we found was that about half of our LTSS providers serve less than 80 members, which of course is going to impact on the number of readmissions you might have with the number of hospital admissions or any other kind of event.

The other thing we did was we benchmarked the data. We looked at a number of different ways to calculate it and a number of different ways to benchmark it. We graphed it to look at what the pattern of the data looks like, was everything clumped at 90%? Was there a spread across? Was there a clear delineation or demarcation or not? What we found was that the benchmarks needed to vary by provider type and by measure, that we couldn't really use the same benchmark because the pattern of data didn't look the same. Again that was somewhat related to small provider, somewhat related to small numbers of events and the distribution of the measure.

Here's an example of our benchmarking model. This is just one example. This one we happened to look at skilled nursing facilities and all-cause readmission for the last year. You can see that this actually looks pretty much like a Bell curve except we have a little blip at the end. But you see where about 18% were at or above the 90th percentile and then the average, about 34%, 32%--and that's the readmission rate. It gets labeled as a percent even though it's sort of not really a percent. But not all of the benchmarks for each of the measures look this way and they look different for different provider types.

Here's another example, the same measure, all-cause readmission. This is based on I forget what provider type. We were trying to mask the data. This is actually not totally real data anyway. But you can see that

there's a completely different pattern. You don't see that big peak, it's clearly not a Bell curve. You have a lot of people up at the upper end where there were no readmissions. So your approach to this might be very different because that pattern is different.

So we decided we would take out benchmarks and our measures and apply them to a scorecard context. This is not real data but just illustrates how we might use this. We divided the data in terms of duals and non-duals. Part of the reason we did that was because duals tend to be people who are dually eligible for Medicare and Medicaid, tend to be older. They tend to have more hospitalizations. So if you're a provider who serves primarily people that are dually eligible we might expect you to have more hospitalizations than a provider who serves no one who's dually eligible. So we wanted to look at that as an easy, quick potential risk adjustment. You can see we've contemplated the measure on the left, the fee for service provider's results, so preventable ED visits per 1,000 members, and that was another place where we really had to think about how to do it. Do we do it per member? Per member month? We actually ended up doing it per member month. But this is based on per member. You can see that it's 125, the all-provider mean, so we compare providers to the mean of their provider type, it was 299. The benchmark 50th percentile is 296. You can see that this provider is below that. Because you want to have fewer preventable ED visits that's good. And not all measures lower will be better, so you have to be careful what you're measuring and what's good and what's not good.

We had it all numbers and words and then decided that maybe it might make sense to color code this so people get a really fast visual. So you look at this report card and see that there's a red one, and that's the one that's problematic. That's where you don't want it to be. We thought that might help the providers make it a little more visual for them, then they don't have to interpret the numbers on first glance.

Then we took all this data—we didn't but our IAP partner created a financial simulation for it. Because we didn't have a pot of money to offer a quality bonus, we did a withhold model. We had four measures, they looked at those four measures. They developed a point system for those measures and then they weighted those points. So community tenure might have been weighted a 1 and potential ED visits a 2. Then you add up all of the points and you figure out the percentage, and you looked at the program expenditures, so that's the total expenditure, and again these are not real problems. You would withhold 1% so how much of that is withheld? Or if you withhold 5% how much would be withheld? Then what is the percentage of the expenditure?

So, for provider A who has three measures and their percentage of maximum weights is 67%, they would have 1.6% of their money withheld based on those quality measures. Then as you move forward, they could work on improving those and then moving to losing less of their money. We just put a couple other examples so you can see how that works.

Our next steps are actually to reengage stakeholders. We engaged them at the beginning around measures a number of times, and we need to reengage them around showing them the measures, showing them the scorecard, illustrating to them how the VBP model works, how it's been used, get their feedback, and then implement. We'll need to set the benchmarks. We'll need to determine the magnitude of the amount of the percent withhold, and the model allows us to change that. Then we'll have to identify exclusions either based on the number of people served or number of events, and that is if you're a provider that serves five people measuring readmissions might be meaningless. So thinking about where

do we draw that line in terms of what's a small provider? Then we have to think about provider populations and risk adjustment.

So quickly, we did a measure set with administrative data that was meaningful for the providers. We built a basic flexible and modifiable VBP financial model using points and weights, and a provider scorecard strategy that shows the providers in Harrison with other providers.

Our lessons learned?

