Inpatient Quality Reporting (IQR) Program

Overview of NHSN Analysis

Presentation Transcript

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Candace Jackson: Hello and welcome to the National Inpatient Quality Reporting Program webinar on the Overview of National Healthcare Safety Network, NHSN, Analysis. My name is Candace Jackson, and I will be your host for today's event. Before we begin, I'd like to make a few announcements. This program is being recorded. A transcript of the presentation along with the question and answers will be posted to our Inpatient website, www.qualityreportingcenter.com within 10 business days. If you've registered for this event, a reminder email as well as the slides was sent out to your email about two hours ago. If you did not receive that email, you can download the slides at our inpatient website. Again, that's www.qualityreportingcenter.com. And now, I'd like to welcome our guest speaker, Prachi Patel from the Centers for Disease Control. Prachi Patel has a Master's in Public Health and is a public health analyst within the surveillance branch of Division of Healthcare Quality Promotion at the Centers for Disease Control. Before coming to work at the CDC, she worked at the Virginia Department of Health as an epidemiologist. She was responsible for conducting disease surveillance to monitor the

incidents and surveillance of diseases in her districts. At the CDC, she provides support to NHSN healthcare facilities and reporting her CMS required data and their NHSN data analysis interpretation. She holds a BS in Microbiology and Molecular Biology from the University of Central Florida and an NPH in Epidemiology from Florida International University. Any questions that are not answered during our question and answer session at the end of the webinar will be posted to the qualityreportingcenter.com website within 10 business days, although we do hope to get as many questions as we can in the last 10 to 15 minutes of the call. Thank you again to everyone for joining. Prachi, the floor is yours.

Prachi Patel: Thank you, Candace. Good afternoon, my name is Prachi Patel, and I'm a public health analyst here at NHSN. Today, I'm going to be presenting about an overview of NHSN analysis. I am actually part of the methods and analytics team. And, since the CDC loves to make acronyms, we're called the MAT team. We basically concentrate on the analysis section of NHSN. So, if you have any questions about NHSN analysis, most probably it will be answered by someone from the MAT team.

So, today's purpose is to understand the scope and structure of NHSN data entry and analysis functions, become proficient in conducting basic analyses in the application and to gain knowledge on how to customize analyses output available in NHSN. There are a lot of options available in NHSN, and today I'll try to touch on some of the most relevant, in my opinion – customization options. We want you to feel comfortable with your data, and we encourage that analyzing your data becomes a part of your routine NHSN activities.

So, today's learning objectives are to discuss basic steps for analyzing HAI data in NHSN, review techniques on how to customize your output options and to discuss methods to check accuracy of your data.

The first item that I'd like to bring to your attention is the NHSN website. We try to have all of our guidelines and reference documents updated and available for all of our users. So, in that red box, I have highlighted our

tabs for the analysis resources and the analysis quick reference guide. There's truly a wealth of information within these two links. So, what we're seeing in this screenshot is an analysis resources link. So, let me provide you with a short description of what is in each tab of this table. The first tab, which is called Guide and Training, includes a direct link to our training website, which includes NHSN protocol and analysis training. The second tab, which is titled NHSN Codes and Variables, is where the ICD-10 code documents and the data dictionary is located. The third tab, which is titled Statistical Tools, is a location around macros. The fourth tab, which is titled NHSN Data, is where our links to the annual data summary reports and aggregated data reports are located. And lastly, the fifth tab, is a link to the NHSN Demo Application.

Now, for our Quick Reference Guides page: this page is dedicated to the references guides that we have for outset options. Let me go over what each tab includes. The first tab titled General Tips and Tools will include general tips and tools for NHSN analysis. Tab two includes instructional guides for module-specific SIRs. For example, you would find a guide that troubleshoots your CLABSI SIR report within this tab. The third tab, which is titled Frequently Requested Output/Reports, will include guides for things, such as how to view or create or modify dates in NHSN. This tab mostly includes guides for the advance filter, which we'll go over later on in this presentation. Tab four, which is TAP Strategy Reports, has TAP guides. And TAP stands for Targeted Assessment Prevention. Tab five, which is Antimicrobial Use Option Output Types, has antimicrobial output option guides. Tab six, which is very important, I'll be going over that again in this presentation, is titled Output/Reports and Option Types. This will include instructional guides for the different output options. For example, how to run a line lift or how to create a pie chart in NHSN. Tab seven, which is Tips for Customizing Your Output/Reports, will include guides on how to customize your output, such as filtering by a time period or creating custom fields. And lastly, tab eight, which is Detailed Guides for Specific Analysis Options, will include reference guides to CMS output types. I would recommend when in doubt about anything analysis

related, please visit our site and most probably you'll find your answer to the question that you have on this page.

