Centers for Medicare & Medicaid Services
NHSN: Transition to the 2015 Rebaseline Guidance for IRF and LTCHs
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Stephanie: Good afternoon. My name is Stephanie and I will be your conference operator today. At this time, I would like to welcome everyone to the NHSN: Transition to the 2015 Rebaseline Guidance for LTCHs and IRFs. All lines have been placed on mute to prevent any background noise. After the speaker's remarks, there will be a question and answer session. If you would like to ask a question during this time, simply press * and then the #1 on your telephone key pad. If you would like to withdraw your question, press the # key. Thank you.

I would now like to turn the call over to Maggie Dudeck, MPH of Surveillance Branch, Division of the Healthcare Quality Promotion in the NCEZID/CDC. Please go ahead.

Maggie: Thank you so much and thank you everybody for joining us today. Again, my name is Maggie Dudeck. I am the lead for the NHSN Methods and Analytics team, and I am joined here by my colleague, Prachi Patel, who is a public health analyst and epidemiologist on our team. Today, we will be talking about transitioning to the new baseline or what we refer to as the rebaseline with NHSN HAI data and this guidance will be specific to long term care hospitals and inpatient rehab facilities. Next slide.

So before we go into the objectives for today, what I would like to do is to take a quick poll regarding the type of healthcare facility that you are representing today. So please select one of the options that are listed on the poll – long term care hospital, inpatient rehab, whether you are within a hospital or free-standing, those are different, and then we have an option for another healthcare facility type that may not be listed. That will help Prachi and I get a better understanding of the audience and where most people are coming from today.

So again, our discussion today will be focused mostly on long-term care hospitals and inpatient rehab facilities. If you are from another facility type, that is okay; many of these methods and what we will talk about today are applicable to what you may be experiencing in your type of healthcare facility, but we're really trying to focus more in some issues that might be specific to that population.

So I think we have – most people have voted now so I think we can close the poll. It looks like the majority of you are from inpatient rehab facilities within a hospital, as well as a large group from other facility types and long-term care hospitals. Okay.

So for today, our objective, in addition to talking about the new risk models that are applicable to your setting type, we are also going to talk about the use of our standardized infection ratios in relation to the Centers for Medicare and Medicaid Services, their CMS programs. We will also provide a preview of the new application interface and discuss additional resources and some upcoming training events that we will be providing at CDC as well. Next slide.

Okay, again, our target audience is inpatient rehab and long-term care hospitals, but again, if you're from a different facility type, please continue to hang on the line and join us because so much of what we will be talking about today will be applicable to you as well. Next slide.

So before we start talking about what will be changing with the measurement of your HAI data in NHSN, I'd like us to take one step back to review the Standardized Infection Ratio or SIR and our national baseline in general. So many of you are probably aware already that the SIR is actually a summary measure and that summary measure allows us to compare the number of HAIs that a facility reported to the number of HAIs that are predicted to occur based on a calculation that uses data for those HAI events that occurred in a given referent time period.

What I've included on this slide is the basic high level formula for the SIR itself. Now the SIR, as its name details, is a ratio. So there is no multiplier in this calculation, it is simply the number of observed divided by the number predicted. Now previously, we had referred to that predicted number as the number expected. They are the same thing. The term expected is something that infers statistical prediction and we feel like the term prediction is really something that's easier to absorb for those who are using these data and have to communicate these data. So they are one in the same.

That predicted number, that's where the calculation can get a bit more complicated. Because with that, we use the incidence of HAIs during a referent time period or what we refer to as the baseline to calculate the predicted number for a subsequent time period. So think of it as if everything were the same as it was back in this baseline here, how many HAIs would be predicted to occur during our current time period given our patient population and the risk models in place.

But with this SIR, it is only calculated if the number of predicted HAIs is greater than or equal to one and so that is the threshold or the minimum precision criterion that we will use for the foreseeable future. We do know that there are a large number of rehab facilities and rehab units. I think at least 60% that even over the course of a full year may not be able to meet that threshold of one predicted infection and I'm sure some LTACHs could be in the same boat depending on the HAI.

So at CDC and in coordination with our colleagues at CMS, we will be investigating and analyzing the data to determine if a lower threshold could be used and if that lower threshold would be appropriate. But for now, it will continue to be one. Next slide.

