

**DEPARTMENT OF HEALTH AND HUMAN SERVICES  
CENTERS FOR DISEASE CONTROL AND PREVENTION  
National Center for Emerging and Zoonotic Infectious Diseases  
Division of Healthcare Quality Promotion**



**Healthcare Infection Control Practices Advisory Committee  
August 29, 2018  
Atlanta, Georgia**

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**Record of the Proceedings**

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## Meeting Agenda

### Healthcare Infection Control Practices Advisory Committee

August 29, 2018

Centers for Disease Control and Prevention

Atlanta, Georgia

Teleconference

#### Wednesday, August 29, 2018

Time	Topic	Purpose	Presenter/Presenter (s)
3:00pm	Welcome and Roll Call	Information	Daniel Diekema (HICPAC Co-Chair) Deborah Yokoe (HICPAC Co-Chair) Mike Bell (DFO, HICPAC; CDC)
3:05	Healthcare Personnel Guideline Workgroup Update	Information/ Discussion	Hilary Babcock (Workgroup Member)
3:50	NICU Guideline Workgroup Update	Information/ Discussion	Kristina Bryant (HICPAC)
4:35	Public Comment	-	-
4:45	Vote and Call Summary	Discussion/Vote	Daniel Diekema (HICPAC Co-Chair) Deborah Yokoe (HICPAC Co-Chair)
5:00	Adjourn	-	-

## List of Attendees

### HICPAC Members

Dr. Daniel Diekema, Co-Chair  
Dr. Deborah Yokoe, Co-Chair  
Ms. Vickie Brown  
Dr. Kristina Bryant  
Ms. Loretta Fauerbach  
Dr. Michael Howell  
Dr. Lisa Maragakis  
Dr. Jan Patterson  
Dr. Selwyn Rogers

### *ex officio* Members

Ms. Yvonne Chow, Health Resources and Service Administration (HRSA)  
Ms. Elizabeth Claverie-Williams, Food and Drug Administration (FDA)  
Dr. Melissa Miller, Agency for Healthcare Research and Quality (AHRQ)  
Dr. Stephen Kralovic, US Department of Veterans Affairs (VA)  
Dr. Daniel Schwartz, Centers for Medicare and Medicaid Services (CMS)

### Liaison Representatives

Ms. Elaine Dekker, America's Essential Hospitals (AEH)  
Dr. Mark Russi, American College of Occupational and Environmental Medicine (ACOEM)  
Ms. Lisa Spruce, Association of periOperative Registered Nurses (AORN)  
Ms. Silvia Quevedo, Association of Professionals of Infection Control and Epidemiology (APIC)  
Ms. Kristen Ehresmann, Association of State and Territorial Health Officials (ASTHO)  
Dr. Marion Kainer, Council of State and Territorial Epidemiologists (CSTE)  
Dr. Steven Weber, Infectious Diseases Society of America (IDSA)  
Ms. Dana Nguyen, National Association of County and City Health Officials (NACCHO)  
Dr. Craig Coopersmith, Society of Critical Care Medicine (SCCM)

Dr. Louise Dembry, Society for Healthcare Epidemiology of America (SHEA)  
Dr. Valerie Vaughn, Society of Hospital Medicine (SHM)  
Dr. Robert Sawyer, Surgical Infection Society (SIS)  
Ms. Margaret VanAmringe, The Joint Commission

### CDC/ Federal Representatives

Francisca Abanyie-Bimbo, CDC  
Katherine Allen-Bridson, CDC/ DHQP  
Rashad Arcement, CDC/ DHQP  
Michael Bell, CDC/ DHQP  
Dale Burwen, AHRQ  
Cedric Brown, CDC  
Nora Chia, CDC/ DHQP  
Marla Clifton, VA  
Kendra Cox, CDC/ DHQP  
Kristi Gillis, CDC  
Runa Hatti Gokhale, CDC  
Jamesa Hogges, CDC/ DHQP  
Karen Hoffmann, CMS  
Christina Kirchner, CDC/ DHQP  
David Kuhar, CDC/ DHQP  
Denise Leaptrot, CDC/ DHQP  
Heather Molten Misner, CDC  
Chris Prestel, CDC/ DHQP  
Catherine Rebmann, CDC  
Kristin Roberts, CDC/ DHQP  
Victoria Russo, CDC/ DHQP  
Christina Sancken, CDC/ DHQP  
Alexandra Savinkina, CDC  
Eileen Scalise, CDC/ DHQP  
Sriha Sen, CDC/ DHQP  
Erin Stone, CDC/ DHQP