So, as a quick reminder, analyzing your data is extremely important. Analysis tools within NHSN help facilitate internal validation activities and help ensure accuracy. Data entered into NHSN may be used by CDC, CMS, your state health department, your corporation, special study groups, or any other groups you're a part of. But, this is dependent on membership to those groups and NHSN and your acceptance to the conferred rights to the data. Also, reports generated from NHSN can help inform prioritization and success of prevention activities.

So, let's get started. This section of my presentation will be dedicated to a very abbreviated introduction to NHSN analysis.

First is event data entry. There are three options to entering in your events. There's add, find, and incomplete. Click Add to enter data. Find is used to look for previously entered data forms. And, the Incomplete option lists the forms that have been started, but all the required fields have not been completed. The Find and Incomplete options are very useful for investigating data quality issues. Now, the image on the right, the blue navigational toolbar, is located in NHSN. And, the yellow squared section is where you'll find the options for Add, Find, and Incomplete.

The Monthly Reporting Plan. The Monthly Reporting Plan identifies what is being monitored according to NHSN definitions. This invokes business tools to ensure that the data is accurate. And one must be completed for each month of the year. Just because you entered something for January 2016 does not mean it will auto populate for the rest of the year. So, for each month, you have to go in and add a Monthly Reporting Plan.

Only the events included in your Monthly Reporting Plan may be shared with CMS, or Centers for Medicare and Medicaid Services. Failure to include CLABSI, CAUTI, or anything else in your Monthly Reporting

Plan will result in non-reporting to CMS and could impact your facility's financial reimbursements from CMS.

Data entry alerts: alerts are automatic checks in NHSN that remind of incomplete or missing data. It's based on the Monthly Reporting Plan and summary data forms. Before using the analysis function, make sure to clear all relevant alerts and if the alert page is found on the homepage or by clicking on the Alerts tab on the side bar.

So, just a quick information that I'd like to provide to you, there are no alerts for unfilled Monthly Reporting Plan. So, if you don't have a Monthly Reporting Plan in place, you won't receive an alert because they're based upon that. And, on the right, you can see what the alert page looks like. And, you can see DHQP Memorial Hospital has a lot of alerts, which is kind of not how it should be.

For more information on data entry alerts, the most common source for alerts are the Monthly Reporting Plan. Missing summary data forms and procedures are determined based on the locations and the procedure types listed in your reporting plan. And again, I can't stress it enough, alerts are based off what is being monitored in the Monthly Reporting Plan.

Now that you have entered the data, created a Monthly Reporting Plan, and resolved all your alerts, like a good NHSN user, it's time for you to generate your datasets. Generating datasets is the first step in performing analysis in NHSN. It copies and freezes the data, organizes the data into defined sets for analysis, allows for quicker generation of reports, and when analyzing in NHSN, you are using a copy of your data, not the live database. It's important to remember that each user has his or her own data analysis datasets and they're based on the user's rights. So, what you see in your datasets may not be what your co-worker sees in their datasets. You may navigate or leave NHSN while the datasets are regenerating. And, it's important to remember, since data are frozen when you generate datasets, any changes you make to your data within NHSN after that point in time will not be represented in your reports until you regenerate your

datasets again. So, it's important whenever you enter any information into NHSN, please regenerate your dataset.

So, by default, datasets will generate for the three most recent full calendar years through the current date. To navigate to this page that's on your slides right now, click on the Analysis tab in the navigational toolbar, then click on Generate Data Sets. So, this screenshot is what the generate datasets page will look like. Now, as you can see in the gray and blue bar, this frozen dataset will include data from January 2013 until May 2016, which is when I generated my datasets. If you like to include data that is all your data within NHSN, just check that box right above where it says Include all data reported for NHSN for this component. Another thing you can do, if you want to customize your date a little bit more. That tab that says 1/2013, you can move that on the bar further out into the gray. And as you move it, it will start to turn blue which means this is what's going to be included when you click on Generate Now. So, you stop wherever you want to stop, whatever date you need and then leave it there and click on Generate New, which will – this will be all the time included in your dataset.

Analysis Output Option: data reports are referred to as Output Options and they're organized according to module type. So, now that you have generated your datasets and to include all your most recent data, this screenshot is the analysis output options for patient safety. You can navigate to this page by clicking on Analysis in the navigational toolbar and then clicking on Output Options. As you can see, it's all the different modules that we have in NHSN from Device-Associated, Procedure-Associated, through CMS Reports, and even the Advanced Report that I was talking about. And, keep in mind whenever I show you screenshots of anything that looks similar like this, this is the page I'm – this is the page I'm getting it from.

