DEPARTMENT OF HEALTH

MDH ICAR Infection Prevention Audit Tools Transcript

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[Kristi Juaire, Nurse Specialist]
Well, good afternoon and thank you for joining us today for the MDH ICAR Infection Prevention Audit Tools webinar. Next slide, please.

During the webinar, please feel free to place any questions you may have in the Q&A. Caramae and Kathy will be monitoring to assist with any questions. We'll also put any links or resources in the chat. Next slide, please.

So my name is Kristi Juaire. I'm a nurse specialist with the MDH Infection Control Assessment and Response team also referred to as ICAR. I'm here with my colleagues Britt Bailey, Kathy Hogan, and Caramae Steinwand to share a suite of tools built to track compliance and influence performance improvement efforts. As a team, we recognize the challenge for an infection preventionist is in translating the knowledge gained from surveillance data into action. Our goal was to assist health care organizations and facilities to utilize data to identify barriers, challenges, and gaps to drive improvement. Next slide, please.

The ICAR team establishes partnerships with health care facilities to improve infection control capacity across Minnesota. Through these partnerships and collaborations, the MDH ICAR team identified a need for standardized resources to assist with infection prevention audits. Facilities routinely have policies and procedures in place, they've provided staff education, but often need resources to audit staff compliance through direct observation tools. As a result, the MDH ICAR team has developed easy-to-use Word and Excel-based resources to assist with infection prevention audits. Next slide, please.

I'd like to share with you the facility engagement around the state. The counties highlighted in blue are where facilities expressed interest in participating in a pilot program. The purpose of this pilot program was to test the design and validate the usefulness of these tools to drive quality improvement. Over a period of eight weeks, the facilities implemented the tools and provided regular feedback. I'd like to share some of their feedback. An IP from a long-term care facility stated, "I found most helpful the awareness of missed opportunities, the ease of use and understanding of the tools, as well as the pertinent data that came from the summary pages." A critical access hospital IP wrote, "I think seeing the summary statistics as the audits continue month-to-month will be helpful to see trends. This will be an extremely useful tool." Next slide, please.

Best practices have been combined into a suite of tools covering hand hygiene, personal protective equipment, wound care, and environmental cleaning. Utilizing technology by developing auditing tools that tabulate compliance data into graphs and charts can increase efficiency for infection prevention data collection and showcase actionable insights. These actionable insights are meaningful findings that can facilitate better decision-making, track performance, and improve quality. Next slide, please.

The audit tools objectives are to reveal your infection prevention and control data story by assessing compliance at the role, department or unit, and facility level; identifying whether there are opportunities to improve; identifying the specific steps where improvement needs to be targeted; and measuring improvement over time and visualizing it in a chart or graph that the tracking tool generates automatically as data is entered. Now, I'd like to pass the presentation to Britt to describe the tool function and capabilities.

[Britt Bailey, Epidemiologist Senior]
Thank you, Kristi, especially for providing the foundation for why the tools were developed and the objectives of the tools. So as said, I am Britt Bailey. I am the ICAR epidemiologists, and I will be introducing the suite of materials that have been developed. As already mentioned, the suite of materials includes four infection prevention domains: hand hygiene, personal protective equipment, environmental services, and wound care. Within each of these domains, there are two tools to support the assessment of best practices through direct observation. The first is the observation tools built in Microsoft Word and to be used by the auditor. They are to observe if the staff member completes the relevant elements and documents appropriately. The elements assessed are evidence-based infection prevention standards. The audit workbooks built in Microsoft Excel manage and analyze twelve months of audit data. Custom reports and graphs can be generated in the tool to provide a comprehensive view of the current infection prevention practices and identify key indicators for improvement. I will start by reviewing the observation tool and identify a few key components that we used to develop these tools and how they can be used in combination with the audit workbook.

So on this slide, you will see a screenshot of the four observation tools. The observation tools are to be used by the auditor to determine compliance of infection prevention practices for any staff member. Wound care, hand hygiene, and PPE allow for multiple observations per sheet, while EVS is one terminal cleaning per sheet. During the development phase, we emphasized the need to standardize the format as much as possible. This was intended to help ease the use of each tool. So as you begin to use, master, and utilize each tool, those same skills are to be applied to the other domains. This is also true for the Excel Workbook, which we will discuss here soon. I'll be referencing screenshots from the hand hygiene tool, but again, that information is applied across each domain.