So the SIR is also a risk-adjusted measure. So even though it's a summarized measure, it is still risk adjusted. And what do we mean by risk adjustment or why do we risk-adjust? Well, basically, it allows us to take into account predictors of that HAI type and for that setting into our summary measures. It also allows us to adjust the question of and concerns related to the types of patients that may be receiving care. For example, when we look at long-term care hospitals, it may be that well, we have a lot of patients who are on a ventilator or maybe for a rehab facilities it's, well, we have a lot of patients who are spinal cord injury patients, that's a high proportion of

our patients. So by risk adjusting, we're able to take those factors into account, which allows us then to predict more infections in certain cases where there are – there's more exposure of higher risk.

I also want to mention that during this presentation, we may refer to long-term care hospitals as LTACHs or long-term acute care hospitals so those terms are interchangeable to us here at CDC so if you hear us say LTACHs, just know we mean long-term acute care hospitals. Next slide.

There is a basis for using SIRs. First of all because it is a risk-adjusted summary measure, it does allow for scalability. So the example I have here is that we can provide a CAUTI SIR or Catheter-Associated Urinary Tract Infection SIR for either a single LTACH facility or for an entire LTACH corporate group. When we look at data at the national level, what we do is we actually calculate the predicted number at the most granular level first so let's say a unit level and then we roll that out to the national level and it still maintains to be a risk-adjusted measure.

The SIR does require us to use a baseline so that we can measure progress from that point in time and so, therefore, we keep our baseline static for a number of years. Now for folks working in the LTACHs and IRFs, you've only been exposed previously to SIRs for your device-associated infections. So for IRFs it was your CAUTI and for LTACHs it was CAUTIs and CLABSIs and that baseline was 2013 for your SIRs, which is different than what was used for acute care hospitals. Now what we're doing is, we are going to be using the 2015 NHSN data as a new baseline, and so that will be across the board for all facility types and all HAIs for which we are measuring and that means that you'll also have some new SIRs available to you and I'll show you that in a moment.

We know that a baseline has to be updated at some point, so in this case for these two setting types, we updated baseline after two years. We don't project doing that as often as we did. There are a number of reasons to update a baseline, it could be driven by policy decisions, it could be driven by certain goals, HAI surveillance definitions, etcetera. Next slide.

So this is a slide that we've used in a number of our presentations so if you've attended some CDC rebaseline discussions, you've probably seen this table. It basically outlines all of the HAIs for which we are measuring, as well as the setting types. So LTACHs and IRFs basically were analyzed separately from each other, as well as from the other facility types. So what that means is when we're trying to measure CLABSI data for an LTACH, we only looked at CLABSIs that came from LTACHs when we analyzed those baseline data for you.

This entire grid equates to about 200 different risk models that we developed and are implementing in NHSN. And off to the left, we do have the VAE SIR so that Ventilator-Associated Events. Those are actually split out separately for total VAE, which is inclusive of all your VAE events and then we have another model which is IVAC Plus. So some of your more complicated ventilator-associated events are included in those. So those two models are not mutually exclusive, they are their own models, however, and so for long-term acute care

hospitals, we know that you are reporting those data and so you will have SIRs available for those as well.

The other thing I want to point out is we are developing standardized utilization ratios so that's another way of looking at device utilization ratio, but in a standardized risk-adjusted format similar to the SIR. And then for the first time, LTACHs and IRFs will have SIRs for their LabID data specifically MRSA bacteremia and C. difficile. Next slide.

I did want to touch briefly on the modeling approach that we used here at CDC. So as I mentioned we had about 200 risk models, and so we didn't have just one person doing all that; that would take a really long time. We basically had about three months, and in some cases less than that, to develop and validate our models. So we had a team of people, we all used data that were reported to NHSN for January through December of 2015 that were reported to us by May 16, 2016. So essentially, we waited until the fourth quarter CMS deadline for 2015 before we compiled and performed our risk adjustment. We did include facilities from all states, territories, Department of Defense installations, so we did not make any inclusions for those facility types or areas.

And the model for inpatient rehab facility do include both our free-standing rehab hospitals, so if you're enrolled in NHSN as hosp rehab, as well as IRF units meaning you're in an inpatient rehab facility unit, a CMS-certified IRF unit, that's within an acute care setting whether that be an acute care hospital or a critical access hospital. All of our lead analysts applied some – the consistent overarching methods and analytic approach. We had a defined way to go about developing these models and we maintained that consistency to the extent possible for all of the modeling work that we did.