So, there are multiple different output options in NHSN, and I'm going to go through what each of them includes. First is a line list. A line list is an organized detailed list of each record entered into NHSN for that module. Next is frequency tables. These provides the count of the number of

durations in the dataset that meet the specifications of both the row and column variable. This table is also a good reference for any kind of counts or percentages. Next is bar and pie charts. This output will provide a graphical presentation of module data. Next is Rate Tables. This displays a facility's calculator rates and device utilization ratios where it's appropriate. And also, if available, the rate table also provides the NHSN published pooled means and the comparison of the facility's rates and ratios to those pooled means. So, if you are looking for your pooled means, you would want a rate table. Lastly is the Standardized Infection Ratio tables. And, this will provide an output option for SIRs, which is a risk-adjusted summary measure that compares the observed number of infections to the expected number of infections based on the NHSN aggregate data.

Now, if you remember, previously I spoke about the quick reference guide page at the start of this presentation on the NHSN website. Now, if you go to that page and you click on the tab labeled Output/Report Options Type, you'll see detailed guides for the various output options. So, the line list and everything that I spoke about, if you go to this quick reference page, it will provide you a detailed reference guidance that will walk you through the steps on how to customize those reports.

Output options are organized in to preview and output options will guide you towards the data you wished to analyze. Each of the – in that level folders can be expanded to show various output options available for use. You will click on Run next to any output option to obtain your data in a CDC-defined output. That means no customization, no data variables. It's everything that you've generated in your datasets. If you click one for, let's say, that first option that says Line List – All CLAB Events, it will include everything. If you'd like to modify your data for a certain time period or location type, then you would click on Modify. I'm going to much further detail about modifying your output option.

Before we start getting into the modification, I wanted to speak about the CMS reports. The CMS reports are available for each reporting program and are intended to mirror the summary level data submitted to CMS on

your behalf, for each quarter. So, if you were to run this for checking quarterly, there's no modification required. You could just press Run the Data Set. As a quick reminder, I will go into this later, but CMS reports should be run and the output saved as close as possible to the deadline. If the deadline is on the 15, then it's important to run your datasets on the 14 and save them.

General tips for analyzing the data: it's important to develop a timeline to regularly enter and analyze your hospital data. Consider a timeline that will allow for timely feedback and interventions, if necessary. For example, do a monthly review of rates and event level details. Also, generate your datasets regularly. It's also important to read the footnotes on your reports. I can't tell you how many emails I received and the answers to those are in the footnotes of your reports. They're not just there for looks. They're not very pretty so please read your footnotes. And also review data for accuracy and completeness.

So now, we're going to get in to the bulk of the presentation, which is modification and customization of your data output.

All the output charts can be modified to meet your specific needs. You can do custom output options, which is saved modified output tables. It's highly recommended that you do this because, if there's some certain report that you like to run monthly, if you save it that you don't have to go through the whole customization process. There is multiple ways to modify your output, you can change the format, you can change the title, and you can also filter the data by various criteria.

There are three sections for modifying your output, there's the top section, the middle section, and the bottom section. This screenshot to the right is the modify page that is after you click on Modify Page next to whatever output option you want. For my example, I'll be discussing the CLABSI CMS report, which is that report. All the selections on this page are defaulted. There's nothing that I've added in additionally. So, if you were just to click Run, this is everything that would be on that – included in that

report. So, I'm going to breakdown each section of this in how we can – how this criteria was put in to this report.

The top section is a place to modify the name, title, and output format of the data table. It's really important to note, if you wish to save the modification as a template for future use, like the custom reports I mentioned before, you need to change the output name. Don't keep the same output name. Before I go into detail about this top section, I wanted to point out the tab in this screenshot that says Export Analysis Data Set. This tab, if you click on it, will export the complete data output without any modifications. So, for example, this data output of SIR for CMS CLAB data will export the SIR table for all the date variables you have when you generate your dataset. So, no modifications, just your raw SIR tables. Now, to go down, you can modify attributes of the output. You could change output name and you can change output title to anything you want. The last section of the top section is labeled Select Output Format. You can change your output format to whatever option you want. The default for this is HTML. Now, right below where the HTML is, there's a box that says, Use Variable Labels. This is a very important box. Let's say, for example, you get confused by all of our CDC labels, let's say, for example, FAC ID or LOC CDC. You don't know what those mean. You want to show it to other people in your hospital for your reports. If you click on Use Variable Labels, it will change those CDC default labels into the full meaning. So, FAC ID will be changed to Facility ID, and LOC CDC will be changed to Location CDC. That way it's a little bit easier to read for those that don't use NHSN on a regular basis.