So this slide visualizes how the two tools work together. The observation tool on the left is where you collect the observation data, which is then entered into the respective audit tool on the right. This is a critical step in the auditing process, as a workbook is where the audit data is analyzed and visualized. So here is a health – a hand hygiene observation and the audit tool working together. On the left, you have a hand hygiene direct observation, which was completed on October 1, 2022. It observed that a rehab staff completed alcohol-based hand rub prior to entering the rehab room. You can see the data entered in the row where the arrow is pointing, depicting that information. So as the data are entered into the month tab, the compliance rates are automatically calculated. Now that you have seen a snippet of the Excel tool, we will further dive into the workbooks. I do want to note that all data represented in today's presentation are from a sample dataset.

We are now going to transition into the audit workbooks. This slide highlights the features of the audit workbook. Each workbook contains 18 tabs. You can see a brief description of each tab. We will review the tabs that you will interact with and their purpose in later slides, but I do want to highlight the two tabs that will not be discussed in later slides, which are the introduction and element standards. The introduction tab explains why the tool was developed and the other resources available. The elements standards tab is what we call the data dictionary and provides information on the evidence-based infection prevention standards. Each workbook contains the same 18 tabs, again ensuring that standardization across each domain.

So let's look at a few of the other tabs that were mentioned in that previous slide. So the first one being the instructions tab. The instructions tabs allow you to set your timeframe, being your tracking year and tracking start date, and goal compliance rate. After selecting the tracking start date in the third blue box from the top, the workbook will calculate the next eleven months. In this screenshot, we have selected the tracking start date to be January 2022. Throughout this presentation I will highlight the importance of this field, but want to note that it is a critical field to populate, and this is where that occurs on the instructions tab. The goal compliance rate will be included in a graph to allow for you as a facility or the IP to see how the monthly compliance compares to that overall goal compliance rate. This rate is set by you as the facility. This tab also provides a simple step-by-step instructions on how to begin using the workbook.

This next slide talks about the template audit score tab. Now this includes a screenshot of a completed month tab and highlights the various components for facilities. I'm going to review this top to bottom and left to right so if you want to follow along. The top says January 2022. Now this month at the top is automatically calculated based on information entered in the instructions tab as the tracking start date. As a reminder, we set the start date to be January 2022 in the previous slide. I do want to highlight knowing that we have already begun 2023 that you do not have to start with January as your first month. This tool was built to collect data, collect 12 months worth of data. So if you were to start the audit tool, for example, on October 2022, that first month would be October 2022. The second month would be November 2022 and et cetera. It will calculate over the calendar year. So in this example of a start date in October, the fourth month would be January of the next year. So wanting to ensure that you can begin using these tools at any point within a year or calendar year. The next part that I want to discuss is the audit data. So that is where the red bar is to the left. Each row represents an audit. So here you can see nine audits were conducted and entered, again this is a sample data set. And one of the features that we wanted to build into this monthly tab is just a visual of a scorecard through coloring of cells based on the direct observation outcome. So as you are entering data, you will put YES for completion of that practice, NO if it was not completed, and N/A for not assessed for each opportunity during the audit. And you can see here, the boxes will automatically go green for YES or Y, red-brown for NO or N, and yellow for not applicable. In the middle of the screen, you will see two red boxes and those point to data collections. These collections are automatically calculated as data are entered into the tabs – into the rows excuse me – providing a real time assessment of compliance. And the bottom left, you will see the comments you can enter concerns or notes in this box. And then finally in the bottom right is the monthly compliance rate, and this is the overall compliance rate for just that month.

So we saw briefly what that monthly tab looks like in that previous slide with the screenshot, but I'm going to talk about just the month tabs a little bit further So we have month 1 through month 12 in the workbook. Again, the month 1 is determined by what you enter as a tracking start date. Each tab has a capacity for 50 observations per month. You as a facility will determine the number of audits to be conducted per month. Each row is a new audit. And to increase data quality, the spreadsheets were mirrored to accommodate the data elements within the observation tools. The observation tools and audit workbooks worked together as previously described. The raw data was captured in the observation tools and directly entered into the monthly tabs. It is important to enter data in a timely manner. And to help with data entry, we have provided dropdowns for standardized fields. Some examples are job role and the type of precautions within the PPE workbook. And the top few rows are frozen, so they will appear as you scroll down in the rows.