- We didn't have lot of good validated measures for LTSS. We have lots of small providers and small numbers of events that makes the data less stable and less usable.
- The diversity and specific characteristics of the different programs and providers and populations requires some careful consideration when you're doing quality measurement.
- We found that data use agreements, data analysis and building the model really take a long time and require good program analytics partnerships as well as having some guidance from a good partner.

KEITH BRANHAM: Thank you. Now Jeanette Trestrail from Virginia.

JEANETTE TRESTRAIL: It is Virginia's honor to share our encounter analysis methods with other states and we welcome further discussion. I thought we'd start out with some quotes about data. The first one talks about most of the world will make decisions by either guessing or using their gut. He says, "They will either be lucky or wrong." So we really need to depend on data and have good data to make decisions. The second one says "The goal is to turn data into information, and information into insight." So the world we play in, gathering data and putting it together so that folks are informed and are able to make decisions down the road provides them the insight for what it is they need to know when they're making decisions and how the data will impact that.

We have some objectives:

- We will present what the Commonwealth Coordinated Care Plus program is. We call it the CCC Plus program. That's where our managed LTSS is located.
- Define a little bit about what an encounter is and the types of encounters.
- Introduce you to the encounter processing solution that we use here at Virginia Medicaid.
- Describe how we measure payment timeliness, how we measure reasonableness using a nursing facility example.
- How we can use encounter data to focus on diagnosis.
- How to account for your expenditures if you want to see that by different services.

This is a CCC Plus program. We have six NCOs currently throughout the state in six different regions. We have 238,000 members overall and this is where our MLTSS is located. We also provide care coordination for our members under the CCC Plus program. This is a great benefit for folks who have moved in for fee for service. We were primarily fee for service, and we were all fee for service for MLTSS until the CCC Plus program came up, and then we moved people into managed care.

One of the greatest benefits for the members was the fact that they had a care coordinator, someone to follow through with them on their appointments, to help them make sure they're getting the services in their area that they need, and just being somebody to reach out to when they have a question about the services that they're able to obtain through our program.

This is a makeup of our enrollment by different benefit plans. The first population are folks in our age-blended disabled. They do not receive LTSS support. The next problem [sic] is about the 35,000 people, and those are the folks that are in our 60-plus waiver. We combined them. Some don't get private duty nursing and others do, so we have those two different sets of folks, and that rounds up to 35,000. Then we have our nursing facility folks, about 16,000 people. So overall we have 52,000 people receiving MLTSS, which is 22% of our overall enrollment.

Let's talk about encounters. What do they do? What purpose do they serve? How can we use them to measure the successfulness of our programs? In Virginia we do not pay encounters. An encounter for us is a historical record of a service provided. It's not a claim that we would adjudicate and we do not pay anything off encounters. Again our MCOs, they're the ones who pay the claims from the providers, but we have a historical record of it.

This slide shows that you go out and get your service provided, whether it's at a doctor's office or personal care in your home, and that service provider will submit a claim of 1,500 or do it electronically of what they provided you that day for service, all your demographic information, their information, and which services they provided you. Then that claim gets sent to the MCO, and the MCO brings that into their claims system and they either pass or deny it based on what edits they have in their system. Then after that the MCO then has an encounter system that takes that claim, adds on the information it needs to become an encounter and they send that in to DMAS.

Again what's important here is I want to share with you there is a nationwide structure standard. It's called the electronic data interchange, or EDI. The EDI standard is used across different businesses, like even a grocery store has a separate EDI, there's logistics EDI. We use the healthcare EDI standard. The benefit of using a standard like this is that each state will have the same information in each of the different data areas. So we would be able to exchange data with other states or with other healthcare providers and be able to read their encounter. So many times when you're working with data and you're trying to work with a partner their data does not match yours and you spend a lot of time trying to figure out what the data element represents and how are you going to use it or convert it into your own data. So this standard takes that out of the way. There are companion guides that map out all of the standards for each of the data elements and each of the characters.

The next slide we're going to talk about there are five different types of encounters. The first one is a professional encounter, or we like to call it an 837P for short. This is your professional healthcare providers, waiver providers, transportation. Again it's a professional or practitioner, those bills under the 837P format. Then you have an institutional encounter, which is the 837I. This is where the nursing facilities and hospitals submit their claims and encounters, on the 837I. Then you have a dental layout for 837D, pharmacy layout for NCPDP, and nonemergent medical transportation or NEMT.

