



Encounter Data

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Stacey Plizga: So, kicking things off for us this morning with an update on Medicare Advantage payment activities, including an update on encounter data submission from the Division of Encounter Data Risk Adjustment Options, please help me welcome Shruti Rajan, and from the Division of Payment Policy, Monica Reed-Asante.

Shruti Rajan: Thank you. Thank you. Good morning everybody. So, today we'll begin with an update on encounter data submissions, and then I'm going to turn the presentation over to Monica, who will present on MA payment activities.

So, MA encounter data submissions, we're now in our seventh year of data collection, and we've collected about 3.5 billion records to date, and that's quite a milestone. In the next few slides, I'm going to go over where we are with encounter data submissions, looking at submission volume, giving you a submission forecast, talking a little bit about our data integrity activities, and then just giving an overview of communication, which are part of those activities.

Okay, so, as enrollment in MA is growing, you can see that encounter data volume is growing with it. The line on this graph shows enrollment, and the bars show encounter data submissions, the volume of submissions, and you can see the upward trend in both of those. For 2018, we expect to receive 800 million records.

Encounter Data
Shruti Rajan, CM
Monica Reed- Asante, CM

Here, we have a bit more information on submission forecasts. In March 2018, we collected 66-million records. As I said from the previous slide, in calendar year 2018, we expect to collect about 800-million records, and we forecast that from 2013 through 2018, we will collect about 4-billion records.

We also wanted to provide an update on the encounter data integrity activity that CMS has been conducting. These are activities that help us ensure the completeness and validity of encounter data, and they also help us to support encounter data submissions from stakeholders. We have four categories of activities in our integrity plan; their analysis, communications with MAOs, monitoring, and compliance.

Today, we wanted to provide an overview of the work CMS has been doing on communications related to encounter data submissions. So, we undertake a number of communications activities with stakeholders, and the activities are aimed at trying to get feedback, as well as providing guidance and technical assistance to continually improve the encounter data submission process.

Recently, CMS has been providing guidance on encounter data submission, and most of these communications have come through HPMS memos. Here, we have a list of the various topics of guidance that we've discussed in these memos, population of specific data fields, submission of NPIs, the Medicare Card Project, use of chart review records, and in coming months, we will be releasing a Consolidated Encounter Data Submission Guide and sort of developing a more user-friendly CSSC operations website. And with that, I'll hand it over to Monica to talk about payment activities.

Monica Reed-Asante: Thank you. Thank you very much, Shruti. So, in addition to providing an update on encounter data submissions and volume and our

Encounter Data
Shruti Rajan, CM
Monica Reed- Asante, CM

communications, we also wanted to take this opportunity to discuss and give an overview of the risk adjustment model development work that we did over the course of the last year, with specific attention to the Part C model that we developed for 2019 that we'll be using to calculate encounter database risk scores.

And that model work was highly driven by the 21st century Cures Act. The Cures Act had risk adjustment requirements starting in 2019, and subsequent years. And many of you may be aware of the risk adjustment provisions in the Act. I'm going to highlight them, again, just because that was the focus on the body of work that we did. And so, the Act required that we evaluate the impact of adding additional conditions to the model, and those conditions were for mental health, substance use disorders, and the various levels of severity for chronic kidney disease.

In addition, the Act required that we take into account the total number of diseases or conditions of an individual, and that we apply an additional adjustment as that number increases, with those changes being phased in over three years and full implementation in 2022. And, again, this was really the focus of our work for 2019, really, because of time. The 21st century Cures Act passed in December of 2016, and so we had to be very thoughtful in our modelling in order to get the work done so that we could meet the requirement of proposing and releasing the notice at the end of 2017.

And so, with the sense of timing in mind, we thought that it would be helpful to share with you our process for model development to provide some context, again, around that timing and the work that we did, and this is our approach to model development, whether we are updating the underlying data, or even if we're doing more in-depth analyses. It starts logically with the people. We start with the cohort of people that we're going to use to calibrate the model. We extract their diagnoses and their expenditures, and then we apply the model parameter, including if we are

Encounter Data
Shruti Rajan, CM
Monica Reed- Asante, CM

updating the HCCs, and then we run the models. We actually run the regressions, and that process is iterative. It can be very expensive, especially if we're looking at different model parameters, as well as applying constraints to the model and any other adjustments. And then we analyze. We analyze the model. We analyze predictive ratios and the coefficients, and we ultimately propose the model. What we really wanted to highlight here is the timing, clearly, because it's in red. But it can take eight months if we are just doing a very basic model update, if we're just updating underlying data, and it can take up to two years if we're doing an update that's really in-depth.