I want to specifically call out the EVS monthly tabs. I'm going to give a brief description as to why we landed where we did with the EVS monthly tabs and the additional calculations provided within the red box. So the TDC score is a calculation of aggregate thoroughness of disinfection cleaning score. It has been found that the cleaning practice is more likely to vary between types of objects than patient units. So the high touch surfaces listed in the checklist and the observation tool had been grouped into five categories for calculating the aggregate TDC scores. So we have high touch I, high touch II, high touch III, bathroom surfaces, and equipment surfaces. This allows you to report on the aggregate TDC scores for each category of objects. Within the EVS element standards tab – so as the one tab we haven't gone over, but it is available – it does break down what surfaces and equipment are included in those five categories. And so in this screenshot, what we wanted to highlight was that within the EVS monthly tabs, there is an increased number of calculations at the bottom of the tab. Again, these are updated as data are entered. And I will show an example of how to utilize these scores in a future example.

So now we have talked about how to begin using the tool, we have talked about how to utilize the observation tools to gather the data, we have talked about how to enter data into each individual tabs and monthly tabs, and now I really want to dive in to what I believe is the bread and butter of this tool. We have coined it as the motto is "show me the data." So now we're really entering into how we transform our data into action and knowledge. So the summary statistics tab allows facilities to measure improvement and compliance over time

and visualize progress in the Excel tool that is autogenerated as data are entered. This tab provides a high level and detailed data summary, including the ability to track compliance rates by month; average number of missed opportunities per audit; the breakdown of the elements standards to understand what specific components are frequently missed; the ability to compare up to three months of data along with a week-to-week comparison; and for hand hygiene, PPE, and wound care, you may also look at rates by job role; and the ability to share this data, these data with QAPI groups, facility leadership, and staff. We're going to explore each of these areas over the next few slides, but in development we wanted to make sure that this tool provided the ability to track data over time. This allows you to not only act on timely data, but to also see the progress that has been made over time or can highlight a need for educational efforts. So we're going to explore what information is represented on this slide. Again, a sample dataset. This part, this is part of the tab provides two different ways to visualize the data. One in a table and two in a graph format. At the top of this tab, it provides a high level summary of the audit data, including the month, number of audits, hand hygiene compliance rates, and the number of missed opportunities per audit. In this example, we started with our date of January of 2022, so you can see month 1 is January 2022 and the rest of the months automatically calculated. A couple of things to note about this, if the month you go over the calendar year, so if we were to start this in October of 2022, you can easily see what month corresponds to what tab. The summary statistics tab additionally provides graphs outlining the compliance rate comparison to the overall compliance goal as defined in the instructions tab and the average number of missed opportunities per audit. So when I mentioned earlier about the facility goal rate, you can see that it is automatically graphed right here in the orange line, and the blue line indicates the actual compliance rate that has been observed in the facility.

So this next slide, we're continuing with the summary statistics tab, but scrolling down. It provides the ability to compare three months of data along with a week-to-week comparison. This allows you to further pinpoint and analyze deficiencies and identify any improvement opportunities. In the row with the yellow box that says "select months for comparison," the 12 months will appear in a dropdown list, allowing the ability to compare months as you ask questions about your audit data. For example, you can see that I'm comparing October, November, and December 2022 data. The top table provides a number of audits conducted per week and the number of missed opportunities. The graph below provides the average number of missed opportunities by week, offering two different ways to visualize the data. As an epidemiologists and I look at the data, one thing that really stands out to me is we have weeks of no missed opportunities and weeks with a high number of missed opportunities. So I, as a facility, may want to look into the audits for those particular weeks and also understand if maybe we were in a particular unit/wing of the building or if there were staffing changes on the weeks of higher missed opportunities.

So the last part of the summary statistics tab was really influenced during the pilot period. So Kristi had mentioned earlier on that we conducted a pilot period last fall for eight weeks. And we asked facilities to provide suggestions on improving data entry and/or this summary statistics tab. As a result, we decided to add in or expand our summary statistics tab to increase the level of detail by role. This is applicable across three of the four tools. So it is within the hand hygiene, PPE, and wound care. So within the summary statistics, you can select the role, which then populates a table and graphs with audit data specific to that role. The information within the table and graphs allows for a person to review role-specific compliance rates by month. In certain situations, this allows for targeting of interventions to the role that has demonstrated a need. So this completes the review of the summary statistics tab. So I want to just reiterate that the overall goal of this tab is to process the raw data into information and to use the knowledge of action and decision-making. The audit results are aggregated for tracking and trending patterns as we have discussed, but also provides that granular level data. The information and knowledge gathered from the summary statistics tab can be shared with your facilities QAPI team, management, leadership, and staff. And I'm going to provide a bit of guidance on how to best share graphs and tables from Excel in a little bit.