Mary Beth White-Comstock, CDC  
Liang Zhou, CDC

**Members of the Public**

Hilary Babcock, Washington University  
School of Medicine  
Lynne Batshon, SHEA  
Steven Brash, St. Vincent Hospital  
Worcester  
Sharon Brauer  
Gary Evans, Reliance Media  
Pam Falk, Northside Hospital  
Maryellen Guinan, AEH  
Linda Holeman, EcoLab  
Eve Humphreys, SHEA

Rachel Long, Becton Dickinson  
Chris Lombardozi, AEH  
Betty McGinty, Northside Hospital  
Sarah Rhea, RTI International  
Maria Rodriguez, Xenex Disinfection  
Services  
Sanjay Saint, SHM  
Linda Samano, LA Children's Hospital  
Heather Saunders, Baltimore (MD)  
Department of Health  
Keith St. John, PDI  
Christol Therien-Douglas, Florida  
Community Health Centers, Inc.  
Cheryl Williams

## Executive Summary

The US Department of Health and Human Services (HHS) and the Centers for Disease Control and Prevention (CDC) National Center for Emerging and Zoonotic Infectious Diseases (NCEZID) Division of Healthcare Quality Promotion (DHQP) convened a teleconference meeting of the Healthcare Infection Control Practices Advisory Committee (HICPAC) on August 29, 2018. The Designated Federal Official (DFO) and co-Chairs confirmed the presence of a quorum of HICPAC voting members and *ex officio* members, which was maintained throughout the meeting.

Dr. Hilary Babcock updated HICPAC on the Healthcare Personnel Guideline Workgroup, including the progress of Section 1 through CDC clearance; draft recommendations and text for the Measles section of the Healthcare Personnel Guideline Section 2; and preliminary draft recommendations and narrative for Varicella and Meningococcal Disease. HICPAC unanimously voted to approve the draft recommendations and accompanying text for the Measles section of the Healthcare Personnel Guideline, Section 2.

Dr. Kristina Bryant described the work of the Neonatal Intensive Care Unit (NICU) Guideline Workgroup, including the risk factor Summary for *Staphylococcus aureus* (*S. aureus*) Key Question 1; and updates on *S. aureus* Key Question 3, the central line-associated bloodstream infection (CLABSI) section, the Respiratory Illness section, and the *Clostridioides difficile* (*C. difficile*) section.

HICPAC stood in recess at 4:39pm on August 29, 2018.

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CENTERS FOR DISEASE CONTROL AND PREVENTION  
National Center for Emerging and Zoonotic Diseases  
Division of Healthcare Quality Promotion  
Healthcare Infection Control Practices Advisory Committee**

August 29, 2018

Teleconference

**Meeting Transcript**

The United States Department of Health and Human Services (HHS) and the Centers for Disease Control and Prevention (CDC) National Center for Emerging and Zoonotic Infectious Diseases (NCEZID) Division of Healthcare Quality Promotion (DHQP) convened a meeting of the Healthcare Infection Control Practices Advisory Committee (HICPAC) on August 29, 2018, via teleconference.

**Welcome and Roll Call**

Coordinator: Welcome and thank you for standing by. At this time, all participants are in a listen-only mode. During the public comment session if you'd like to make a comment, you may press "star 1" on your phone. Today's call is being recorded. If you have any objections, please disconnect at this time. Now I'd like to turn the call over to Dr. Mike Bell, Designated Federal Officer for the Committee. You may begin.

Michael Bell: Thanks very much. And just so you know, the members shouldn't be on listen-only. They'll need to respond. Is that okay?

Coordinator: Yes. All member lines are open.

Dr. Bell: Great. Thank you. So welcome everybody and thank you for joining the call today. This is Mike Bell. I'm in the room with Kendra [Cox] and Erin [Stone]. And I'll start by doing a quick roll call if I may. Please respond when I call your name. Dan Diekema?

