Hospital Inpatient Quality Reporting (IQR) Program

Inpatient Value, Incentives, and Quality Reporting (VIQR) Outreach and Education Support Contractor

Overall Hospital Quality Star Ratings: Impact of the CMS Exception

Presentation Transcript

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Candace Jackson: Good afternoon. Welcome to the *Overall Hospital Quality Star Ratings: Impact of the CMS Exception* webinar. My name is Candace Jackson, and I am with the Inpatient Value, Incentives, and Quality Reporting Outreach and Education Support Contractor. I will be hosting today's event. Before we begin, I would like to make a few announcements. This program is being recorded. A transcript of the presentation, along with a question-and-answer summary will be posted to the inpatient website, www.QualityReportingCenter.com, in the upcoming weeks. If you are registered for this event, a link to the slides was sent out a few hours ago. If you did not receive that email, you can download the slides. Again, that is at www.QualityReportingCenter.com. This webinar has been approved for one continuing education credit. If you would like to complete the survey for today's event, please stand by after the event. We will display a link for the survey that you would need to complete for continuing education. The survey will no longer be available if you leave the event early. So, if you do need to leave prior to the conclusion of the event, a link to the survey will be available in the summary email one to two business days after the event. If you have questions as we move through the webinar, please type the questions into the Ask A Question window with the slide number associated, and we will answer questions as time allows after the event.

Our speakers for today's event: Dr. Michelle Schreiber is the Deputy Director for the Center for Clinical Standards and Quality, the Quality Measures and Value-Based Incentives Group, for the Centers for Medicare & Medicaid Services. Dr. Arjun Venkatesh is the project director, and Steven Spivak is the project lead, from the Yale New Haven Health Services Corporation Center for Outcomes Research and Evaluation.

The agenda for today's webinar is to provide an overall star ratings introduction and background, to address the impact of the CMS exceptions related to the overall star ratings, and to provide information on the 2022 star ratings implementation.

This slide lists acronyms and abbreviations used in today's presentation.

I would now like to turn the presentation over to Dr. Schreiber for our opening remarks. Dr Schreiber, the floor is yours.

Michelle Schreiber: Thank you very much. Good afternoon to all of you on the call today. I am not a recording. I am doing this live, which means you may hear my dogs or other noise in the background, for which I apologize up front. As noted, I'm the deputy director of the Center for Clinical Standards and Quality at CMS. I'm also the director of the Quality Measures and Value-Based Incentives Group. I'm a primary care physician by background, and I have a lot of experience as a chief quality officer and a chief medical officer in my career. We're delighted for you to join us today. This is the fifth National Provider Call we have held on the hospital star ratings. It represents the most recent in a long history of CMS efforts to engage stakeholders in the development of the reevaluation and the implementation of the hospital stars ratings. This National Provider Call is unique for a couple of reasons: This is the first time that the underlying measures included in the star ratings are impacted by COVID-19. The focus of this call then is how star ratings performs when substantial changes are made to the underlying data. This NPC is also different because we are not proposing any changes to the methodology, as in some cases on prior calls. The goal today then is to familiarize participants and address potential concerns by hospitals regarding the impact of the COVID-19 pandemic on star ratings. Although the 2022 star ratings, which is what we're talking about today, is calculated using July 2021 Care Compare data, most of the measure period for the measures included in the start ratings did occur prior to 2020. In addition, if you'll recall, CMS exempted data from quarters 1 and 2 of 2020. So, it's important to be clear that 2020 star ratings are more likely to be impacted by the CMS data exception for those two quarters that was implemented to reduce burden and reduce the pressure on hospitals early in the pandemic than data that actually reflects COVID-19 performance. CMS remains committed to transparency and public reporting throughout the pandemic.

As many of you know and saw in rule writing last year and in the proposal for IPPS this year, CMS looks at every measure and has made recommendations, in some cases depending on the measure, for measure suppression or for different scoring methodologies so that hospitals were not penalized for events outside of their control. This was done in particular for payment programs; however, CMS has been, throughout the pandemic, committed to continuing public reporting and to supporting transparency so that we're providing information and informing consumers regarding quality.