Each one of these has a different structure, and as the encounter comes in you have to determine or the system determines which of these types it is and then in order for it to be validated within the system, it has to make sure that like where there's supposed to be a number, like a 2-digit number, there is a 2-digit

number, and to make sure there's not two alphabet numbers where there should be a data number. That's the compliance that it goes through first.

Here in Virginia our information management staff as well as our program staff, our business owners, worked diligently to create a new encounter processing solution. What we did was take a look at what edits we needed to make, what were we going to check the data for, what couldn't happen. If you saw something in a claim how would you know to pull that out? So we set up all these rules and the process of which the data has to go through the EPS.

This is a CMS-certified system and it does coordinate and rely on eligibility for members. So when an encounter comes in we want to make sure that's an eligible member. We also check the provider demographics to make sure the taxonomy matches or to make sure they're an actual enrolled provider with that MCO. Then we work with a Medicaid pharmacy benefits manager to make sure we're getting our pharmacy rebates for all the prescriptions that we're submitting.

This solution has made a big difference to the accuracy of us using encounters to collect data. In the past we had a fee for service system and we would use that to try to store the encounters, but we lost a lot of data and we weren't able to get a good handle on the services that were being provided. So we again created this EPS system in-house so we can continue to have good data but get a lot of reports out of the EPS. We get a lot of exports for our data out of the EPS.

So encounter data use, one of the biggest challenges that we have is to get good, clean encounter data. You have to spend a lot of time working with the submitters to make sure they understand what needs to change in that encounter to make it a good, clean encounter. So when we started out we had weekly phone calls with each one of the plans. We had an hour for each plan, and after we got through testing and everything we talked through what kind of roadblocks were they seeing? What did they need to learn more about? How it is that we could help them understand things so they could get these encounters in to us.

Keep in mind some of our health plans haven't been in the MLTSS area so some of the waiver services were new to them. Now we have biweekly calls. We go over a failure log that is created when they submit their encounters, and it will list out what it was about that encounter that failed. So, we talk that through and give them suggestions and advice on how to correct their encounter system so that that won't be a problem again in the future.

Another measure that we included now is a data quality scorecard and an evaluation of the encounter. This is a good way for the plans to be able to measure how they're doing in certain requirements. One we look at is how quickly are they paying the claims? We did that for the encounter. We looked at how quickly are they submitting or letting us know that they've made those paid claims. We also take a look at when they submit their encounters it has to be certified so we make sure that those are certified by the CEO or CFO of all the health plans and we look at a lot of the timeliness.

So we use this data for service utilization and trends. We might pick out certain procedure codes or a certain time period to see what happens with our service utilization. We determine and monitor our costs so that we know some services aren't being spiked. We can take a look and see why how all of a sudden there's more cost in that area. Again we measure the time frames, and one thing we do with our encounter is confirm the provider networks. The health plan is required to send in a list of their providers

and we have to make sure there is network adequacy around the state. So one of the things we do is we take a look at who's actively providing services at the present time, and to do that we use the encounters. That way we can tell that if that certain adult day healthcare is on our list but we never, ever get an encounter for them, then we have to start questioning if they really are using that adult day healthcare in that area or is it just a matter that those folks don't have members? So that helps us look at the provider networks.

The other thing we have to do with encounter data which is much different than claims is that we have to put in that time lag. We give three months of a look back period so that we can gather most of the data from the encounters. Keeping in mind, it is the historical record, so there really is no push to get the encounter in here quickly other than it helps us have good data and make decisions more on updated information than three months ago. We are monitoring that as far as how long it takes for the encounters to get in and sometimes if we look at we normally get 20,000 encounters of this type, in that month we have 19,000 even though it's not three months ago, we might use some of that data because it shows that it's at a high rate of completion.

So there are key dates that we pull off the encounter. The first one is the date of service, and of course that's when service was rendered to the individual. We try to figure out what date the provider actually submitted the claims. You'll see later we map that out based on our hospital systems from around the state were concerned that they weren't getting paid fast enough. We have those criteria that hospitals have to be paid within 30 days of the date that the claim comes to the MCO, and all our MLTSS services have to be paid within 14 days of when that claim is submitted. So these are a couple of the data analytics we need.

The information that comes from the MCO is critical for us. That's the date that they received it, and so that lets you know if a provider used a clearinghouse or had someone else look at their claims before they sent them to the MCO. We'll know what date the MCO—we can only hold them accountable from that date on. Then you have the date that the MCO adjudicates the claim and then you have the actual payment date. What we do with the payment date is we have an area called payment cycle date. It's a measure that we use. What happens with the payment cycle date is that the plans have to turn in, for every payment cycle, how many transactions they had that time and how much money did they spend or pay out within that payment cycle date? This helps us make sure that we're getting a majority of encounters in, because those two numbers have to match.