We did have discussions with subject matter experts mostly internal to CDC, but we did have discussions externally as well regarding those factors that were areas of concern or that should be or should not be considered risk factors. Because at the end of the day, we wanted to make sure that we were risk adjusting on factors that were appropriate and could help explain variability in HAI incidents among facilities of different – slightly different patient populations and types. We also performed data cleaning and some outlier detection before we did modeling work so making sure that everything we had was as clean as possible. Next slide.

Okay, so we're going to spend a couple of minutes on this slide and the one following. What this is it is your very high level view of the new risk models that we can expect. This slide in particular is specific to long-term acute care hospitals – LTACHs and what we have on our first column is the risk factor. The columns that follow are the HAI types for which we developed a model and anywhere where there's a checkmark indicates that the factor was found to be significant and it's in a risk model for that HAI type.

So first we have location type. So if you're reporting for an LTACH ICU versus an LTACH ward, we certainly know that a large majority of the LTACH data come from an LTACH ward

location, but even with that being said, the ICUs were still statistically significantly different from their ward counterparts and so that remained to be a significant factor.

Now for CLABSI, CAUTI and VAE, what you'll notice is we have multiple factors being used so that means we are having risk models for those events. Some of you may be familiar with the NHSN Pooled Mean Rates or essentially our benchmark rates that we were publishing every year that will no longer be the case here. We are relying risk models in order to perform these calculation.

The next factor that follow are specific to CDI or Clostridium Difficile Infection and LabID so for LTACHs we are taking into account the inpatient quarterly community onset prevalence rate and the CDI test type. Meaning when we ask, at the end of every quarter, what test type was used to identify CDI in your facility that is being used in the risk adjustment?

The next set of factors that are outlined in the blue box are those that are collected on the annual facility survey. So the annual facility survey is collected once at the beginning of every calendar year and it's retrospective to the previous calendar year. We know that there's a lot of information on that survey that gets into laboratory practice, antimicrobial stewardship, but in the front matter of that survey is information about your facility specifically. So things like the setting – are you a freestanding LTACH or are you within a hospital? Also, the percent single occupancy rooms, so that's a factor when we asked about single occupancy rooms that was found to be significant for CDI only. We also ask about facility bed size and we even calculated length of stay. Now the length of stay was calculated based on the number of patient days for the calendar year divided by the number – admissions for the calendar year as reported on the survey.

Even though that factor is used for all three device-associated events, it may be used in different ways. And what I mean by that is that when we look at factors that are continuous level factors like length of stay or facility bed size, we look at it in multiple ways. We say, well, let's look at if we were to cut it in half at the median, high and low, maybe we want to break up those values by quartiles, and then we see what best fits to predict HAI incidents in that population in those factors. So for each HAI type it may be different. So as we continue over the next couple of months and continue to release details about these models, just keep in mind that those factors may be different.

Finally, we were also able to use information regarding the number of admissions where the patient was on hemodialysis and where the patient may have been on a ventilator. So we calculated the proportions of those. As an LTACH you would enter just the number of admissions and those factors are not mutually exclusive and then we calculate the proportion. What that's getting at is really a proxy measure for the complexity of patients that are receiving care. Of course with VAE, patient proportion of admissions on a ventilator makes sense because it's looking at ventilator-associated events, but it was also significant in cases of CDI and MRSA bacteremia. I do have a link at the bottom there basically, again, those are obtained from our annual survey. Next slide.

Okay, this slide is very similar to the one previously except it is specific to inpatient rehab facilities. So again, this IRF models are inclusive of both freestanding IRFs, as well as those within a hospital. You'll notice here, first of all, that VAE, CLABSI and MRSA do not have any checkmarks. What that means is those are intercept only models. Now CLABSI and VAE are not required to be reported as part of a CMS IRF quality reporting program, but at NHSN, we still wanted to look at those data to see if there were any cases and if we could come up with the risk model. Basically – oh, and I'm sorry, MRSA is reportable, VAE and CLABSI are not. What we have for those are basically intercept only models meaning there are no significant risk factors and so the model could be thought of as just we have this crude rate population that we're trying to predict incidents on for future time periods.

We did have factors significant for CAUTI and CDI. Of course, the community onset prevalence rate for CDI, and then similar to LTACHs we looked at the settings – freestanding or within a hospital, and then we were able to look at the proportion of admissions within each diagnostic category. So these categories are mutually exclusive because for each one of those we say how many admissions had the primary diagnosis of stroke. How many admissions have the primary diagnosis of traumatic spinal cord dysfunction? So we were able to take some of those factors into account. I believe there are a total of seven on the survey and out of those, four of them became significant in one or more models. Next slide.