The middle section of the modify page will filter the output by time period or any other criteria. This is the bulk of where your modification happens. In this CMS report, you can see it's limited to BSI Plan where there's YY and location type, Critical Care, and CDC Location with all that ward-level data. Now, let's go through each one of these sections. The date variable section on the top part, you would customize the output option to produce data tables with information from that date range. So, for example, the default for the CMS report is for summary year starting from

2011 and ending in blank, so it means present. You can change that date variable to summary month, summary quarter, or even summary half-year; and, change your beginning to wherever you would like to start your data to wherever you like to end it. The Specify Other Selection Criteria, again, like I mentioned, is where the bulk of the customization takes place. And I'm going through this piece by piece.

Filtered in the middle section. Before I go into further details about the different criteria in this table, I just want to clarify that the location of the way you entered the variable does matter. And, everything in this table will be included in your output. If the two cells are in the same row, that means you want both of these criteria to be fulfilled in the output table. So, for this example, for the first two cells in the first row, it says, Yes for BSI Plan and Critical Care Location or Yes for BSI Plan and CDC Location. So, both of those criteria need to be filled for it to be in the output option of your data table. Remember, if you need to have two Ys for the BSI Plan for this example, this ensures that only those location types and CDC Location with the BSI Plan are being included in the output table. If you didn't have that Y there, it would only – it would include all the Critical Care units regardless if it they had a BSI Plan or not.

So, adding other criteria. The first cell is where you enter in your core variable. So, the first cell, I'm adding in a BSI Plan. What you would do is you would click on the arrow in the first column and go down, and it would have all your variables that you could potentially add to this output option. Since you want to have a BSI Plan, which is extremely important for this output type, we would click on BSI Plan.

After you select which core criteria you would like to add for your data table, you then have to specify by what you want represented from that core variable. So, for BSI, you would select BSI Plan as your core variable. Next, you would choose an operator. The operator is used to modify the values of the variables. The different operators that we have in NHSN is in that yellow box to the bottom right corner of this slide. We have operators equal to or you could select in, which is a defined set of

values, or greater than. There's all these different variations that you could do. Now, for BSI Plan, you could either have a BSI Plan or you can't. So for that, we would choose an equal sign and in the values box type Y. Now, this example that I have in the slide is not the BSI Plan, I chose to show you the LOC CDC because it's a little bit more complicated than adding just the Y. So, what you would do is in your core variable, do the dropdown and select LOC CDC. After you select that, you have to choose an operator you would like to put in. Now, since you want to add in multiple cells – multiple different locations, you would select in, which means in a set of defined values. After you select in, multiple cells will populate in the values column, which is the middle box of these three boxes on this slide. Within these values, you can select which CDC location you want to be included in your output time. So, for this example, we decided to put in medical ward, med surgical ward, surgical ward, and the different pediatric wards.

Now, within NHSN, we have a multiple different location values that you can put in. And, it's kind of confusing to know which one is appropriate for whatever report you want to run. So, I'm going to clarify what other – what location types we have. So, the first one is location type, and this variable will limit the output according to the location type. So, you would use in for your operator because you can have multiple location types and then add in the location type, such as Critical Care or your OR or ward. This will include everything in your facility that is labeled as the Critical Care unit.

Then we have LOC CDC. This variable will limit your output by CDC location mapping. Again, you would most probably use in as your operator; and then, select out of this dropdown menu which – how you've mapped it in NHSN. So, it could be a medical surgery ward or a pediatric burn critical care ward, whatever you would like to include in your output but this is according to how it's mapped by the CDC.

Lastly, there's location, and I feel like this is most help for you all. And that's because this variable will limit your output according to your labeled locations. In the screenshot, I have it as an equal sign but it could

be the equal or an in as an operator. And, this is how you have labeled your locations in your facility. So, you may be more familiar with these. So, if you've labeled an observation unit as 24 OB, you could just select 24 OB, and you know that this is your observation unit that you're running in this data table. So, it will make more sense to whoever you're presenting it to.

Finally, the bottom section of the modify page. The bottom section includes the group by option. And, it's found at the bottom of the page and allows you to view the SIRs by month, quarter, half-year, or year. This would be in also the rate tables. It's not just excluded to SIRs. You can leave this option blank to see a cumulative SIR for the time period you have specified above. In this example, we will produce SIRs for each calendar quarter, which is three-month time period, by selecting group by variable summary year quarter, which is a default for the CMS report. Now, before we move on, I also wanted to point that out. At the bottom of the tab, on the right side, it says Export Output Data Set. Now, if you were to click on that after you made all your modifications, it will export the dataset including your modifications. So, the Export tab at the top of the page will export the data without the modifications and this bottom Export tab will export your data with all the modifications.