Then we also look at the payment status, whether they actually paid or denied. From our system we look at what date the encounter came in and when it was in past stat us. So here it's mapped out a little easier. The healthcare provider submits a claim to the health plan. The health plan has to pay the claim, and then the health plan submits the encounter to DMAS.

This was a study we did with the hospitals. You can see here that this is the time it takes the actual hospital to submit to the health plan that they want to get paid. So when we heard that the hospitals were concerned with late payments, you can see here that 30 days is how long the plan has to pay the claim, it's been held or was it even sent out longer than that as an average to the actual MCO.

The next slide shows how long did it take the health plan to send payment to the provider. This is an area that we could affect because we were able to work with the plans to be able to look at their payment systems, look at their claims systems, and be able to bring this number down. You can see in February and

March how much better the plans are doing. Again they have an actual 30 days to pay this claim, so we were really proud of being able to bring them down in that short of a time. We felt good about assisting them with doing that.

The next slide shows how long does it take the actual health plan to send the encounter to us to our processing system. This again you can see we worked with the plans. This is something else we could affect by working with the plans to get them to submit their encounters sooner. You can tell from February-March, all the way down, that the trend was going the exact way that we wanted it to go.

The next example of how we use data from encounters is when we take a look at our nursing facilities. We're trying to determine here are the plans turning in all their nursing facility encounters. So we start and we determine how many people are enrolled with that plan, how many people are in the nursing facility receiving services. Then we count up the number of encounters for nursing facility services. We assume each member gets one claim per month. We allow for discharges, benefit changes, hospitalizations, and then we can determine based on that enrollment whether the plans are submitting their encounters.

This is what one of the charts would look like. This shows you at the top, the enrollment, the number of distinct members that they have in nursing facilities, and the second shows you how many encounters they've had for each distinct member by service month. So we take the number of encounters submitted, divide by the number of members and then we get the percent of members with an encounter. Then once we have that data, we can map it out to take a look at the reasonableness. If they had 60 people in a nursing facility and we only get 40 of those encounters for nursing facilities, we know we have an issue here.

This is a slide that goes back to June of 2018 and you can see there one of the plans—I want to remind you that this is 84 and 98%. I could have used a longer range and we would have looked really good, but I just wanted to bring it up closer so you could see the changes that some of the health plans have made. Then later in November of 2018 we had a big issue with one of the plans with their claims systems. We use 90% as our standard, and the reason we do that is due to folks moving into the community or changing services or no longer being at the nursing facility.

Another data run we did was we worked with Virginia Commonwealth University on this and they were doing some evaluation of our program, and they wanted to see what individuals with diagnoses of either diabetes or hypertension –they wanted us to pull those people out and be able to tell are they using primary and preventative care services? Is it going up? Are we serving them? And CCC Plus as well so they can get to their doctors and make sure they're doing some preventative care. We pulled all that population out and then we helped define which procedure codes we were going to search on and then we wrote out the programming to bring back that information. And the chart looks like this that we ended up having to share with them. As you can see there's a 2017 column which was prior to when we had CCC Plus and 2018 is afterwards. So you can really see a higher use of preventative care and primary care physicians with our members. Again this is for our members that had diabetes or hypertension.

Expenditures is another way you can use the data from encounters to look at your program. The first thing you have to do is decide are you looking at overall expenditures or do you want to pick out certain expenditures. You have to determine the time frame you're looking over. Do you want to look at the last

fiscal year? Do you want to look at the last three fiscal years? Whatever it is, you have to pull up that type of time frame.

Then we talked about the different dates on the encounter and if you want to use a static date, like you can use the adjudication date. That adjudication date isn't really going to change over time. They either adjudicated it this date, but they can't go backwards to adjudicate. Versus dates of service where the provider has 12 months in Virginia to submit a claim, so if you use data servers you actually go back and fill in data. Even though it's March you might get an encounter that has the date of service as September. So, when we use those we have to continually fill in from behind and it gives you a much better picture overall of the ebbs and flows of the program.

This is sample data. These are not the actual costs for our different services, but I just want to show you how particular and how specific you can be to what the costs are and increasing costs versus ones that are going down or utilization. But that's how we are able to tell where our services are and the cost that is assigned to that.