Daniel Diekema: Here.

Dr. Bell: Debbie Yokoe?

Deborah Yokoe: I'm here.

Dr. Bell: Vickie Brown?

Vickie Brown: Here.

Dr. Bell: Kris Bryant?

Kristina Bryant: Here.

Dr. Bell: Thank you. I think Vineet [Chopra] is scheduled not to be here officially. Loretta Fauerbach? Okay. I'll come back to Loretta. And ...

Loretta Fauerbach: I am here.

Dr. Bell: Super, thank you. And before I forget, has anyone who's responded so far, any conflicts of interest to declare?

Ms. Brown: No.

Ms. Fauerbach: No.

Dr. Bryant: This is Kris Bryant. I have received research funding from Pfizer for participation in a multi-center clinical vaccine trial. And an honorarium from Pfizer for participation in an educational product for board review.

Dr. Bell: Got it. Thank you.

Dr. Diekema: And this is Dan Diekema. I have received research funding from bioMérieux for clinical trials of automated antibiotic susceptibility testing instruments.

Dr. Bell: Got it. And Vickie, you had none.

Ms. Brown: I have none.

Dr. Bell: And Deb, I heard you say none.

Dr. Yokoe: That's right.

Dr. Bell: And Loretta as well. Michael Howell?

Michael Howell: I'm here, although I'll have to drop partway through the call. I'm employed by Google and own equity in the company.

Dr. Bell: Thank you. Lisa Maragakis?

Lisa Maragakis: Hi. I'm here. And I have received research funding from Clorox for a study of a UV [ultraviolet] light device.

Dr. Bell: Thank you. Jan Patterson?

Jan Patterson: Here. And my husband has been a consultant for antifungals for Merck, Basilea and Gilead.

Dr. Bell: Thank you. Selwyn Rogers? We'll go back to Selwyn. Now let's go to our *ex officio* members, please. AHRQ [Agency for Healthcare Research and Quality], Melissa Miller?

Melissa Miller: I'm here.



Dr. Bell: Thank you. FDA [US Food and Drug Administration], Liz Claverie-Williams? I think I heard a yelp. Liz, are you here? David Henderson, NIH [National Institutes of Health]? HRSA [Health Resources and Services Administration], Yvonne Chow?

((Crosstalk))

Dr. Bell: VA [US Department of Veterans Affairs], Gary Roselle?

Stephen Kralovic: Mike, this is Steve Kralovic representing Gary Roselle.

Dr. Bell: Hi, Steve. Thank you for joining.

Dr. Kralovic: Thank you.

Selwyn Rogers: Hi, Selwyn Rogers just joined.

Dr. Bell: Thank you very much. Any conflicts to declare?

Dr. Rogers: No conflicts.

Dr. Bell: Great. Thank you. Let's see. Let me back up very quickly. FDA, Liz Claverie-Williams? No. NIH, David Henderson? No. HRSA, Yvonne Chow? No. CMS [Centers for Medicare & Medicaid Services], Dan Schwartz?

Daniel Schwartz: Here.

Dr. Bell: Hi, Dan. All right. Okay. And now I'll go through the liaisons very quickly. America's Essential Hospitals, Elaine Dekker?

Elaine Dekker: Present.

Dr. Bell: Thanks, Elaine. ACOEM [American College of Occupational and Environmental Medicine], Mark Russi? No. American College of Surgeons, Elizabeth Wick?

Mark Russi: Mike, I'm here.

Dr. Bell: Thanks, Mark. American Health Care Association, Holly Harmon? American Hospital Association, Evelyn Knolle? American Nurses Association, Sharon Morgan? Association of Perioperative Registered Nurses, AORN, Lisa Spruce? Association of State and Territorial Health Officials, ASTHO, Kristen Ehresmann? How about Council of State and Territorial Epidemiologists, Marion Kainer?

Marion Kainer: Present.

Dr. Bell: Thank you, Marion. Let's see. Lisa McGiffert, are you on? No. Healthcare Facilities Accreditation Program, Donna Tiberi? Infectious Diseases Society of America, IDSA, Steven Weber? No. NACCHO, National Association of County and City Health Officials, Dana Nguyen.