So one of the questions we receive is will my facility's SIRs change or sometimes we're asked will they go up, will they go down? The answer is yes, they will change. Again, for this setting type you have only your CAUTI SIRs and for LTACH you have CLABSI. Bottom line is they're different because we have different incidents, we have different risk factors and we have a different method of calculating. Next slide.

All right. I'm not going to go through all of the gory details on this slide, but what I do want to point out and reiterate is that for our device-associated infections, we are moving from using a Pooled Mean to calculate the predicted number to models. Negative Binomial Regression Models have been used for other event types like LabID for acute care hospitals and we are now using that for device-associated infections. That allows us to take into account multiple factors for each of the HAI types. Next slide.

This here is really just an example to show why the SIRs or how an SIR may change, this slide is made of fictitious data, they're provided for illustration only and the results that you may see for your facility type and the HAI you are analyzing may be different. Okay? So I say that because not all SIRs will go up, not all will go down and some may not change very much from what you're used to seeing. So this is an example for an LTACH freestanding CAUTI data, one ICU and one LTACH ward, they have an annual average length of stay of 28 ½ days. Why do I mention all that? Because those factors were significant in the CAUTI model.

So on the first baseline, notice that when you compare these two tables the number of infections is the same, the number of device days is the same, but everything else after that is different

because our predicted number is calculated differently so that changes and once that's different everything else changes. We have a different SIR, P-value and confidence interval. Next slide.

So we have shared the new SIRs with CMS already for the 2015 data. We have resubmitted those data and we are moving forward for 2016 and subsequent time periods sending data on the new baseline. We know that these data are not yet available within NHSN and they will be available in January. We did have a delay. But what we're going to spend our next time talking about is what is changing. So can we move to the next slide please?

So as I have shown you, there are data elements that will be changing compared to what you see if you already have an SIR to what will be seen to CMS and on the new rebaseline. So Prachi is going to talk a little bit about how you can review your data and be assured that although you cannot see the exact predicted number of events right now, you can still check other elements. Take it away Prachi.

Prachi: Thank you so much Maggie. Next slide.

So now I'm going to be walking you through how to check your data and kind of going over the new risk adjustments for the various HAI types again and where you can find them and for a certain HAI types likes MRSA and CDI – how we came by them. And to start off, let us begin with checking your data for a long-term care – long-term acute care facilities or LTACHs. Next slide.

So currently facilities will not be able to calculate their own HAI SIRs in NHSN application until the release of the update in January. Keeping this in mind, we'll be reviewing some methods to help you check your data in NHSN before the release.

Now, let me go over some steps to help you in checking your numerator and denominator data for CLABSI and CAUTI. First, it's extremely important to clear all your alerts and to generate your data sets. Generating your datasets helps to ensure that any data that has been recently entered will be included in your data tables. Then run your CMS CLABSI and CAUTI reports. The following CAUTI elements will match what NHSN sends to CMS. The number of CAUTIs or your numerator or the urinary catheter days. The following CLABSI elements will match what NHSN sends to CMS. The number of CLABSI which excludes the MBI-LCBIs and the central line days. The checklist link that I have at the bottom of the slide contains a monthly list of items that have followed will ensure that the correct data is entered into NHSN in a timely manner. Next slide.

Now let me cover again the new LTACH risk adjustment variables for CLABSI and where they are located in NHSN. The CDC location, which can be reviewed at NHSN under the locations tab. The next is facility bed size, which can be reviewed in your 2015 Annual Survey. And finally, length of stay which can be reviewed in your 2015 Annual Survey. Next slide.

Now to introduce the new risk adjustment variables for CAUTI SIR. CDC location again, which can be reviewed in NHSN application under the locations tab. Then we have setting type, which can be reviewed in your 2015 Annual Survey, and finally length of stay, which can be reviewed in your 2015 Annual Survey. Next slide.

Now let us go into a little bit more detail on checking your data. From my examples, and again, this is fictitious data, this is not real data, I'll be reviewing using CLABSI. For numerator check keep in mind that MBI-LCBIs will be removed from the CLABSI SIRs. To correctly count the number of events that will contribute to the CLABSI numerator, you will need to run a CLABSI line list to identify all MBI-LCBIs. Once you've removed those events from your event count, you will have your contributing numerator.