As I noted, we evaluate every measure, every program, and every payment incentive in light of the pandemic. We believe that the star ratings still meet the original objective to summarize and make accessible hospital quality information from individual measures that are still reported on Care Compare. We're also committed to continuing to report star ratings during the pandemic to the best of our ability. We will continue to evaluate the impact of the pandemic on each measure in the stars program and in aggregate scores. Finally, I would like to take the opportunity to welcome in advance the Veterans Administration hospitals. In 2021, we finalized that the VA hospitals would join when there are enough data available. So, in the future, we look forward to welcoming the VA hospitals into the CMS stars program, although VA hospitals are not in this refresh.

Once again, welcome. On another note, thank you on behalf of all of CMS and HHS. Thank you for your efforts during COVID-19. Hospitals have clearly been on the front line. The providers have done heroic work and thank you so much for all of your efforts. With this, I will turn the conversation over to Dr. Venkatesh. We'll proceed with today's session. Thank you so much.

Arjun Venkatesh: Thank you, Michelle. For those who may be new to the star ratings work or in a new role related to star ratings, we thought we'd briefly review some of the background.

The purpose of the overall hospital quality star ratings was to develop a methodology that could summarize individual measure information that is already displayed on Care Compare in a way that's useful and easy to interpret for patients and caregivers. In many ways, the star ratings serve as a snapshot of hospital quality, based on the existing quality information. This work began as early as 2015, when hospitals around the country participated in a star ratings dry run in which confidential reporting was used to familiarize hospitals with the methodology as well as star ratings. Then, subsequently, we have had multiple updates to methodology with the most recent methodology currently used actively on Care Compare, Version 4.0. We are now proposing to use the same methodology for 2022. The one notable exception that we will discuss today is that the data set for 2022 is the first data set to be changed by the CMS COVID-19 exception.

The star ratings methodology has always been built around a set of guiding principles. We have sought to develop methods that are scientifically valid, inclusive of hospitals that measure information that account for the heterogeneity (or variability) of available measures and hospital reporting profiles, and that can accommodate changes in the underlying measures. This last point is most relevant to today's discussion, as we've always thought to have a methodology that could evolve. At the same time, we have wanted the hospital star ratings methodology to be aligned with Care Compare's overall website, as well as other CMS programs, may they be value-based purchasing programs or other transparency-related public reporting programs. We've also sought to be transparent in our methods. Throughout the entire process, we have vetted these methods across a variety of groups, put them out to the public for comment, and incorporated stakeholder feedback into them.

This timeline shows the evolution of the star ratings. As you can see, this work began in 2015, and the first star ratings were launched publicly in 2016. There have been subsequently six refreshes of the star ratings. Today's data speak to our pending refresh in July of 22, the seventh refresh of the overall hospital quality star ratings.

Along that time, we have solicited a tremendous amount of stakeholder feedback in a variety of venues. There have been eight Technical Expert Panel meetings. There have been two separate work groups convened, one to solicit the patient voice as a patient and patient-advocate work group and another to gather the stakeholder voice through a provider work group. Ultimately. those inputs from the Technical Expert Panels and the work groups were incorporated into a methodology that has been subject to multiple public comment periods and rulemaking.

The current methodology is worth description before we look at the results from the CMS data exception.

The methodology follows seven steps. In step one, the entirety of measures on Care Compare are assessed for inclusion and exclusion criteria to include measures in star ratings. In step two, amongst the included measures, the measures are grouped into five domains or groups of dimensions of quality, including mortality, safety of care, readmission, patient experience, and timely and effective care. Within each of these clinical groupings, a score is calculated to measure group score in step three. The measure group score is a simple average or an equally weighted average of the measures available for each group. In step four of the methodology, each of the available group scores is combined into a single group score as a weighted average with policy-based weight used to emphasize outcome measures over process measures. In step five of the methodology, a reporting threshold is applied in which only hospitals that have three measures in at least three groups, one of which must be mortality or safety, are included for ultimate star ratings. Amongst those included hospitals in step five, step six groups hospitals into groupings or peer groups based on the available quality information. Hospitals that only have data available for three measure groups are in the three measure group peer group. Those with four are in the four measure group peer group, and those hospitals that have available quality measures in all five measure groups are in the five measure peer group. In step seven, a clustering algorithm known as “k-means clustering” is used to group hospitals or classify hospitals into one, two, three, four, or five stars.