For the work that we did for 2019, to develop the model that we're going to use to calculate and encounter data-based risk scores, because of timing, we had to do parallel tracks. We did the clinical work and then at the same time, on a separate but parallel track, we did the work evaluating adding counts to the model. In addition to the work that we did for the 21st century Cures Act, we also made some technical updates to the model. We updated the underlying data using 2014 diagnoses to predict 2015 expenditures, and we also aligned the method that we use for filtering the diagnoses that we used to calibrate the model with the method that we used to filter encounter data.

Okay, so the next few slides go into the clinical evaluation that we did. We evaluated the clinical areas based on select principles, which I'll talk about in a little bit. But our initial step for the clinical evaluation was really just identifying the diagnoses that we were going to focus on. And so, for mental health we focused on the psychiatric disorders that are in Chapter 5 of both ICD-9 and ICD-10. For substance use disorders, all of the substance abuse and dependence disorders in the DSM map to three HCCs, one of which was not in the model previously, and so we focused our attention on that HCC and the underlying diagnoses. And then for chronic kidney disease, CKD there are four HCCs, two of which were not in the most recent version of the model. CKD 3 and then the combined

Encounter Data
Shruti Rajan, CM
Monica Reed- Asante, CM

HCC for CKD 1 and 2, and so we focused our attention, again, on those HCCs that were not in the model.

So, this slide goes over the clinical principles we used. We have a broader set of clinical principles. They were released in the 2011 evaluation, and we pulled from that these three select principles that guided our evaluation of the specified conditions. The first is clinical meaningfulness, and this is really ensuring that the conditions that we include in the model are well specified; that they're relatable to the other conditions that have similar levels of severity, and that they're predicting expected costs consistently over time.

The second one is a prediction of medical expenditures, and so we're looking for HCCs that predict a reliable estimate of expenditures, and, again, that those expenditures are stable and consistent over time. And then lastly, we looked to identify HCCs or conditions that have a limited discretionary coding variation. We're really looking for minimal discretion in the coding. We want coding to codes and conditions that are definitively diagnosed. So, we applied those principles, those three principles, select principles when we evaluated the conditions for specificity and clinical significance. And as usual in this process, we consulted clinicians, as well as treatment guidelines. And there were instances in our review where there were diagnoses that could be better mapped; that could be mapped to HCCs with greater specificity, where they were better predicted, and we did that with those circumstances to match those diagnoses. And so we assessed for improved predictive accuracy, and we ultimately added four new HCCs to the model, as well as some additional diagnoses to an existing HCC.

So, this slide outlines the four new HCCs that we added to the model, as well as the last bullet there, which identifies some additional diagnoses we added to an existing HCC. So, we added HCC 58, which is reactive and unspecified psychosis, and this is an HCC, when we were evaluating

Encounter Data
Shruti Rajan, CM
Monica Reed- Asante, CM

the underlying diagnoses, we found that they were clinically similar to schizophrenia, as well as having a cost profile that was similar to schizophrenia. So, in addition to adding this HCC, we regrouped the hierarchies to be consistent with that level of severity. And we also added HCC 60 personality disorders. And for both of these HCCs, the underlying diagnoses were relatable, well defined, and the HCCs themselves predicted substantive cost.

And so for substance use disorders, we added some diagnoses for unintentional and undefined overdose, and we added HCC 56. And this was an instance when we looked at that one HCC that was not in the model, we found that it was more clinically accurate if we split out that HCC, and so that's what we did. We split that existing HCC into three HCCs so that we could capture the most clinically significant substance use disorder diagnoses in the model.

And then, lastly, CKD, we added CKD 3 back to the model. This HCC is a challenging HCC because of the fact that the underlying diagnoses actually encompasses multiple stages, stage 3A and 3B, and we're aware that clinically the implications of those stages can be different, but they are encompassed in this one code. But we're also mindful that it's a well-defined condition, and that for many beneficiaries, it actually does implicate significant costs, and so we added this CKD 3 back to the model.

So, for the next few slides, I'll highlight the work that was completed to assess the addition of a count of conditions to the model, and this is where we had to simplify things, again, because of timing. And so, we had to do our initial evaluation on our older based version of the model, the 79 HCC version of the model. And we also did the evaluations on a single community segment. We did do it on the version of the model that was based on '14/'15 data and had the other technical updates.

Encounter Data
Shruti Rajan, CM
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And so we evaluated, counting different ways, counting payment HCCs, counting all HCCs, and also how we did those counts. So, we did end up with models where we counted only the HCCs that were in the payment model, and then we also looked at models where we counted all HCCs, HCCs in the payment model and HCCs that were not in the payment model, with some exceptions, and then we looked at different ways of counting. So, for example, we looked at models within both of those that had continuous integers. We looked at models that counted using dummy variables. And in both cases, we did apply the hierarchy before we counted the conditions.