To run a CLABSI line list, you will have to open your device-associated module and navigate to the CLABSI folder. Once you located the All CLAB Events Line List, which in the image to your left I have boxed in red, you would modify the line list for your desired time period. So let's say if you want it for Q2, then to your right, this is an example of what your line list … table will look like. As you can see, all the MBI-LCBIs will be identified with a "Y". Those will be the ones that you need to remove from your numerator count. Next slide.

Now onto your denominator chart for CLABSI. To correctly enumerate the contributing denominator, you will need to run a line list for all summary data. The summary line list is located in the advanced folder. After you run your summary line list data for your desired quarter, you will then add up all the contributing locations to determine your denominator data. I know in this example I have ICU units, but again, this is an example. This does not refer to all LTACHs and IRFs. So in the screen shot, I would add up all my device days for the three ICU locations to compute my contributing denominator. Next slide.

Moving on to CDI LabID and MRSA LabID and how to prepare for the deadline. So first you would confirm that your monthly reporting plan is accurate and there are no outstanding alerts. Then you will use this CMS LabID reports in NHSN to review the number of LabID events and total patient days. Same number of events and patient days you see in NHSN will be submitted to CMS for Q2.

As you can see in the CMS report for LTACHs, you would run the rate tables from MRSA and CDI at LabID. Next slide.

Now let me go over the risk adjustments again, the different variables for MRSA and CDI LabID. We will now have SIRs for both MRSA and CDI. The new risk adjustment variable for LTACH MRSA is proportion of admissions on a ventilator. This is calculated by taking the number of admissions on a ventilator and dividing it by the total number of annual admissions.

Now moving on to CDI, the new risk adjustment variables are inpatient quarterly CO or community onset prevalence rate which can be found in your CDI rate tables that I mentioned in the previous slide. The CDI test type, and as many of you know, this is only entered on a

quarterly basis. So for your Q2, to find your CDI test type, you will look at the June 2016 FacWideIN denominator form. I know by mistake I have 2015, but that was supposed to be 2016 on the slides.

Next is the percent of single occupancy rooms, which is the number of single occupancy rooms divided by the total number of beds multiplied by 100. And finally, like MRSA, the proportion of admissions on a ventilator. Next slide.

Let us review on how to view your facility onset LabID events and patient days. A facility would follow their regular data quality assessments to confirm the accuracy of your data. Run a MRSA or a CDI event line list to review the facility onset events. This event line list is located in the LabID event reporting for MRSA and CDI. Then you would run a summary data line list, like I showed you previously for CLABSI, to perform a manual review of the monthly denominator data, and if you have any questions or if you want any tips, I have a link below and it's called troubleshooting tips for MRSA and CDI. Next slide.

As mentioned before, in the new risk adjustment variables, the CDI test type is only recorded quarterly. This slide is an example of the June FacWideIN summary record of where the CDI test type is located. This CDI test type that is indicated in the summary record will be used in calculating for the number of predicted events. PCR testing should be indicated by selecting NAAT or Nucleic Acid Amplification Test. Next slide.

To review your 2016 Q2 community onset prevalence rate, it's found in the C. difficile rate tables. In the example above, you will run the rate table for CDI LabID data for your desired time period and the box to the right will give the CO prevalence rate for that time period. Next slide.

Now onto VAE. We will also be introducing total VAE SIRs and IVAC Plus in the NHSN application. On this one, I'll only be going over total VAE. The new risk adjustment factors for total VAE SIRs are location type like ICU or ward, which you could review in your facility locations. Then there's setting type, this is located in your Annual Survey, then there's facility bed size, again, in the Annual Survey, average length of stay – that's in your Annual Survey. The percent of annual admissions on a ventilator, which is calculated by the number of admissions on a ventilator divided by the total number of annual admissions and the percent of annual admissions on hemodialysis, which is similar to the calculation as a percent of annual admission on ventilator. Next slide.

To review your VAE events and ventilator days, you will follow your regular data quality assessments to confirm the accuracy of the data for VAE, you would run a rate table for ventilator days and this will give you the number of event days and your VAE Count. Next slide.

Now let us continue on to inpatient rehabilitation facilities or IRFs. Within the next couple of slides, I will just be covering the new risk adjustment factors and where they'll be located. The

example that I've gone over before will be applicable for checking your data for IRF units also. Next slide.