Dana Nguyen: I'm present. Thank you.

Dr. Bell: Thanks, Dana. Public Health Agency of Canada, PHAC, Kathleen Dunn. No. Society for Healthcare for Epidemiology of America, SHEA, Louise Dembry.

Louise Dembry: I'm here.

Dr. Bell: Hi, Louise. Society for Critical Care Medicine, Craig Coopersmith?

Craig Coopersmith: I am here.

Dr. Bell: Thanks, Craig. Society for Hospital Medicine, Valerie Vaughn?

Valerie Vaughn: I'm here.

Dr. Bell: Thank you, Valerie. Surgical Infection Society, Rob Sawyer?

Robert Sawyer: Good afternoon.

Dr. Bell: Thank you, sir. And The Joint Commission, Margaret VanAmringe? So Liz, I understand that you're on. Liz Claverie-Williams, FDA, but unable to unmute. I got it. And somebody else?

Sylvia Quevedo: Sylvia Quevedo, APIC [Association of Professionals of Infection Control and Epidemiology].

Dr. Bell: And for APIC, Sylvia Quevedo is on. Terrific. Thank you very much.

Dale Burwen: And Mike, this is Dale Burwen at AHRQ. Melissa Miller is also on as the *ex officio* member but is unable to stay the whole time, so I'm also on.

Dr. Bell: Thank you so much for joining. I've got it down. Terrific. Let me go back very quickly and see if David Henderson, NIH, has joined. Or HRSA, Yvonne Chow. Or Judy Trawick for HRSA. No. All right. Erin, do we have quorum?

Erin Stone: We have quorum.

Dr. Bell: We have quorum. That's excellent. In that case, thank you very much. I will hand it over to Drs. Diekema and Yokoe to get us started off.

Dr. Diekema: All right.

Dr. Yokoe: Great.

Dr. Diekema: Debbie, do you want me to start?

Dr. Yokoe: Sure.

Dr. Diekema: Okay. So I'm Dan Diekema, one of the co-Chairs. Welcome to this teleconference meeting of the Healthcare Infection Control Practices Advisory Committee. Today we will be hearing updates from two of our Workgroups.

The Healthcare Personnel Guideline Workgroup and the Neonatal Intensive Care Unit [NICU] Guideline Workgroup will have discussion and then afterwards public comment, and then possibly a vote as well. So I will pass it off to Dr. Yokoe to introduce Dr. Babcock.

Dr. Yokoe: We are very excited to get an update from Hilary Babcock on the Healthcare Personnel Guideline Workgroup. Hilary?

### **Healthcare Personnel Guideline Workgroup Update**

Hilary Babcock: Great. Thank you. So I think everyone has the slides in front of them. And I will go through them. I will try to remember periodically to announce what slide I am on so that we can all stick together.

I won't go back through our charge, so I will really be starting on slide 4, on the status report. Section One – the Infrastructure and Routine Practices – is in clearance and will next be posted for public comment. And then we are working on Section Two, the Epi and Prevention of Selected Infections. At our February [2018] meeting, the Pertussis section was voted on and approved, and Measles, Mumps, and Rubella drafts were presented at the May [2018] HICPAC meeting. Mumps and Rubella were approved. We did not have Measles quite ready at that time. So today we'll present the Measles section and we hope to be able to get a vote to approve the Measles section today. And then we'll review the draft Varicella and Meningococcal Disease sections for comment and feedback from the group. And then I'll give you a quick update on other organisms that we are making progress on at this time.

The next slide, just as a reminder that our methodology is different from prior guideline updates. We are going through each pathogen from the 1998 text and reviewing the recommendations in the text for areas that can be deleted, can be updated, or need to be continued. We look at outdated recommendations, gaps, new literature, and areas of need.

We coordinate as much as possible with our pathogen-specific subject matter experts within CDC to provide feedback again on gaps and updates and on available literature. And then decide on the appropriate process for developing new recommendations for that pathogen.

So practically speaking on slide 6, what that means is that some pathogens will have a formal literature review and Key Questions. Some pathogens with very little to no new information will be recommendations will be developed based on less formal reviews, expert opinion, other guidelines, harmonization with existing recommendations. And again, we're mostly aiming for practical and thoughtful guidance where there is little directly applicable literature.