Clustering is performed within each peer group, so that hospitals are only compared to other hospitals with similar hospital quality information when they're assigned the ultimate star ratings.

The 2022 star ratings methodology is the same as the methodology used in 2021. That's a methodology that has been vetted extensively and approved in rulemaking. As I mentioned earlier, the methodology was designed to be flexible to changes in Care Compare and measurement periods. What we have found is that methodology was not only durable when previously back tested under the stress test of the CMS data exception, it has really demonstrated the durability of the methods. Today's discussion will be about the underlying changes in the measures and what the impact has been on star ratings. The purpose is for us to be transparent about those changes and explain how that may or may not change star ratings for a given hospital. Of note, there are two timely and effective care measures, OP-30 and ED-2b, that were retired. So, while the methodology remains the same as 2021, the measures included in the methodology do change as Care Compare evolves over time. I'm now going to turn it over to my colleague, Steven Spivak, who's going to walk through the results of our analysis related to the CMS exception.

Steven Spivak: Thank you so much, Arjun. Now, I'm going to transition into discussing the impact of the CMS exception on the underlying measures that are used in 2022 star ratings.

As many of you are probably aware, in recognition of the exceptional impact of COVID-19 on the health system, CMS enacted an exceptions policy in the first two quarters of 2020 data. This is a rarely-used policy that is only ever enacted for extreme circumstances. What this means for star ratings is that it prevents almost all of the measures in 2022 star ratings from using any data between January 1 to June 30, 2020. These six months of data were not used for any aspect of quality measurement, such as defining the measure cohort, assessing the measure outcome, or even for risk adjustment.

So, just to delve a little bit deeper into the impact of the CMS exception on star ratings, as I mentioned in the previous slide, there's actually only one measure out of the 46 measures in 2022 star ratings that use any data from the first two quarters of 2020. In order to account for this CMS measure exception, each individual star ratings measure uses one of two approaches. So, they decided to simply exclude the first two quarters of 2020 data from the measure. For example, if that measure normally had a measurement period of 12 months, they excluded those six months of 2020 data. That measurement period now went from 12 months to six months, or they reused historical data and, in some cases, the entire measurement period that was included in the 2021 star ratings was reduced for 2022. So, next, what I'm going to do is I'm going to walk through what each measurement period looks like for the individual star ratings in 2022 to give you all an idea of what exactly the impact of the CMS exception was on the underlying data.

So, the next five slides that I'm going to go over are all formatted the same way. What you see here is that we're reporting each measure by the measure group it's included in, the normal reporting period for that measure if the CMS exception had not been in place, the actual reporting for that measure for 2022 star ratings (because of the impact of the CMS exception), and the number of months that will be reported for that measure versus what normally would be reported had the exception not been in place. So, starting with the mortality measure group, here, what you can see is that every measure is approaching the CMS exception in the same way, and they're doing this by removing data. So, I'll walk you through an example. For AMI mortality, this is normally a 36-month measure. So, if CMS had not enacted the exception for the first two quarters of 2020, then the reporting period for AMI mortality would have been from 3Q 2017 to 2Q 2020; however, 1Q and 2Q 2020 are exempted from measurement. In addition to that, none of the mortality measures are actually even able to include December 2019 admissions because, if you do that and you look out 30 days, now you're starting to include some January 2020 data to assess the outcome, which is not allowed, which the CMS exception prohibits.

So, in essence, what we're seeing for each of the mortality measures is that they're reporting seven fewer months of data than they normally would, had the CMS exception not been in place.

For safety, we see a little bit of a different pattern than for mortality. So, here, with the HAI measures, they decided to reuse some data to be able to report the full 12 months. So, normally, the HAI measures would include data from 4Q 2019 to 3Q 2020; however, because the first two quarters of 2020 again are exempted, the HAI measures decided to reuse data from the second and third quarters of 2019. These two quarters of data were also included in the HAI measures as part of 2021 star ratings; therefore, for HAI, they're using a blended model by combining some old data that were used in 2021 star ratings, but they're also appending on top of that some new data, specifically 4Q 2019 and 3Q 2020. So, there's six months of new data and six months of data that were part of 2021 star ratings for HAI. On the other hand, the hip/knee complication and the PSI 90 measures are using the same approach as the mortality measures and removing those latter portions of their measurement periods that cannot be used.