KEITH BRANHAM: Now the Q&A sessions and Padmaja Thallur from IBM Watson Health will facilitate that.

PADMAJA THALLUR: The first question I'll direct to Beth. *What does it mean to use data analytics to tell the story of a state's program?*

BETH LEWIS: Using data analytics to tell the story of a state's Medicaid program or LTSS program is to really highlight the population that the program serves. Data analytics would be able to advise how many enrollees there are in the particular program and what the potential capacity on the waiver is. It would also be able to give a snapshot of how much money is being expended on care across an LTSS program as a whole but also per capita to make those comparisons to per capita spending on an institutional level of care. It would also be able to give snapshots on program highlights, things of a quality nature or participant satisfaction survey results that are particularly high, or be able to point out programs at a point in time in terms of quality concerns or other complaints, grievances, critical incident data, those sorts of things. But all those things, because states should be collecting those pieces of data, will lend itself well to this is how our program is operating in a moment in time and be able to share that information with interested stakeholders, to help teach us planning about does this mean we make the waiver bigger? Does this mean we offer different service because there's a need that's not being addressed? All of those things can help make those decisions.

PADMAJA THALLUR: Also Beth: *Are data analytics easier for states who deliver services through fee for service versus managed care?*

BETH LEWIS: I don't know if there's a specific answer in terms of easier between fee for service or managed care delivery systems and data analytics. The players are different. There are obviously managed care plans that are vendors and that help with data collection and aggregation and also reporting to state agencies. So they will need to be brought into the fold. At the same time they can have a lot more system capability and analytics capability as a managed care plan than the state might have in-house.

With fee for service again there's that systems question and also the staff resource question. But there are less players in the game too so you're depending on less entities to be able to feed that information up to aggregate the information and be able to do that analysis and get that snapshot of your program.

So there's not necessarily one way that's easier or harder. But it does take a separate set of considerations for each type of delivery system.

PADMAJA THALLUR: Jill: *For LTSS did you identify any meaningful changes from period to period in community tenure when you aggregate it by population?*

JILL MORROW-GORTON: The community tenure measure was really interesting. What we found was that by and large everybody was up in the 98, 99%, and that may have been partly reflective of the program. So Massachusetts' LTSS fee for service program has a nursing element built into them. So they're either evaluating people on a daily basis because they're there in a program or they have a nurse to call. It was interesting that we found not a lot of variation in the community tenure. Unfortunately that means it's not going to be a very good measure in terms of being able to identify change or differentiate providers, but on the good side it means that we're actually keeping people out of institutions.

PADMAJA THALLUR: Can you talk about how you decided which measures to choose?

JILL MORROW-GORTON: Yes, oh my gosh. (laughs) I'm laughing because we talked to tons of people, we got tons of measures, pages and pages and pages of measures. What we found were that there were not a lot of LTSS-specific measures that were administrative in nature. So, there's some new ones out. There are some plan measures and assessment measures and that sort of thing, although again they require checking the box that there are certain elements present, which means you have to go look at a plan probably unless you can build it into an electronic system.

So we ended up with measures that were more health-related than LTSS-related, but that we felt that the providers for those services should have some skin in the game for. So if you think about readmission, if you're discharging somebody from the hospital to a home that's an adult foster care provider who's being paid to manage health conditions at home and have the nurse to support them, well they should have some responsibility in making sure that the medication reconciliation happened and that discharge instructions are followed and whatnot.

So that was sort of how we ended up with the three health measures but the ED visit is preventable ED visits, so if you recognize symptoms and you got them to ambulatory care, which is what happens at home or if you're at a day program happens in the day program, and then the ambulatory care sensitive conditions, the hospitalizations was exactly the same thing. If you recognize symptoms and get timely ambulatory care you can prevent hospitalization. And we felt that at least part of that was under the control of the LTSS provider. That was how we ended up with the four measures we ended up with.

PADMAJA THALLUR : Are there measures you decided not to use? Could you tell us why?

JILL MORROW-GORTON: I really wanted an assessment measure and I really wanted a care plan measure but we didn't have a way to do it. We really don't have the staff to go out and do it. Because it's fee for service we don't have an MCO to do it for us. But there are some member satisfaction kind of things that are happening in a different realm, so those will be done, we didn't need to do those.