Also as a reminder, in the Core Practices document, there is an Occupational Health section that speaks directly to the importance of immunizations and evidence of immunity and to following ACIP [Advisory Committee on Immunization Practices] recommendations. It speaks to setting sick leave

policies, discouraging presenteeism, and the importance of a healthcare personnel reporting system for their illnesses.

Slide 8 shows all of the pathogens that were in the '98 guideline that we are working on updating. The ones in blue are the ones that have been approved by the Committee already. The ones in green we will be discussing today. And the ones in red are in process, in various stages.

So, our update on 2 pathogens that we are doing a little more formal literature review. For *S. aureus* [*Staphylococcus aureus*], we developed 5 Key Questions. They are shown on slide 9. I'm not going to read through them all as we have seen them before.

Just an update on where that stands – on slide 10, there have been almost 4000 articles identified, most of which were excluded. And we have 124 articles for extraction. Key Question 1, which is for areas without a recognized outbreak or ongoing transmission, where there is a healthcare worker with active infection, what interventions are helpful? We have found no articles that directly address that.

Key Question 5, which was, for asymptomatically colonized healthcare personnel, is there any data around specific anatomic sites that might have differential risk of transmission to patients – for example, nose versus genital carriage, etc. And we have found no articles that address that.

For the other Key Questions, you can see there are some articles. We have the most articles around Key Question 4, which is, in settings with an outbreak or recognized ongoing transmission, what interventions for colonized asymptomatic healthcare workers have been shown to be helpful in interrupting transmission. Aggregation is underway for those and these are being actively worked on.

We discussed at a prior meeting the Influenza and Viral Respiratory Pathogens area. We discussed with several of the CDC Influenza experts and developed a set of questions to guide an informal “desk review” of available literature to see whether we might be able to address these questions or use this literature in developing recommendations.

Those questions are shown here on slide 11. They have to do with the degree and duration of viral shedding in vaccinated versus unvaccinated adults and people with fever compared to people without fever, as we often use fever as criteria for work exclusion. They have to do with degree and duration of viral shedding in people who are receiving antiviral treatment versus those that do not. So, could workers with flu who are afebrile and feeling better come back to work sooner on antivirals compared to those who are not receiving antivirals?

Question 4 again is around transmission from febrile versus afebrile people. And then the degree of transmission or the impact of masking on transmission from infected healthcare workers.

So those questions are under review with a literature review at the moment. On slide 12 you can see how that is going so far. We have found several articles addressing many of those questions, though not all of them. We are in early stages of this at this time. And so nothing has been extracted or reviewed by the Workgroup yet.

I will pause there just for a minute since I can't see anyone to know if you have confused looks on your faces, if there are any questions that I can address about any of those things before we go into some specific pathogen recommendations.

Dr. Yokoe: Are there any questions for Hilary?

Dr. Kainer: This is Marion Kainer. I have a question with regards to a potential additional question which has presented to us fairly recently in public health here in Tennessee. And that is, if you have an immunosuppressed healthcare worker who is shedding for a longer period of time, do we need to have any additional guidance for them?

Dr. Babcock: Thank you for that. That's an excellent question. And we will discuss whether any literature has been seen in the initial poll that might help to address that question. I think how to handle those healthcare workers is going to be clearly an issue as we start to move forward in that section. So thank you for that reminder.

Dr. Yokoe: Great question. Any other questions in the group for Hilary so far? Great.

Dr. Babcock: Okay. So we will forge ahead. Measles update starting on slide 13. We reviewed the old recommendations, reviewed the updated 2011 recommendations from ACIP. We have discussed with subject matter experts within CDC. Got feedback on our draft recommendations in February. And then have also updated the narrative text.

I will go through the draft recommendations. Again, these are recommendations that we would love to have a vote on during this call, if possible.

The 1998 recommendations start, as most of them do, with information very specific about vaccination and documentation of immunity. All of those sections are being deleted with a reference to refer to ACIP and to follow all of those recommendations.