For readmission, it's again the same story as we saw for mortality for nearly every measure in the measure group. So, I'm not going to walk through those in great detail, but I do want to note that the outpatient readmission measures, those last four that you see in this table, they're generally unaffected by the CMS exception. That's because their normal reporting period predates 2020 data, so they don't have to worry about the impact of the exception on the first and second quarters of 2020. Just of note, a couple of the measures, like OP-35, they assess readmissions into January 2020 data similar to many of the other measures. Because of that, they're removing December 2019 admissions. So, there is a slight reduction in the measurement period for those two measures.

For patient experience, it's really pretty straightforward. This measure group is composed of only the HCAHPS measures.

The HCAHPS approach was to reuse the same data that was used in 2021 star ratings, as opposed to some of the other approaches that I just walked through, like using some old data and then appending some new data or using only six months of new data and having a shorter measurement period. So, hospitals should be aware that their patient experience star rating scores will be based on the same data that were used in 2021 star ratings.

Lastly, we have timely and effective care. Again, I think for time purposes, I'm not going to walk through all these measures because there are a lot. What I really want to highlight is that the majority of these measures remove the first two quarters of 2020 data from the measurement periods and are, therefore, reporting six months instead of the 12 months they would normally report. Now, three of the measures in this measure group are not impacted by the CMS exception. You see OP-29 and OP-33 here. Their data predated the exception, and they're using all 12 months of data. Yet, there is one measure which I mentioned earlier in the presentation, IMM-3. This top row is a measure of staff influenza immunization rates, and that's the only measure that includes some 2020 data for the first quarter. That's because CMS did not feel that the staff influenza immunization rate is something that should be significantly impacted by the presence of COVID-1p. That staff should still be getting immunized for influenza.

To sum all of this over, as you all saw, the measures in each measure group handle the CMS exception differently. As a result, some measure groups have more or less data missing than what would normally be reported had the exception not been in place. For example, for mortality, 18 percent of the normal amount of data that we would have are missing because of the exception. For safety, this value is seven percent. For readmission, it is 14 percent. Again, no data are missing for patient experience since they're reusing the same data that were used in 2021 star ratings. For timely and effective care, we're missing 41 percent of the data, but I think, you know, that it is important to note that, although timely and effective care is missing by far the most amount of data, this measure group is also worth the least when calculating star ratings.

It's worth 12 percent of the overall star rating score, as opposed to all the other measure groups, which are worth 22 percent of the overall score.

So, for the rest of the presentation, I'm now going to walk through our analyses that examine the impact of the CMS exception on 2022 star ratings and the reduction in the amount of underlying data that is available for the measures used in star ratings.

In order to analyze the impact of the CMS exception, we really wanted to make sure that we were thinking about all the different aspects of star ratings that may be impacted by having less measurement data available than what we would normally have. So, this included looking at issues like whether fewer numbers of hospitals are receiving a star rating, if there are important shifts in the distributions of star rating scores, if the percentage of hospitals with measure group scores decreased because there's less data available in underlying measures, if hospitals are changing peer groups, and if the types of hospitals receiving star ratings changed. For all of these questions, we examined them in the same way in that what we did is that we looked at 2021 star rating scores, which, again, occurred prior to the CMS exception, and included all the normal amount of data, and we compare those 2021 scores with 2022 star ratings data.

So, starting with the distribution of star ratings, as you can see in 2022, 234 fewer hospitals received a star rating than in 2021. At first it may appear that this dropped these 234 fewer hospitals to get a star rating. This is because there's a reduced measurement period caused by the CMS exception. We cannot deny necessarily that some of that is in fact true, but we do want to point out that, over time, the number of hospitals that have been receiving a star rating has decreased steadily. That could possibly be also due to other policies that are happening in place, things like mergers, consolidations, acquisitions. So, for example, in 2019, 3725 hospitals got a star rating. This number then dropped by over 100 hospitals to 3603 in 2020. That then dropped to 3355 in 2021, which then now dropped to 3121 in 2022.

So, we see a pretty steady trend over the last four years that between one to 200 hospitals each year dropping out even prior to the exception being in place. When we look at the overall distribution of star ratings for 2021 and 2022, the number and percent of one, two, three, four, and five star hospitals, we see that they were nearly identical for both years. As is always the case with star ratings, the majority of hospitals ended up receiving between two to four stars.