In anticipation for the upcoming deadline, besides the one that was just passed, it is important to clear all your alerts and generate your datasets and then run your CMS CAUTI, MRSA and CDI LabID reports. For further guidance on steps to checking your monthly data, see the guidance checklist I have there before. We highly recommend you run your CMS reports, as shown in the screenshots, for data quality checks. Next slide.

For IRFs, the new risk adjustment variables for CAUTI are setting type, which is in your Annual Survey; percent of annual admissions with a primary diagnosis that are taking from the Annual Survey and it is calculated as the number of admissions with the primary diagnosis which could be traumatic spinal cord dysfunction or non-traumatic spinal cord dysfunction divided by the total number of annual admissions multiply by 100. Next slide.

Moving on to MRSA and CDI, like LTACH, you will now have MRSA and CDI SIRs. For MRSA, the regression model was without any predictors, which is also known as Intercept Only models like Maggie mentioned. This means that there were no factors found to be statistically significant in the model, in other words, the model without factors.

For CDI LabID, the new risk adjustment variables are location of IRF if it's within a hospital or free-standing, reporting of community-onset events, the percent of annual admissions with the following primary diagnosis. Number of admissions with the primary diagnosis divided by the total number of annual admissions multiplied by 100. So for that we had orthopedic conditions, stroke and traumatic and non-traumatic spinal cord dysfunction. Next slide.

And lastly, and importantly, IRFs that are located within another facility, like acute care hospitals, those IRF events will be excluded from the acute care hospital event count, that they will not be included with those SIR tables.

And with that, I'm going to turn it back over to Maggie to go over some additional resources that we have.

Maggie: Thank you Prachi. Next slide. And let's move on to the next slide. Thank you.

So the team here has been very busy producing and updating a number of materials to educate everybody on the new risk models and some changes to expect. We have the rebaseline website, which you can visit and see a number of materials that we have available already and we will be adding to that as needed. Also, the NHSN quarterly newsletters those – the last one was sent out in September and the next one coming up will be sent at the end of December. So we try to include as many helpful updates as we can. And coming soon, we will be updating existing documents on our website like quick reference guides. We're preparing a rebaseline compendium, which will be including additional details on the risk factors that are included, we will have a new standardized infection ratio guide so it'll help walk you through what the SIR is

and how to interpret that and it can be a useful tool to you at your facilities especially when you have to communicate this measure to others.

As well as, a new user's guide for the Standardized Utilization Ratio. Now we didn't talk about the SUR very much at all today. That is a measure that will not be shared as part of any CMS quality reporting program; that is really just a measure that we have produced for the use by facilities themselves and potentially group users and health departments that are looking – they have some specific prevention efforts in mind, they can use that as a companion to the SIR. Next slide.

Coming up on November 30th, we have a Rebaseline Webinar open to everybody. We did one on October 5th that was very popular. We'll be posting that webinar actually on YouTube any day now and our second one I'll talk about in just a moment.

But then in March, we will have our annual NHSN training. This is a weeklong training that is held at CDC in Atlanta. We bring on 300 people to Atlanta who can join us. Please stay tuned next month for information on how to register for what is essentially a lottery. So we allow everybody to put their name in the pool and then we – how they somewhat random selection of participants. And when I say somewhat, we really try and make sure we're able to get people from every state and area of the country to the extent possible. So please keep your eyes open for that. If you're not able to make it to Atlanta, we will be streaming that entire weeklong training live on the web, you don't need special software, you won't have to register, you can basically log in and see our lovely faces at any point during that week. Next slide.

All right, so our next webinar is November 30th. This will be focused on running new SIRs in NHSN. We've already mentioned that our December release is being delayed until January 7th. With that, in addition to all of the new reports like the new risk adjustment and SIRs, there are changes to the screens. So if you're used to analyzing data within NHSN, and I know all of you are, then you'll definitely notice some changes; so that's part of the intense amount of documentation work the team is doing right now. I have a little bit of screenshots here on it will look. So we'll talk about that, we'll talk about annual surveys and how to put the rebaseline into practice especially if you're needing to compare your data over time.

So the registration link is listed here. We have sent it out twice from NHSN. If you missed it, please send us an email at nshn@cdc.gov and we'll be happy to send that back out to you.

Why don't we move ahead to the next slide please? And this is again linked to additional references and resources for you if you have questions about the rebaseline. We did start talking about this in our December 2015 newsletter, so please be sure to visit that. We talk about background and history of the methods in some of our webinars that we have listed at the top here as well.