So, something we always make sure we highlight is how we evaluate model performance. Predictive ratios have always been our primary measure of accuracy in regards to the model, and that was the case also for this evaluation of work that we did. There's definitely other ways to evaluate model performance. We're aware of those. We do look at coefficients. We look at R-squared. But predictive ratios is our mainstay. And so we looked at predictive ratios for these models, similar to the way that we typically do. We looked at predictive ratios by the deciles of risk, and in addition, we looked at predictive ratios for beneficiaries with multiple conditions.

Then, to progress with our evaluation, we selected the models out of the various models that we looked at, we selected the ones that most improved predictive accuracy for the payment HCC count model and for the all HCC count model. And then we merged in the other work we were doing. So, we took those models and well calibrated on a version of the models that had those additional HCCs so that had 83 HCCs versus 79. In addition, we expanded, and so we, instead of calibrating on this single community segment, we expanded to all calibrated to all of full risk segments.

Encounter Data
Shruti Rajan, CM
Monica Reed- Asante, CM

As a result, we had three models that we moved forward with and provided information for, in part one of the notice, and something that we do want to highlight, because we've gotten a number of questions about it, is the version of the model. We use the same clinical version of the model for all of these models, and so the 83 HCC model that had those additional diagnoses that I talked about for mental health and substance use disorders and CKD 3, that's the basis for all three of these models. And the models are structurally similar. You know, they have demographics, HCC interactions, and, of course, where they differ is the count, what's being counted. So, you have the payment count and the HCC count model.

The count within the models functions the same, in that it's yes or no. The beneficiary either meets the criteria or not. They're mutually exclusive. We did start the condition counts based on statistical significance and having a positive estimate. And then we capped the counts based on the number of criteria, including when the count was no longer statistically significant. But this is an area where we also had a fair amount of conversation with clinicians, and it was pretty consistent that when the condition count gets to a certain number, making that clear distinction between one count from the next is not clinically meaningful, and so most of the clinicians that are around 15 -- 15 conditions is where, you know, the beneficiaries is so sick or their disease profile is so dense that making the distinction between 15 and 16 and 17 is actually not clinically meaningful, and so we took that into account when we were considering where to cap the counts.

And so for 2019, we finalized the updated model that incorporates the additional conditions, as well as the technical updates I discussed, updating the underlying data and aligning the filtering of the diagnoses. We did not finalize a count model for 2019, but we did express our intention to implement the payment count model in 2020 to be consistent with the requirements in the 21st century Cures Act.

Encounter Data
Shruti Rajan, CM
Monica Reed- Asante, CM

So, I'm going to change tracks a little bit here and talk about ESRD. We felt we would be remiss not to talk about ESRD since it's been a long time since we've updated this model. And the 21st century Cures Act allows for ESRD beneficiaries to enroll in MA, starting in 2021, and so this is beyond the current parameters in which an ESRD beneficiary can be in MA, so this would allow switching from fee-for-service to MA. And with that in mind, we thought that it was an important time to update the ESRD model. It hadn't been updated since 2012, and we thought that it would be important to have the more current expenditures and the more current experience and get used to that prior to 2021. And so, for 2019, we are going to implement the updated version of the model. The model is based on 2014 data, 2014/2015 data. And the only change that we made to the model was to update the application of Medicaid, such that it's concurrent, and this is really to align with how we apply Medicaid in Part C.

So, we received a fair number of questions for 2019 about encounter data and risk score calculations, how we're going to do the blend, which models we're going to use, and so the next couple of slides go through that in detail. So, this slide highlights that we will be incorporating encounter data into the risk score calculations for all of the models, with a blend of 25% of the encounter data-based score, and that will be supplemented with RAPS inpatient diagnoses, as well as including fee-for-service where applicable, blended with 75% of the RAPS-based scores, and this is with the exception of PACE, where we will continue to use diagnoses from all three sources in equal measure without weighting.

Okay, so we're providing this slide, really, as a reference, because, again, over the course the last month or so we've gotten a number of questions just asking for clarify about how we're going to calculate the database risk scores, really specifically for Part C, and so for Part C we will calculate the encounter data-based risk score exclusively with the new risk adjustment model, so we will only be using the 2019 CMS agency model to calculate the encounter data-based risk scores, which will be

Encounter Data
Shruti Rajan, CM
Monica Reed- Asante, CM

supplemented with RAPS inpatient. And we will maintain the use of the current version of the risk adjustment model, the 2017 CMS agency model, to calculate risk scores with RAPS data, and then we'll apply the blend based on those models.