Now, let's go on to some data accuracy checks you can do within your facility after you've entered all your data in.

So, what changes could potentially impact my rates of the SIRs? It could be: entry or deletion of events; changes to numbers of patient days, device days or admissions; removal or addition to monthly reporting plans; change in admission date or previous discharge dates on LabID events; also changes to relevant factors in the annual survey, such as medical school affiliation and facility bed size; and also, very importantly, resolution of Report No Events alerts.

So, here are some places to look for data quality issues. Let's say you have a question, "are all my active locations applicable to my NHSN surveillance listed?" or "have I selected all my appropriate procedures?"

or even, "have I selected the appropriate lab specimens to collect for a LabID data?" Then you would look at your monthly reporting plan. If you have questions such as, "did I update the number of beds from the previous survey year?" or "has our hospital's medical school affiliation changed?" You would look at your annual survey. And, if your questions such as, "did I generate new datasets?" or "did I enter new events after I ran my analysis?" you would look at the NHSN analysis. But, it's extremely important to check NHSN protocol for definitions and instructions, just in case there's been any updates.

Again, here I am with my CMS reports. Please, remember always run your CMS reports as close as possible to the reporting deadline. I cannot stress this enough. If I could write this in all caps, I would do that. It's important to save and print a copy of the reports for your files. And lastly, ensure that the CCN is correct. Now, the reason why we say to save and print a copy of your reports for your files is that after the deadline is past and you continue to enter data and you regenerate your datasets, all your data will change. You can make any changes to you data after the deadline. So, it won't be an accurate representation of what was sent to CMS. That's why we encourage you to save and print it, so if anytime in the future you need to show that you have the data in for that deadline, you can provide it. So, during the CMS deadline week, we're always recommending these three important things. And, I'm going to plug this is the last time, before you do any analysis, before you save and print or run your tables, generate your datasets, so you have the most up to date information when you print out these output options.

Now, let's talk about the NHSN advanced folder output. I feel like users are afraid of this output option, and they shouldn't be because this is where you can assist yourself with data quality efforts. So, this is one of the output options found in the Analysis tab in NHSN. It allows users to create custom reports at various levels to check their data. So, suppose we're looking at monthly reporting plans for their facility or summary level data, event level data or procedure level data.

So, the monthly reporting plan or the plan level data output option in the advanced folder is used for verifying your monthly reporting plan. The next thing you see is the question – one of the questions that we received, actually quite often, and the answer to that question, and how I got to the answer to that question. So, the question is: "dear NHSN, my rehab unit closed in July, but I've received an alert that I am missing CAUTI and LabID data from that unit from August onwards. What's happening? So, what we would do is, we'd create a report to identify what was included on your monthly reporting plan for that unit. And, as you can see in this screenshot, that for that rehab unit, the UTI Plan is listed as Yes, the LabID is listed as Yes; but, it was created on November 2014, but it was modified August 2015 by user 124115. So, that means the reporting plan could have been modified after July to include those measures, which is why you're receiving an alert.

This slide, I'm going through step by step on how I got to that output option, how I customized it to get that output. So first, you would open your advanced folder, go down to Plan Level Data, because you're looking at your monthly reporting plan, and open up CDC-defined Output. The first output option is a line listing of patient safety data, you would click on Modify, which then takes you to this amazing modify page. When you get to the modification page, you would want to input your date and variable for plan year month from January 2015 until 12/2015. You can also put plan year and just put beginning 2015 and ending 2015. There's multiple ways you can get the same information through NHSN. Then, since you're only interested in the rehab unit, you can specify other criteria, the IDN LOC CDC, using equal sign as an operator, select Rehab. So, this will include all your rehab units in your facility. When you do it that way, instead of using location type where you manually put in each rehab unit or your multiple rehab units in your facility, you may miss it, which is why I chose LOC CDC, so anything mapped is in acute ward rehab will be included in this report. Lastly, you want to add in the modify date and the modify user ID. You can do that by selecting modify variables to display by clicking Modify List, which is the second line from the bottom of the page. So, when this box appears, which is to the right,

this gray box, search for the variables in the available variables list. When you find it, move them over to selected variables by that double carrot. And, when you move them over to the selected variables, save and then click Run, which was from this data table; and, the output will be what I showed you in the previous slide. Now, just for clarification, the specified other selection criteria will add variable to the data portion of your output tables. This will manipulate the data. Modifying variables to display will add columns to the data table display, so it won't manipulate your actual data.