To wrap up the tools, the action workbook – the audit workbooks, the last tab is the action plan. This tab was created to allow for documentation of targeted interventions after reviewing audit data; assessment of those

actions, for example, does the data support improvement following changes that were made; creating a data driven culture. The information that can be obtained from the summary statistics tab help aid a facility and conducting a root cause analysis to identify barriers to improve compliance. And we wanted to provide within the Excel Workbook a way to document those actions that have been completed over the entire tracking year, knowing that, you know, staff turnover happens, we are also very busy, but we really wanted to make sure that as you were reflecting on that previous year of audit data, you could look at the actions that were conducted, and the outcome of those by looking at the data.

So I want to walk through a couple of situations that I think that highlight how the application of these tools can be applied in facilities. So we're going to go through two different data stories and then they really highlight how we can utilize the summary statistics tab to answer specific questions that we're asking. So the first data story is related to the environmental cleaning observations. So a facility has completed one month of environmental cleaning observations and entered the data into the audit workbook. After the data entry, the infection preventionist is reviewing the summary statistics tab and notices that the TDC score for high touch I surfaces is at 35.9%, which you can see outlined in the red box on the right. In comparison the monthly compliance rate is at 65% represented in the green box above the high touch surfaces. So as a reminder, the TDC scores stand for thoroughness of disinfection cleaning score. So the IP identifies that there is an area of need but would like to further understand what surfaces and objects are being missed within the high touch I category.

So the EVS audit workbook allows the IP to look in two different areas. The first is to navigate to the monthly tab, which is on the left part of the screen and scrolls down to the bottom to further see the breakdown of the elements that are included and the high touch I category. So that is outlined in the red box. So we can see that the three columns that are included are bed rails and controls, a tray table, and the IV pole for high touch I. Within this monthly tab, we can understand the percentage of surfaces cleaned. So within the audits that were conducted in January 2022, within bedrails 69% of those surfaces were cleaned, within the tray table 21% of surfaces were cleaned, and the IV pole 11% of surfaces cleaned, which immediately identifies that there is a discrepancy between the elements and provides an opportunity for a targeted intervention. Now, there is a second area the IP may look to further explore the data within the high touch I category, and that is within the summary statistics tab as you scroll through and you can look at the monthly comparison. So here you can also look at the elements that are included and the high touch I category. So again we have bad rails and controls, tray table, and the IV pole. This data visualization not only identifies the elements, but also the distribution of missed opportunities over the month by week. We can see that the distribution of missed surfaces is similar week by week. So both areas provide that IP with the data to identify the specific elements that are frequently missed and indicates an action is needed to increase EVS compliance.

Which brings us to how we can document such actions within the action plan tab. So here are two rows that help that have been documented as a result of the discrepancies found or the finding of missed or forgotten items during EVS audit. So the issue is finding missed or forgotten items during EVS cleaning. The action then as the IP is to share that data with the EVS manager. Within this step, you can assign who is it responsible for doing that work and to set a due date. The next step is to have the EVS manager provide targeted education to EVS staff. The EVS manager then reported back that the competency was reviewed at a staff meeting. As the IP, you can keep record of actions that have been made and over the next couple of months be able to determine if that action has created a change in practice, hopefully resulting in increased compliance rates. So that is wrapping up data story number one. So now we're going to walk into data story number two.

Here we are going to focus on a hand hygiene compliance example. So again, we have a facility who conducted one month of hand hygiene observation and entered that data into the audit workbook. The overall compliance rate was 64%. The facility set a goal compliance rate of 75%. So in the bottom graph, you can see that reflected in the orange line. So as the IP is reviewing the data, you can start asking yourself the question of are there differences between roles and hand hygiene compliance.

And this is how the tool would support answering that question. The first is navigating to the summary statistics tab and scrolling down to assess the hand hygiene rates by job role. So that section is towards the bottom of the tab. And as the IP is reviewing the rules and compliance rate, they notice that the hand hygiene compliance rate for the trained medical assistant (TMA) which is on the right is at 33% for the month of January. Now for comparison, the hand hygiene rates for providers was 75%. The IP concludes that a targeted intervention is needed by role. This could be done in a variety of different ways. The first could be looking at the workflow of the identified role, seeing if there are any barriers to access to hand hygiene or re-educating staff on hand hygiene.