We then examine the distribution of star ratings by peer group to understand if certain hospitals were more or less likely to experience changes in their star rating scores. So, in this table, what we have is the number and percent of hospitals with one to five stars for each peer group for both 2021 and 2022. There's a lot of data in this table, so I'm not going to walk through each individual value or each individual cell. Instead, what I want to do is really highlight the main takeaway points of this analysis, which is that peer groups three and five have almost identical scores for 2021 and 2022. In other words, almost identical percentages of hospitals in each peer group are getting one, two, three, four, or five stars. For hospitals in peer group four, a larger percentage of them are getting four or five stars in 2022 than they were in 2021.

For the next five slides I'm going to go over, they're very similar in format. What we did is we looked at the percentage of hospitals in each peer group that reported a measure group score. The idea behind these analyses is that some measure groups, like timely and effective care for example that we saw, they had substantially less data available than normal in 2022. Therefore, some peer groups may be less likely to report these measure groups in 2022 than they did in 2021 because there are less data available. So, here on this graph, what we're looking at is the mortality measure group. We see that the results are pretty much identical for all three peer groups for both years. For example, 90 to 91 percent of hospitals in peer group three have mortality group scores in both years. In peer group four, this goes up to 97 percent. Then, in peer group five, all hospitals have a mortality group score for both years.

The story is a little bit different for the safety measure group. Again, no real difference in reporting rates for either peer group four or peer group five, but, for peer group three, those hospitals that did get a star rating in 2022 were more likely to have a safety score than in 2021. That may seem a little counter-intuitive, that hospitals in peer group three would be more likely to report safety scores in 2022 when there's less data available in 2022; however, what we're seeing in 2022 is that fewer hospitals are included in peer group three in 2022 than in 2021. I'll talk about exactly how many fewer a little bit later in this presentation, but the important thing to note for this slide here is that the hospitals in peer group three that are still getting a star rating in 2022 are reporting more measures on average than hospitals in peer group three in 2021. This makes sense because those hospitals in peer group three that were maybe on the borderline of having enough measures to get a star rating in 2021 were then the likeliest to fall out of star ratings in 2022 once less data become available. So, those hospitals that are left in peer group three in 2022 were the ones that were reporting more measures to start.

For readmission, all hospitals had a readmission measure group score for both years, and this is largely because the hospital-wide readmission measure is included in this measure group, and almost every hospital in the country has a score for this measure. So, no changes here between 2021 and 2022.

For patient experience, we see a similar pattern that we saw for safety. So, identical reporting rates with almost all peer group hospitals in peer group four got a score for patient experience. All hospitals in peer group five got a score for patient experience in both years. For peer group three, a majority of these hospitals do not have a patient experience measure group score in either year, but the percentage more than doubles from 20 percent in 2021 to 43 percent in 2022.

Lastly, for timely and effective care, nearly every hospital has a measure group score for both years. It's important to mention this because, as you recall, the timely and effective care measure group is missing 41 percent of the measurement data that would normally be available.

So, even with this much data missing, almost every hospital is still receiving a score for this measure group in 2022.

Shifting now to discussions about peer groups: As a reminder, hospitals are assigned to peer groups based on the number of measure groups with at least three measures. Therefore, if you reduce the amount of data in the underlying measures, that could then decrease the number of measures that hospitals report, which could then, in turn, cause hospitals to shift down a peer group. For example, let's say a hospital was in peer group five in 2021, but it only reported three measures in the readmission measure group. If, in 2022, they then no longer report one of those three readmission measures, that hospital would then drop from peer group five to peer group four. Looking at the data here starting from the left to the right, we'll see that in the blue shade here, these are hospitals in peer group three. In 2021, 337 hospitals were included in peer group three, and that number dropped to 228 in 2022. For peer group four, the number of hospitals in that peer group decreased from 551 in 2021 to 490 in 2022. For peer group five, the number of hospitals dropped from 2465 to 2403. Not surprisingly, those hospitals that were reporting the fewest measures to begin with were then most at risk to either no longer get a star rating at all or, if they did, drop down the peer group.