Now, let's look at an example for event level data. The event level data output option provides detailed information regarding all events. Now, here's a commonly asked question: "dear NHSN, I was wondering, how do I identify MBI-LCBIs cases for my facility?" And, we would answer that by using the events report event level data to identify CLABSI MBI-LCBI events. So, this is what the data table would look like. And, as you can see, we've identified which cases are MBI-LCBIs. Now, let's go over how we were able to come to this data table.

Again, you would go in to Events. And, this time, since you're looking at events, you would go to event level data, open up the event level data box. Then, click on CDC-defined Output. And, since you want to look at all events, you would modify the line listing all events, which is boxed in red. Once you click on that button, you come to our modify page. Well, for this, we wanted to look at the whole year. So, I'm showing you the date variable as event date year, which is beginning in 2016 and ending in 2016. I didn't specify other selection criteria because this is for all events, and I wanted to look at all the events and if they were MBI-LCBIs. But, I did want to add in that column for MBI-LCBI. Now, since I want to add in a column, it would not be in the specify other selection criteria. It would be in a modify variables to display by clicking Modify List, which is the third option from the bottom. Once you click on Modify List, this gray box that is to the bottom right will show up. Again, looking at the available variables list for MBI-LCBIs and move that over to selected variables, which I've done and I've actually boxed in red this time so you

can see it. And once you've added that over to selected variables, save and then click on Run and the output that you should get is what I have in the previous slide.

You can also do procedure level data. I won't be going into much detail about procedure level data, since there are multiple ways to troubleshoot SSI SIR. And, we do not have enough time to touch on all those methods. But, I just wanted to show you that it is possible to use the advanced folder to troubleshoot your SSI SIR. So, this procedure level data output option is used for procedure-associated modules. And, for example, one of the questions we might get is: "dear NHSN, I am missing one of my COLO procedures from my SIR report in quarter two of 2015. Why isn't it included?" And, what we would do is we would create a report or a line list to include all excluding criteria for the SSI in the SIR reports. So, it would be a line list, all procedures, and we modify and troubleshoot on their work, but it's too much information to put into this presentation.

Now, for summary level data: the summary level data output option is used for producing a line list of all summary data of a certain type. So, for example, "dean NHSN, I ran a report for 2015 quarter four to calculate my CAUTI for Medical Wards and it's different from what I remembered. I haven't made any changes, why is the number different?" So, again, we would run a line list, and we'd add in the create date and the modify date to see if there's a discrepancy. And, as you can see in the highlighted section, the create date was November 2015, but it was modified in April 2016. So, the data may have changed, which accounts for why it's not what you remember. It's important to remember that, even though we're able to tell you that it's been modified, we can't tell you exactly what has been – what has changed, just that something is different from the previous time it was entered.

So now, I'm going to walk you through how we came up with this output. So, again, you would go to advanced, open up that folder. Go to summary level data, open up that folder, and go to CDC-defined output. Now, for this question, we just want a line listing of all summary data, which is the first output option. You would click on Modify, which then takes you to

our modification page, this middle screenshot. Since we only wanted it for quarter four, which was the question, why was it different in quarter four, we would put in summary year month for the date variable. You can also put summary as your quarter, but I just wanted to put month, so I put summary year month beginning 10/2015, ending 12/2015, so from October to December. Now, as I showed you previously, in the other slides, the difference between the 'and' and the 'or' within your specify other selection criteria, we specifically want CAUTI data within the medical wards. So, I have to ensure that both the cells are within the same row. So, for event type, I select – my operator was equal and I put in CAUTI. And then, for location CDC, my operator was equal and in acute ward medical. Again, I didn't use location because what if you missed one of your wards, you forgot or you looked over it. If you put in location CDC, you're ensuring that you're getting all the different – all your different work types in here. Now, we also wanted to look at the create date, the modify date, and the modify user ID. Since these are columns, they're going to be in the modify variables to display but it can ~~can~~ modify list, which is third from the bottom. When you click on Modify List, again, go to the available variables in that bottom right screenshot, find the variables that you want to add to be included in your output option, and move them over to selected variables. After you've included everything you need, click on Save and then run your output options.

Now, I'm going to walk through some CMS reporting resources we have on our NHSN website.

All the documents regarding the CMS reporting can be found on the link posted above, where it says cdc.gov/nhsn/cms/index. The first section of this webpage is the operational guidelines and it's organized by its facility type. Also, to the right, there's a small screenshot of this panel, which says the resources. And, this is separate from the different – the operational guidelines because these resources are for all facility types. And, it includes things like how to change your CCN within NHSN or the reporting requirements and deadlines. It's applicable for everything, that's

why it's in its own panel. Now, let's go into the operational guidelines and see what's actually included within them.