Slide 15 shows postexposure measles vaccination based on work exclusion criteria from the 1998 recommendations. And then our draft recommendations start on slide 16. We have reorganized a little bit the way they were put together to make them similar to the way we organize the recommendations in Pertussis, where we felt like it was helpful to have consistent language and clear criteria around which populations of healthcare workers and patients we were talking about in each recommendation.

And we tried in each of these to start with what we thought was the most common situation and then go through the less common situations as you move down the recommendations.

In the draft update, the first recommendation is for healthcare personnel with presumptive evidence of immunity who have had an exposure to measles. And for those workers, postexposure prophylaxis is not necessary. Work restrictions are not necessary, but daily monitoring for signs and symptoms should occur for 21 days after their exposure.

The second recommendation, B, is for healthcare personnel without presumptive evidence of immunity who have an exposure to measles. For these workers, they should receive postexposure prophylaxis as recommended by CDC / ACIP recommendations – however those stand at the time that the exposure occurs. And they should be excluded from work from the 5th day after the first exposure till the 21st day after the last exposure, regardless of whether they receive postexposure prophylaxis or not.

Slide 18 then goes into a couple of more specific situations for healthcare personnel with known or suspected measles. They get excluded for work for 4 days after the rash appears. And we do address immunosuppressed personnel here, saying for those immunosuppressed healthcare workers with measles, I think they consider extending exclusion from work for the duration of illness because they obviously also need to be excluded, but possibly for longer. So I think that should read consider *extending* exclusion from work for the duration of their illness.

And then E, during a measles outbreak, administer vaccine to healthcare personnel in accordance with current ACIP recommendations.

On slide 19, the outline of the narrative text section. And we use the same outline for all of these sections for consistency. So there is some background, then definitions around what we consider an occupational exposure, some clinical features, testing and diagnosis, and then as relevant postexposure prophylaxis.

For measles, we did some wordsmithing and crafting of the Occupational Exposures section and came to this paragraph, which is shown to you here on slide 20. So it reads, measles is a highly contagious viral illness spread primarily through the air, including small particle aerosols that can remain suspended in air for some time. Transmission occurs through deposition of respiratory, oral, or nasal secretions from an infected source onto the mucous membranes of a susceptible host or through inhalation of air containing infectious particles. Exposures in healthcare may include mucous membrane contact, sharing an airspace with an infected patient, and activities such as performing an examination, feeding or bathing a patient while not wearing or correctly using recommended respiratory protection.

That is the end of the Measles section. I am happy to take questions or comments at this time. And I believe we're going to do voting altogether at the end of the call.

Dr. Yokoe: Okay. So we'll pause now. And any comments or questions for Hilary regarding the measles section?

Dr. Kainer: Hi. This is Marion Kainer.

Dr. Yokoe: Hey, Marion.

Dr. Kainer: Hey. Presumptive evidence of immunity from measles is different among healthcare workers than the general population. And so the age-based cutoff does not apply. And I think it would be really helpful to make sure that the readers of this are aware because at least the way it's structured right now, there's no mention of that – that there is a difference between what we consider presumed evidence of immunity among healthcare workers versus the general population.

And I know that you wanted to reference the ACIP guidance. But just drawing people's attention to that would be really helpful. We actually had consequences with people just applying the generalized population definition. And that resulted in a healthcare worker not being offered postexposure prophylaxis. And that healthcare worker then subsequently infected multiple other office workers and that whole clinic shut down completely. He was never able to recover financially.

So ensuring that people understand that there is a difference I think would be really helpful, especially since it's not necessarily that obvious if you're not looking for it under ACIP. That's one point.

Dr. Babcock: Okay. Thank you for that. We are, as noted, trying to not repeat the things that are in the ACIP guidance. But we can certainly look at how this is structured in the text to be sure that we call attention to the need to read the ACIP criteria very closely and to use the appropriate criteria for healthcare personnel.

Dr. Kainer: That would be really helpful. And then in terms of the guidance that we have given to our hospitals when we've had measles outbreaks, we sort of ask the hospitals to make sure that they are aware of the immune status and have ready access to the immune status of all of their healthcare workers. And that those that have only had 1 dose of vaccine or that have only had the age-based immunity that they're aware of those, so that in the event of any exposures, they could provide postexposure prophylaxis very rapidly.