Then the concept of what is the service doing, are people reaching their goals or making progress towards their goals for their services. But again that takes looking at their plan, at their goals and then making some judgment about or checking boxes in terms of steps, and that really takes looking at a chart. Those were the kinds of things we would have liked to have done, but because we didn't have the

resources...And we really wanted to start small. We didn't have any idea what this was going to turn out to look like, so using administrative measures, using measures that have already been developed by somebody else, we didn't want to be in the business of measure development either. Because that would have been a side business as opposed to our core business, and there are people doing that as their core business and there are groups that evaluate them, so that's how we ended up where we ended up.

PADMAJA THALLUR: Jeanette: *How does Virginia Medicaid know if the health plans are submitting all of their encounters?*

JEANETTE TRESTRAIL: What we do again is we have that payment cycle data so we can compare the number of transactions that have been through their claims system with the number of encounters we received in our encounter processing system. We're also able to match up how much money was paid out in that certain period of time versus how much money is indicated as payment in the encounters in our encounter system, so that's very helpful.

PADMAJA THALLUR: You use the encounters to tell if members are receiving LTSS?

JEANETTE TRESTRAIL: Yes, we can identify what services and what procedure codes or CBT codes we need to use to look in each encounter or to look at all the encounters and pull out the ones that are MLTSS. By doing that, we're able to determine who's getting what services, have they increased or decreased, and it's very helpful. We also look at that by region, too, so it's a nice way to be able to tell what services providers are providing to the members.

PADMAJA THALLUR: Jeanette: *What are the most important data quality issues to look out for when using encounter data?*

JEANETTE TRESTRAIL: That's a prof one. A lot of times you really have to focus on the accuracy and to make sure that you're giving the right information on that encounter and that the plans who are submitting it aren't just using dummy data if you will in some of the areas where they need to submit data elements. You also want to make sure that you're getting completeness, which means you're getting all the encounters in from the plans. One thing Virginia's going to start doing now is we're going to base the rates off the data that's in the encounter system. So the plans have a really good incentive to make sure they're turning in all their encounters, and that will really help with our completeness measures.

PADMAJA THALLUR: Beth: *How much time and how many staff are required to do "good data analytics"?*

BETH LEWIS: There's probably no magic formula or number. It's going to vary state to state. It is going to vary based on what type of analytics a state is looking to do. It's going to vary based on who's collecting, aggregating and analyzing the data, the date or other managed care plans involved or is there provider involvement somehow? And what else is going on in the state? The best way to figure it is to start with one or two metrics and see how long that takes and what those analytics look like in terms of a staff duty, time and resource-wise, and build the analytic capacity to go forward from there, to make sure they're getting the answers to the questions they're asking and not the answer to a different question. And then to expand for more measures, more data collection, more people, to go from there and build it slowly. As our states have indicated it does take quite some time to get up and running on any particular new type of data analytics and so to make sure your plan is for the long term as well.

PADMAJA THALLUR: That seems to be a theme, to start small and then to iterate as needed. Jeanette: *Where did Virginia find the MLTSS CPT codes or what process was used to identify these?*

JEANETTE TRESTRAIL: A really good question. We actually do the parameters that we put on certain services to be paid within 14 days. We actually listed them out in our contracts with each of the plans. How we came up with them is that we have a set identified procedure code that's allowed to be billed for each member and each waiver, so that's how we were able to come up with those CPT codes. It was the services that were allowed to be given to those members based on the waiver application.

PADMAJA THALLUR: Jill: *Why did you choose the withhold model?*

JILL MORROW-GORTON: We actually chose the withhold model because we did not have extra money for a bonus model. There are two ways to think about it. One is to have a pot of money that you have that you use for quality bonuses, and then the other way to do it is to actually withhold some of the money that a provider would get and require them to earn it back. It was merely we didn't have a pot of money we could use for that purpose.

PADMAJA THALLUR: Were there other model options in consideration?

JILL MORROW-GORTON: The financial simulation that we were looking at, no. We thought about either withhold or the quality bonus, and we were really thinking about what would the payment differentials be related to that.

PADMAJA THALLUR: I don't see anything else in the chat.

KEITH BRANHAM: A few takeaways for today webinar:

- States should start small and plan to devote adequate staff time and resources to pursue good analytics.
- State should be prepared to be agile as metrics are updated often to keep up with the dynamic nature.
- The diversity of specific characteristics of LTSS programs, providers and beneficiary populations require careful consideration and quality measurement.
- Data use agreement, data analysis and building the model take a long time and require program analytic partnerships.

Thanks to everyone participating. Please complete the post webinar survey. For more information contact: Medicaid IAP at [cms.hhs.gov](https://www.cms.hhs.gov).

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