In this table, we're presenting more of this peer grouping information but in a little bit of a different way. Some of you may be unfamiliar with the format of these data, but this is a reclassification table. It examines how hospitals shifted peer groups between 2021 and 2022. The highlighted diagonal cells represent hospitals that did not change peer groups from 2021 to 2022. For example, starting in this bottom right orange cell for peer group five, you'll see that 97 percent of hospitals that were in peer group five in 2021 stayed in peer group five in 2022. Those that did not, three percent, or 65, dropped from peer group five to peer group four. Only four hospitals dropped from peer group five to peer group three. Moving up one diagonal row, 87 percent of hospitals in peer group four in 2021 stayed in peer group four in 2022. Nine percent of those hospitals dropped from peer group four to peer group three.

Sixteen hospitals, or three percent, moved up from peer group four to peer group five. Finally, for peer group three, 97 percent stayed in peer group three. Four hospitals moved up to peer group four. One hospital moved up to peer group five. The takeaway of this slide and the reason we're presenting this is that it's important to note that over 95 percent of hospitals stayed in the same peer groups in both 2021 and 2022. Those that did move were more likely to shift down than up a peer group, which makes sense, because there were less data available. The shifting in peer groups was most common proportionally for hospitals in peer group four.

Finally, I want to go over a couple of slides to compare hospital characteristics between 2021 and 2022. The idea behind these analyses is to determine if the decrease in the number of hospitals with a star rating in 2022 means that it's now a different type of hospital that's getting assigned a star rating in 2022 compared in 2021. In this slide, we're looking at the number of hospitals with a star rating, and we're looking at a couple of different characteristics: geography (northwest, Midwest, southwest), urban or rural hospital, and bed size (smaller 1–99, medium 100–199 or 200–299, larger hospitals 300–399 or 400 or more). What we see is that there are slightly larger numbers for almost every category in 2021 than in 2022. That's to be expected because more hospitals got a star rating in 2021, but, overall, the values are very similar, especially proportionally for both years.

When we look at other characteristics, like critical access status, safety net status, or teaching status, we see the same thing. Right? Slightly larger numbers are in each category in 2021 than 2022. Proportionally, it looks the same. The takeaway result for these two slides is that it provides support for the notion that the types of hospitals that are receiving star ratings in 2021 and 2022 are almost identical. It's the same types that have historically always been getting star ratings.

Finally, we want to highlight a couple of implementation dates for 2022 star ratings. In May, we'll be starting the 2022 star ratings preview period. That's going to run through June. Then, we'll be releasing 2022 star ratings on Care Compare in July. Thank you again for your time.

We're including some other resources here in case you'd like to reference more about the star ratings methodology or submit questions to our team. Now, I'm going to turn it back to Candace.

Candace Jackson: Thank you, Steven. Thank you, Arjun and Dr. Schreiber, for presenting today. As we stated earlier at the beginning of the webinar, we will have time for a brief question-and-answer period. Note that we may not be able to get to all the questions that were submitted today, and we may not be able to always give a very definitive response to your questions. However, remember that all questions, whether they were responded to or not, will be made available and posted at a later date. So, we will go ahead and get started with our first question. I know, Steven, you had just said this, but maybe we can reiterate because we received a lot of questions asking when will the preview overall star ratings HSRs be made available to hospitals.

Arjun Venkatesh: Hi. Arjun here. I know there are quite a few questions around this. I believe the exact date is that the HSRs go out on May 18.

Candace Jackson: Thank you, Arjun. Since we were just talking about peer groups at the end of the presentation, we received quite a few questions on that. Several submitters are asking if you could define what a peer group is, how the hospital is assigned to a peer group, and how do they know which peer group they are in.

Arjun Venkatesh: You know that peer grouping was introduced into the methodology in the prior release. Prior to that it was vetted and developed in partnership with stakeholders in our work group, our Technical Expert Panels, and put through the rule making process, as well. So, peer grouping overall desires to make comparisons between more like-to-like hospitals. Over the years, since the inception of star ratings, several hospital stakeholders had been concerned that, for example, a critical access hospital may be compared to a large teaching hospital or that hospitals in rural areas are compared to those more urban areas. What's challenging is, as we went through that process of trying to determine how to peer group hospitals, there are very few variables where there's consistent, easy definitions that are easily available and really help us get hospitals into more of a like-to-like comparison.