When you open the link for your facility type, you will see guidance documents for each HAI type. These guidance documents elaborate on how to fulfill CMS Hospital Inpatient Quality Reporting, or IQR, requirement in NHSN. They're very short and concise documents, so they're not too difficult to read. But, for this example, I've opened up operational guidance for Acute Care Hospitals. And, as you can see, there's guidance documents for CLABSI, CAUTI, MDRO, CDIF, and for Influenza reporting.

The next section of the CMS page is the CMS reporting resources. Now, these documents are organized by HAI type and facility type. So, this includes, like it says on the slide, module-specific instructions guides for all facility types. And, as you can see for CLABSI, there is acute care hospitals, cancer exempt hospitals, long-term care acute facilities. And then, for CAUTI there is four because you also have to report in inpatient rehab facilities. So, it depends on which HAI type and what facility you're reporting from. So, let me open up one of these and we can see what's inside. So, I've opened up the CLABSI Acute Care Hospital link. And in this, you can see that there are three documents. The first is the guidance document on how to report no CLABSI events. The second is a monthly checklist for reporting to CMS Hospital IQR for Acute Care Hospitals. And lastly, there's a guidance document on how to run and interpret CMS CLABSI data for CMS IPPS. One thing that we would definitely recommend is that you printout NHSN monthly checklist. That way that come time of the reporting deadline, if you've kept up to date with your monthly checklist, there is no scrabbling around to make sure that all the information is correct within NHSN. You've been following up by using your monthly checklist. So, that's one thing we recommend. It will be the same for each facility type, and it will include all the HAIs. So, this checklist will be the same for Acute Care Hospitals CAUTI, MDRO's LabID, it will be the same checklist. So, whatever your facility

type is, we recommend to printout that monthly checklist that applies to you.

So, I am now reaching the end of my presentation. And, before I answer any of your questions, I wanted to give you some resources. This first resources page is for CMS reporting, and it includes current requirements, the federal register, QIN/QIO, and *QualityNet*. So, these links will take you to information regarding those things.

Now, for NHSN other resources: I did the mention the different analysis resources we have on our webpage. But, I wanted to specifically mention these because they are, I feel like, most used. And, that is: how to filter output by additional criteria, data entry and analysis training; our data dictionary to help you identify what each variable means; and when it will occur in what output options; our newsletter regarding data quality; and, most important, how to view, create, and modify dates within NHSN. So, if there is anything you didn't understand within my presentation, please feel free to email me or you can just go to our quick reference guide.

So now, I will take any questions that you may have regarding this presentation. But, before I open it up to questions, I just want to mention that I cannot answer specific questions because, as you can see, there is multiple ways to get one output. And, it's easier for us at NHSN to answer specific case-related questions when you email us, so we can properly troubleshoot them. But, any other questions, I'm more than willing to answer. And, if you don't think of them now, and wish to ask them later, please email us at nhsn@cdc.gov. Thank you so much for your attention, and I can take questions.

Candace Jackson: Thank you, Prachi. We do have time for a few questions. The first question: "to get a SIR from NHSN website, the times where it has to be within a calendar year, it cannot go beyond one calendar year. For, example, SIR for quarter three calendar year 2015 to quarter two calendar 2016 cannot be obtained, is that correct?"

Prachi Patel: Actually, no, that is not correct. You can get more SIR tables for whatever amount of time you would put into a date variable. So, like I mentioned in my presentation, if you're generating data sets for three years, it will show you your SIR tables for those three years if you don't make any modifications to the table set – the output options.

Candace Jackson: Thank you, Prachi. Our next question: "if we have a waiver for COLO HIST, do we still add this dataset in our monthly reporting plan?"

Prachi Patel: That's kind of a tricky question, and what I know of this is it's not – for us it's not necessary, if you have a waiver for COLO and HIST, that you don't need to send that data to us, and put it in your monthly reporting plan. But, you should check with CMS about that. I'm not entirely sure about that whole procedure with waivers.

Candace Jackson: OK, thank you. And, our next question: "did you say that there is no alert for unfilled monthly reporting plan?"

Prachi Patel: That is correct, I did say that. If you do not have a monthly reporting plan in place, you will not receive alert notification because those alerts are based upon your monthly reporting plans. So, if you don't have it in place, we will not know that there's no data entered for that month.

Candace Jackson: OK. Next question: is the general – or excuse me – "is the generate dataset uses specific or does this generate datasets for all of the facility an NHSN user?"

Prachi Patel: No. Your generate dataset is – I apologize – the generate datasets is user-specific because your rights may be different from one of your co-worker's. So, your data is specifically for you because it is based on your rights in your facility. So, when you generate datasets, you're only generating it for yourself, not for any other users that are within your facility.