So this again is how we can document those actions within the action plan tab. Here you can see that we documented there were missing hand hygiene opportunities as the issue. We're going to share that data with the nurse manager. And the IP and nurse manager have decided to have the TMAs review the Project Firstline module on hand hygiene. After completion of the modules, that information is recorded and shared back with the IP. Again the IP can keep record of actions that have been made, and over the next couple of months be able to determine if that action has created a change in practice.

So I wanted to make sure that we introduced the tools,, how they why they were built the way that they were, , the features of each of the workbooks, and then give specific examples as to how those workbooks can be utilized. I also want to just walk us through that general cycle one last time and just how that this is supported by the infection prevention audit tools. So first off it provides, the infection prevention audit tools provide facilities a standardized resource to assist with audits. It starts at the top, so we're going to follow this clockwise. It starts with collecting that audit data through direct observations. Then we move to completed observations are entered into the Excel spreadsheet. The tool automatically analyzes that data. The facility then reviews the summary statistics tab and identified trends and areas of improvement. And finally the next is to develop, find a way to just share that data with the QAPI management, leadership, and staff and develop action plans to increase compliance. This process then continues, which creates a data-driven sustainable approach for facilities to audit staff compliance through direct observation audits.

Now you may be wondering – and they might be in the chat and I can't see those right now but – where do we find these tools? So they are currently live on the MDH ICAR webpage. If it hasn't been dropped in the chat yet, if someone would please drop the link in the chat. And you can navigate over to where you can download these tools. You will see as you navigate to that webpage, there's a section for each of the infection prevention domains. The audit workbooks I do want to note have been protected to prevent any unintentional edits by the user that may disrupt the functionality. You are able to interact with the cells to enter data but wanting to protect the integrity of the workbook and the formulas that have been developed. If there are any questions about that, in a couple of slides here it will provide contact information. But in addition, we have the infection prevention audit tools instruction manual on the website also. And within this manual, I want to point out one piece that I think is extremely helpful, and it is a section that provides information on how to easily print data and charts from an Excel workbook. So when you open up that manual it will, you'll be able to jump to this section, but what it does allow is just that understanding that printing lengthy spreadsheets can be difficult and are often too long to fit on a single page. So for this reason we do provide recommendations on how to use utilize the print screen or the snipping tool to capture screenshots of those reports and graphs that you may be interested in presenting. We really want to ensure that you have the ability to provide data to various teams within your facility, but also just increase that data transparency. Audit data really is important to share, not only within leadership but within staff. So I highly recommend within that manual to read through the section regarding how to print the workbooks. And in the coming weeks, this webinar is being recorded and will be added to the website. So very much looking forward to having that there along with the tools. So again, you can access them by clicking this link or the one that was provided in the chat.

So I would like to just thank you all for the opportunity to share the release of these tools, and for the partnerships and collaborations that have been developed with the ICAR team. As you can see here today, it

really does play a pivotal role in identifying the need for any type of resource development and so we look forward to continuing those partnerships and identifying additional resources to be developed. I have included the ICAR inbox on this side, but the email address may also be accessed on the MDH ICAR webpage. And we just encourage you to please reach out with any questions you may have, especially as you begin using these workbooks. So I'm going to say, thank you and I can open it up to my other colleagues who are on the line if they want to address any questions or have anything else to add that may have been missed throughout our presentation.

[Kristi Juaire, Nurse Specialist]
Thank you, Britt. This is Kristi and I want to thank everyone for attending. We do encourage as you utilize the tools to reach out to our email site here at health.icar@state.mn.us and let us know how it's going or questions that you have. Kathy and Caramae have been busy answering questions in the Q&A. One final question that is out there is are we able to download the audit tools into an iPad? And that is a really great question and we had been looking at what are the capabilities and what the tools could be utilized, like in that type of electronic format. I think right now they are in the Excel tool and the Word document. If you can place those and utilize those on your iPad, but we don't really have them built yet to be interactive within an electronic device, but the workbook could be expanded with a few modifications. So I don't know if Britt or Kathy or Caramae may have anything more you want to add?

[Britt Bailey, Epidemiologist Senior]
Hey, Kristi. No, I have nothing else to add for that. Thank you, though.

[Kristi Juaire, Nurse Specialist]
Okay, well I think then we'll be concluding our webinar, but again, thank you and we look forward to hearing how it's going. Take care everyone.

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