The variable that CMS ultimately implemented in the star ratings methodology was peer grouping based on available hospital quality information. What we found is, if we grouped hospitals by the number of measure groups that they report, amongst the five groups (mortality, safety, patient experience, and so on), if a hospital had three measure groups, or four measure groups, or five measure groups, and we separated along those lines, we were able to identify different types of hospitals when it comes to both probably case and service mix. We found that the difference between hospitals with four measure groups and five measure groups, for example, was the presence and absence of many safety of care measures, and often, the safety of care domain, which also often correlated with their location, their critical access status, and their teaching status. So, CMS finalized in the prior rule to begin peer grouping of hospitals so that hospitals, before they receive a star rating in the methodology, first grouped three separate from four separate from five. Then, the clustering algorithm is applied, so that hospitals in a given peer group are only compared to other hospitals with the same number of measure groups when their star ratings are assigned. That wasn't changed in the current release. This current methodology uses that in the same way as it was done in last year's release. The actual peer group can be found by a hospital on their HSR. I don't have it in front of me exactly, but we can make sure we detail that in the follow-up instructions. There's always a Hospital-Specific Report User Guide as well that details how you can see your hospital's peer group.

Candace Jackson : Thank you, Arjun. We'll do a couple more questions that have been submitted on the peer groups. The first one is: Has there been any further discussions of making peer groups more meaningful, such as true academic versus community versus safety net hospitals versus critical access hospitals and so forth?

Arjun Venkatesh: That's a good question. It sort of goes back to a lot of the discussions that happened around this prior to the implementation of this change, as well as listening sessions that CMS had. What happened at the time was CMS solicited ideas for potential variables that could be used for peer grouping, and I think it received at the time almost 30 different suggestions.

What we found as we began to do analyses is that many of these suggestions can often work well for maybe defining 2,000 or 3,000 hospitals, but, in order to really be able to reliably apply variables across the entire universe of hospitals that are on Care Compare, we needed to have variables with very clear specifications, easy availability, and that were fairly stable over time. What happened as we evaluated these variables is we found that certain things are fairly stable over time while others may be less so. Some things are not actually available for every hospital in the country and, more importantly, that a given hospital may actually carry several of these characteristics. So, it can often be confusing if, say for an example, there is a smaller community hospital that has a strong teaching program versus a large urban hospital that may not actually have as many teaching programs within it, or the same breadth of service mix, or even case mix. Ultimately, that's how CMS decided to use hospital quality information because that's sort of inherent to the star ratings, where we're comparing how hospitals fare on different quality measures. Yet, I know CMS has sort of signaled in a variety of ways before that they'll continue to take feedback on both new variables and new ideas, as the sort of peer grouping aspect of the methodology evolves.

Candace Jackson: Thank you, Arjun. That was a wonderful explanation. I'm going to change topics and go back to the preview periods and reports. The submitter is asking, "How are facilities using the preview period? Is it only to double check the calculations?"

Arjun Venkatesh: You know, I could speak to a little bit of that, and I'll then see if CMS wants to add anything. The use of the preview period is something that goes even far beyond star ratings. That's been used for individual quality measures for quite a bit of time. I think probably facilities, from what we've heard in stakeholder sessions, use these preview periods in a variety of different ways. One is certainly as the question said, you mentioned, to sort of check results.

Another could be to be able to forecast and get a better idea of what is going to be publicly reported before it's publicly available. Use it as an opportunity to engage with staff within a given facility.

It also gives facilities a chance to sort of digest the information and understand the flow of calculations in the flow of data. Once it is publicly reported, these results are communicated to leaders within the hospital, clinicians, and others, and they're sort of prepared to be able to answer any questions.

Candace Jackson: Thank you, Arjun. We have a couple more questions here. For quarter one and quarter two 2020, the submitter thought reporting was made optional. Could data still trickle into the star ratings if hospitals reported them voluntarily?

Arjun Venkatesh: No. To my knowledge, the sort of implementation of the data exception has been that, across all measures, no data during those periods are used in the actual measure score calculation that is publicly reported. It's possible for something, particularly like claims-based measures where there are data because claims did occur during that time period, that may have been used for testing, evaluation, to understand the impact of COVID-19, but the actual data that are used for the specification, calculation, reporting of measures, to my knowledge, for all the measures included on Care Compare, and then, therefore, sort of downstream, everything in star ratings, does not include data from that time period.