For ESRD we're going to use, as I mentioned, the updated version of the model to calculate dialysis and post-graft scores, and for Part D we are going to continue to use the 2018 Rx HCC model to calculate risk scores for 2019. And so for ESRD and Part D, we're using that single version of the model to calculate the encounter data on the RAPS-based score, so we'll calculate using that one version of the model. The RAPS based scores, we'll calculate the scores and then we'll blend them. And, of course, as I mentioned, for PACE, we're going to continue to use the diagnoses from the three sources, including encounter data in equal measure, without weighting.

So, we also wanted to highlight the risk score run schedule. We extended deadlines for encounter data, really, to support stakeholders having additional time to review reports, and for submissions. We extended the encounter data deadline for 2016. In addition, we extended the encounter data deadline for 2017. And for 2017, we also extended the RAPS deadline due to data submission delays that were faced because of extreme weather conditions.

Recently, we also released the memo that we typically release annually, so we wanted to highlight that. That has the runs for the upcoming payment year, and so we recently released the memo that has the runs for 2018, 2019, and 2020. It includes an indication for whether or not we're including encounter data, which we are for these runs, as well as the submission deadline. And then we also recently released the 2018 risk score rerun memo that outlines all of the runs, the reruns that we're going to be doing for the year, and we will continue to send the 30-day head's up memos that we do with the deadline.

Encounter Data
Shruti Rajan, CM
Monica Reed- Asante, CM

Another area that we wanted to highlight are the model output reports. We did, when we were starting the encounter data blend, receive a fair amount of input from stakeholders, and we internally also felt that it was important to have separate MORs for the encounter data-based risk scores, and so we did develop separate MORs for every separate year in which we're applying the blend.

I do want to do a little plug for our April webinar that we completed, where we went through all of the MOR record types for the payment years in response to questions that we received. So, there's information there, as well as these memos, and the plan communication user guide has also been updated, and it indicates for each payment year which model output report we're going to be using. So, that was our model development year in review.

We also wanted to take a couple of minutes to talk about ongoing research that we're doing and next steps, some of which is building off of the work that we did to develop the Part C model for 2019 that we'll be using to calculate the encounter data-based scores, and one of those things are evaluations. The 21st Century Cures Act requires that we complete an evaluation of the CMS HCC model, as well as the ESRD model, and that's due at the end of the year, and it will include a host of predictive ratios. We anticipate that it will be fairly similar to the evaluation that was released in 2011 and that it will include predictive ratios for various groups, various levels of risk, and chronic conditions.

And then lastly is our ongoing research for ICD-10 for future model calibration. This is another area where we know that there's a lot of interest, and we have received a lot of comments on calibrating the model in ICD-10. We are fully aware that it's going to require a full-sum evaluation of the mappings for the HCCs and the Rx HCCs. We, you know, understand that there's probably going to be some reclassification

Encounter Data
Shruti Rajan, CM
Monica Reed- Asante, CM

that's going to be required because of changes in the clinical concepts between ICD-9 and ICD-10, so we're starting this work. This is definitely an area, when I went through the model development steps, where we're really going to probably spend a fair amount of time analyzing the coefficients and ensuring their stability, so this is something that we are working on.

And so that concludes our presentation. We do want to take a moment to thank our team, the Policy Team, and the Operations Team, for all of the extensive work that they did in developing the models and the encounter data work over the course over the year, and the work they continue do. So, thank you.

Kaye Rabel:

Okay. Thank you, Shruti and Monica for the update on Medicare Advantage Payment Activities. It is now time for us to go ahead and evaluate our first session, so if you would take out your Smartphones and text your response, or go to the poll EV link on your Smartphone, tablet, or computer. If you would like to evaluate this session -- and we encourage everyone to do so -- and you are participating by cell phone, enter "A" in response to the question, "I would like to evaluate this session," and send your response. You will receive via text the following messages, "Hello. Please evaluate this session," followed by the link on the screen. Select the link and you will be taken to the "Poll Everywhere" site. Choose "Start" and you will be presented with the evaluations questions one at a time. Select your answer and click "Next" to advance to each question. Submit your response by choosing "Finish."

If you are participating via the internet, when prompted by the moderator, choose "Yes" in response to the question, "I would like to evaluate the session," and you will be presented to the link to evaluate the session. This link appears quickly at the top the screen in green, so go ahead and click on that link. When the next screen appears to start, and you will be presented with the evaluation questions, and then go ahead and select

Encounter Data
Shruti Rajan, CM
Monica Reed- Asante, CM

your answer and click "Next" to advance to the next question. Submit your responses by choosing finish.