So with that, we can move on to the final slide and I'm happy to – Prachi and I can take questions that you may have and we also have a link to our NHSN website if we can push that out, the rebaseline webpage. So let's open the floor for questions.

Stephanie: At this time, if you would like to ask a question, please press * and then the #1 on your telephone keypad. Again, that's * and then the #1 on your telephone keypad to ask a question. We'll pause for just a moment to compile the roster.

Maggie: Thank you. And if it's okay with our organizers here, I would like to, while we wait, maybe answer one question that came in from the Chatbox and somebody asked how do we have SIRs for IRFs CLABSI if they aren't reporting these? We do have a number of inpatient rehab facilities that did opt to report CLABSI data either on a voluntary basis or maybe they had to report as part of a state mandate and so we do have those data available at the national level. And so we did want to make sure we analyzed those and kind of completed the circle of HAI analyses for this baseline.

Do we have any questions on the phone?

Stephanie: Yes, our first question is from Amanda Dolson.

Maggie: Hi Amanda.

Amanda: Hi Maggie. I have two questions. One of them is how often you intend to rebaseline going forward and then the other question is regarding the standardized methodology that you talked about for doing your Negative Binomial Regressions. I was just wondering for our interest in interpreting our SIR and the confidence interval around it, will you be releasing more information about that methodology, details like inclusion/exclusion factors, hospital level attributes and especially the model fit like a C-Statistic or the regression equations – some details like that.

Maggie: Sure. Thank you, Amanda, those are excellent questions. To your first question about how often we would do this – redo the baseline, again, there's multiple factors that are taken into account. I think with this baseline, in particular, the change had been related to not only new HHS action plan prevention goals, but we had new surveillance protocols that, for some cases, like for CAUTI surveillance, were vastly different from the previous year. We also have a much larger set of facilities that are reporting compared to some of our previous baselines used for acute care hospitals. So I – while we have not set anything in stone at all, I think the one thing we have set in stone is that we will not be doing this every single year or even every other year because my goodness, we'd probably have to start planning already. This is something that we started planning I think even in mid-2014, if not a little earlier, as to when we would redo the baseline and it's almost 2017 now and we're just to the point where we're finishing up the implementation of these. So I would project maybe we'll do this again in five years, but it may be a little bit later than that. It just depends on any reasoning that we would have to do that.

To your second question about details about the models – that's an excellent question. Certainly, we know many are interested, and we are as well, in producing and publishing information about parameter estimates. Meaning how much weight do we give to each factor and how is that factor broken out in each one of the models. We will be producing that. Our intent and our hope is that we can actually put out details of those parameter estimates ahead of our peer review publication. That publication we anticipate would be split up by HAI type because there are so many models and each one was approached differently in some cases. So like for surgical site and sections, we look at those differently than we do LabID events.

But you're correct, additional information like exclusion criteria, what are the demographics of the facilities that reported? How did we go about deciding whether we looked at bed size as a continuous factor versus in quartiles. And then on top of that the fit statistics. So in all of this work, what we did is we had a three phase approach to developing these models and that last phase was a statistical bootstrap validation of the model. We had to pass that phase in order to consider anything final for any use including use for CMS quality reporting programs. So we do intend to publish all of that information so that those who are interested in those details, those who are researchers and may want to dig a little deeper into what's being done, they will have that information available. Next question. Anymore on the phone?

Stephanie: Out next question is from Debbie Stricker.

Debbie: Thank you. Can you tell me where you're getting the data for the number of admissions on ventilators? This is for LTACHs.

Maggie: Sure. So that information is actually collected on the annual survey. I believe we do have some guidance on that on what that should include, but to be honest with you I don't have those exact instructions in front of me, but we do ask that on the annual basis for those LTACHs.

Debbie: Thank you.

Maggie: You're welcome.

Stephanie: Your next question is from Beverly Sang.

Beverly: Good afternoon. I have a question in regards to the removing from the pooled mean to the models, and you kind of went around it a little bit, but I want to kind of pinpoint. We do reports to our Board that they are requiring – wanting us to give them benchmarks – what the national means are, and so if we don't have those pooled means and those models are for the IRFs for the spinal, how would I go about doing that. And that might be a question—

Maggie: Of course. Thank you for that question. Could we go back to Slide #12 please? Just so we can spend a little time and have a visual why we talk about that. So yes, another excellent question. So one of the reasons we wanted to move to negative binomial regression model was so that we could take into account a number of different factors. There are certainly some factors

that are broken up more than just a two-way stratification, and so to produce pooled means and to publish those out would be quite cumbersome, especially if we were to look at the acute care side that gets really in-depth.