Candace Jackson: Thank you. Next question: "I currently have access to multiple facilities. I select the facility when I log on. If I modify a report and save it under

one facility, will that report be available for all facilities, or do I have to modify the template and save it multiple times, once for each facility?"

Prachi Patel: I actually don't have answer to this question. This may be something that I will answer later on because I may have to get more information about the multiple facilities, what types they are and such.

Candace Jackson: And, next question: "do you have any advice on how to get a CDI report monthly?"

Prachi Patel: So, for CDI – for CDI and for CDI test type, you cannot run it, the SIR, monthly. It has to be run on a quarterly basis. And, the reason for that is because your CDI test type is entered at the end of the quarter. So, it is not possible in NHSN to run your SIR for CDI on a monthly basis.

Candace Jackson: OK. "Is there an option to run a report year-to-date?"

Prachi Patel: Yes, there is actually an option to run for a fiscal year. And that is actually one of the guidelines, the reference documents that we have on our NHSN page. So, if you visit that page, there is a reference guide you can follow, and it will give you instructions on how to run year-to-date.

Candace Jackson: Our next question: "if you noticed you entered an event that should not have been an event, and it has already been sent to CMS, should you remove it from NHSN or leave it since it had been sent to CMS?"

Prachi Patel: So, this is a complicated question and I'm going to try to break it down so it makes most sense. When we're sending the data from your facility to CMS, it's frozen data. That will not be changed. So, once it's sent to CMS, it's sent to CMS. Now, we would encourage that, if any of your events (or anything else in NHSN), is not accurate, disregarding the fact that it was sent to CMS, please go back in and change it to make it accurate, so the data output that you're receiving is accurate data. If you leave that incorrect event in, it will give you incorrect output. So, please go in and change it, but that will not affect the data that is sent to CMS. That's already done and it's frozen, it can't be changed.

Candace Jackson: Thank you. "What if it's section SSI is found three or more months after close of quarter, will SIR be updated?"

Prachi Patel: So, I feel like this was a little similar to the previous question. It will be updated. If you put in something after the fact, you regenerate your datasets regardless of it being sent to CMS, it will change your SIR, but that will not be resent to CMS. That data is frozen, and it's only sent on the reporting deadline.

Candace Jackson: Thank you. Our next question: "can you please clarify if pressing the 'Export Output Dataset' from slide number 35 will export the document with or without modifications?"

Prachi Patel: OK. So, that means I'm going to have to go back to slide 35… And, that slide will export your data with your modifications. So, there's two tabs on the modification page that say Export, one is at the top and one is at the bottom. The one at the top will export all your data without modification. The tab at the bottom will export your data with the modifications.

Candace Jackson: Thank you. And, we have time for one more question. "If you entered the incorrect admit date, can you change it to the correct date although the CMS deadline has passed?"

Prachi Patel: Yes, absolutely. You can always go back in and change your data anytime. But, like I mentioned before, it's not going to be sent to CMS again. Once it's been sent, it's frozen. But, any changes or any modifications that you want to do to your data, regardless of the reporting deadline, please do it because we want to ensure that your data is accurate. So, again – I mean, I would recommend before this reporting deadline, you check all your data to make sure it's accurate. But, if there's a mistake, please go back in and change it regardless of the reporting deadline.

Candace Jackson: Thank you, Prachi. And we do, again, want to thank you for presenting all these beneficial information. I would now like to turn this webinar over to Deb Price who will go over our CE process.

Deb Price: Thank you.

Candace Jackson: Deb …

Deb Price: Yes, thank you, Candace. In lieu of the fact that we only have a minute left, I'm going to be moving through these slides very carefully – very quickly. And, I'm asking that any of the participants that need CEs, please go through the slides slowly on their own. OK. So this one – this slide is showing the different boards that we have licenses for.

   Next slide is discussing the entire process and letting you know that the registration that you have for ReadyTalk® was not the same registration that you need for your CEs. It's a separate registration.

   If you have problems, and you don't immediately get some kind of response, please let us know.

   This is what your survey is going to look like. At the end of my slides, this is what's going to pop-up. And, at the very bottom right hand corner, there is a gray box that says Done; that's what you're going to click when you finish with the survey.

   And, this is the box that's important. If you have been receiving certificates from all of our events, you're going to click on the Existing User link. If you have not been getting certificates, please click on the New User link.

Here's a New User box that pops up. Just fill that in, it's self-explanatory. Here is the existing user box that will pop-up. And, your username is your entire email address. And, of course, your password, if you've forgotten your password, put something in there and it will allow you to re-put a new password.

   And now, I'd like to thank everybody for coming to our event. We hope that you learned something. And please enjoy the rest of your day.

END