Candace Jackson: Thank you. Our next question may be one that I don't know if you'll be able to answer, Arjun or someone from CMS. If not, we can provide the response when we post, but this question asks, "Can anyone explain why CMS only excluded the first two quarters in 2020? That was when the pandemic was bad on the coast, but those of us in the Midwest got hit bad at the end of 2020."

Arjun Venkatesh: I'll defer to the CMS team on that one.

Tyson Nakashima: Hi. This is Tyson Nakashima. I am the acting co-lead for the star ratings program right now.

You know that that conversation happened at the administrator level, and I think we might have to come back and provide a follow-up on this one. I was not personally involved in those conversations.

To be honest with you, it kind of came as a surprise to me and to some of us when they actually made that decision. We'll try to follow up with that in the notes for this meeting.

Candace Jackson: Thank you, Tyson. Thank you, Arjun. Before we move off of the exception, we have one more question here: Will the data time frame for the CMS exceptions be the time frame that is reported on Care Compare?

Arjun Venkatesh: I'm hoping this answer will address this. The data that are being used for the refresh of star ratings in July 2022, as a reminder, are based on the Care Compare refresh of July 2021. So, the data periods and the measure scores at the individual measure level being included in star ratings have already been publicly reported. Those data periods are already publicly reported. So, none of that will change. Certainly, you know other things that are sort of posted alongside the star ratings as support documents will also list sort of an inventory of all the measures. These are the data periods for those measures sort of in support of each refresh of the methodology.

Candace Jackson: Thank you. Our next question: The January 2022 preview report that we received does not have the same reporting period in most of the measures. Are you going to send another preview report, something that will actually reflect what will be on the Care Compare refresh? For example, PC-01 on the slide presented covers quarter four 2019 and quarter three 2020, but, on the preview report, it covered quarter three 2020 through quarter one 2021.

Arjun Venkatesh: So, this is very related to sort of the prior issue. The data set that's being used for the star ratings refresh is the July 2021 Care Compare refresh. So, the January 2022 preview report actually reflects a later refresh of the data. What that means is that the July 2021 refresh was selected for star ratings for a variety of reasons. Not only is that it consistent with sort of prior rule making, but it also minimized or mitigated the impact of the data exception, as well as COVID-19, on the quality scores used for star ratings while giving CMS time to evaluate ongoing reporting refreshes for future star ratings. So, there won't be a new preview report published. You could in many ways think of your July 2021 preview report as your report on individual measures that are now being used in star ratings.

The HSRs that go out for star ratings now in July of 2022 will again include both the measures and the measurement periods of July 2021 that's being used, the data source that's being used, for the star refresh.

Candace Jackson: Thank you. We have time for maybe just a couple more questions. The next question is, "We thought that the pneumonia mortality and pneumonia readmission measures were suspended due to COVID-19. Can you clarify?"

Arjun Venkatesh: I don't want to misspeak on the exact details regarding those measures, but that is sort of with reference to subsequent or future reporting refreshes. The July 2021 pneumonia mortality and readmission measures, which again include really a data period that precedes COVID-19, were not suspended or changed or modified in any way. They're reported with six months less data as a result of the data exception. So, those are still available for use for star ratings.

Candace Jackson: Thank you. Our last question for today: "Can you please describe the distribution of outcomes? What percent are five stars, four, and so forth?"

Arjun Venkatesh: I'm going to pull up that slide to remind myself since it was within the presentation. In general, the distribution in 2022 star ratings is similar to 2021 star ratings with 13 percent of hospitals receiving five stars, 28 percent receiving four stars, 28 percent receiving three stars, 22 percent receiving two stars, and six percent receiving one star. That, broadly, as a distribution, is very similar to what we observed last year as well.

Candace Jackson: Thank you. Could we go to the next slide, please? Again, I'd like to thank everyone for joining us today. I'd like to thank our presenters. As we noted, this presentation is available for one continuing education credit. You can look and find how to get your continuing education by going to the link on this slide. Again, we'd like to thank you for joining us today, and we hope that you have a great day. Thank you.