With that being said, our development team here is working on something that we're tentatively calling a predicted rate calculator. Basically, think of it as this. You can go on to our public website and say I want to know what the national rate is for CAUTI in long-term acute care. But what that will do is it will be an application that would say please tell us more, like what is your length of stay in your hospital, are you freestanding or within a hospital, it would essentially ask you to answer those questions that are related to the significant risk factors in that model and then we would produce the 2015 pooled mean rate for that given scenario.

So when you're talking about something like CAUTI, it would be fairly simple because a lot of these factors are annual level factors that we take into account, and so it's not something that you'd have to go in all the time to get. You can get it once and know this is my pooled mean rate and then further use some statistical tools in our application to get that comparison.

So that will be coming out sometime in 2017 and our hope is that it will be available late spring-early summer. We have some of the work done, but we have to develop that infrastructure and then test it all to make sure the calculations are correct.

Debbie: Thank you.

Maggie: Yep. Next question on the phone.

Stephanie: Again, to ask a question please press * and the #1. We will again pause to view the roster. Please hold for the next question.

Maggie: Okay.

Stephanie: Caller please proceed with your question.

Maggie: Hello? Is there a question?

Stephanie: Caller your line is open, you may speak. They have withdrawn their question.

Maggie: Are there any other questions on the phone?

Stephanie: Press * then the #1 to ask a question.

Maggie: Okay. So one of the questions, while we're waiting, that came in through the Chatbox, is what criteria is used to decide if an LTACH is an ICU or a ward category. That is a question that we can – we can get from time to time in CDC as we realize the distinction between ICU and ward in the LTACH setting is not really as clear cut as it would be for your general acute

care hospital. I will say that we had about 80 LTACH ICU units. So this means that within an LTACH facility, they may have one LTACH ICU unit, maybe it's a set of four beds that they consider of a higher acuity level than the rest of their patients in that facility. So they set up one unit for those ICU beds or that location and then the rest they may set up one or more LTACH wards. And if there are any questions about how to designate between those two, please be sure to send us an email at NHSN and we'd be happy to talk that through with you.

Another question is with regard to how our LTACH facilities compiling the CAUTI CLABSI information for submission, i.e., manually, electronic solutions. I personally don't have that information available. It's not something that we have a lot of information available other than those that may be reporting through clinical document architecture. So I'm afraid I'm unable to answer that question for you today, but we certainly could let you know if any has been submitting data electronically, although we would not be able to release any names of facilities that are doing so.

And then there's a question about any grants available for LTACHs or IRFs and acquiring any tools such as electronic solutions, staffing to gather and submit this information, I'm sorry I also do not have any of that information available for you.

Another question is, what is the best way to compare infection data LTACH to LTACH? What we would recommend at the national level is to compare to the national level data because that would be compiled for you and that's why when we say you'll be SIR you will be comparing the SIR to one. But I think you raise an excellent question. This is something that we happen to answer for acute care hospitals as well, and so if you're interested in a little bit more information about maybe comparing to another LTACH within your organization, please reach out to us and Prachi or another individual on our team will help answer that question and talk you through that.

Stephanie: We do have an audio question from Yolanda Thomas.

Yolanda: Hello?

Maggie: Hello.

Yolanda: Good afternoon. I was looking at the risk adjustment variables, is there going to be any or would that include any variable like hemodialysis in the future?

Maggie: So for LTACH the hemodialysis is taking into account for, I believe, CDI and that is the proportion of admissions. And actually I take that back, it's VAE that uses that factor. That factor was not found to be significant in the other HAI types.

Yolanda: Not in the CLABSI?

Maggie: Nope, not in the CLABSI surprisingly.

Yolanda: Really? Really?

Maggie: Yeah. Yeah.

Yolanda: Okay, thank you.

Maggie: Thank you. So I think that probably is about at time. So thank you all for joining Prachi and I today. We really appreciate your attention and any other questions you may have please feel free to email us at nhsn@cdc.gov. We're happy to answer those as questions arise. Thank you.

Stephanie: Thank you. This concludes today's conference.

(END)