It's just an operational thing. If people aren't aware that they have to have ready access to it, it can be extraordinarily challenging for a healthcare institution to identify those particular people to provide postexposure prophylaxis in a timely manner.

Dr. Babcock: Yes. That is very true. I think that that probably will not be added to this specific section as it applies to multiple pathogens. So that's also true for you know, varicella, for mumps, for each of those. And it is covered in our operational section at the beginning in Section One. And we do talk in Section One about the importance of easy access to these data, to the importance of useful and easily accessible record-keeping, to documenting everyone's status on hire so that you know what their status is. So that is covered in a different section of the guidance. But thank you for that comment.

Dr. Kainer: I forgot about that. I'm sorry. It just needs to be covered. It's perfectly fine being somewhere else. But those operational details are really important.

((Crosstalk))

Dr. Babcock: Yes. I agree.

Dr. Yokoe: That's a great comment, yes. Any other comments or questions for Hilary?

Dr. Bryant: This is Kris. So Hilary, this is really useful guidance, I think. I wonder about the "sharing an airspace with an infected patient." Some of the occupational exposures include a definition of time. And so should – does this imply that any time period of sharing an airspace with an infected patient counts as an exposure?

Dr. Babcock: Yes. This is probably an area of "intentional vagueness."

Dr. Bryant: Got it. Thank you.

Dr. Babcock: We didn't feel that we could confidently make a time assessment as there are obviously, you know, a lot of factors that go into that in terms of air exchanges, the size of the space, the time since the patient was there – all of those factors that we all use in trying to decide where to draw that line both in time and space.

So we did not get very specific here because we felt that there were a lot of factors that go into that and not a lot of sort of minute-to-minute, foot-to-foot guidance data that we could rely on for that.

Dr. Bryant: Fair enough. Thank you.

Dr. Yokoe: Sounds like a very thoughtful use of intentional vagueness. Other comments or questions for Hilary on Measles? And again as a reminder we're hoping to vote on this section on the end of the call.

Ms. Dekker: This is Elaine Dekker from America's Essential Hospitals.

Dr. Yokoe: Hey, Elaine.

Ms. Dekker: Good morning. Regarding that kind of intentional vagueness, is there a place in this document that could potentially do a small section that speaks to the



factors that should go into considering air transmission, to include air exchange rates and just those things that you listed out to help guide that more novice person working this situation?

Dr. Babcock: Yes. We might be able to add that in the text in trying to define factors to consider. I'm trying to make a note.

Ms. Dekker: Yes, I think it would be really helpful. And if it's not appropriate in here, then maybe another document that we could link them to tell them, here's where you can go to help assess this.

Dr. Babcock: Sure. We will consider that.

Dr. Yokoe: Great.

Ms. Dekker: Thank you.

Dr. Yokoe: Thanks, Elaine. Other comments or questions? Okay. Great suggestions. Thank you. I think you can proceed.

Dr. Babcock: Okay. Varicella – we again reviewed the '98 recommendations. There were extensive updates made to those recommendations in 2011 by ACIP. We've had some discussions with CDC subject matter experts and drafted this preliminary version of recommendations and narrative text. And again as a reminder, these we're presenting for feedback and comments and not yet planning to ask you for a vote.

I will note that there were a lot of recommendations around varicella in the '98 guidelines. And so rather than go through each one and try to line it up with our new ones, as it's different in the way we've structured it now, I will just note that there were a lot of recommendations around varicella before, and they are shown on the next several slides.

As usual, we will be removing the specific guidance around vaccination and immune monitoring and the specifics of vaccine use, etc. And those have been either referred to ACIP or reframed in our recommendation. So that is shown on over the next several slides, which I will not read to you, but they are there for your reference.

And I will then bring you back to – slide 28 is where our updated recommendations will begin. So again, we tried to structure these similar to the way we did Measles and Pertussis to make them easy to find the situation you are specifically having to manage and the populations that you are talking about. And we again tried to start with the most common situation first.

In the draft recommendations, the first recommendation is for healthcare personnel with presumptive evidence of immunity to varicella zoster virus who have had an exposure to varicella, or disseminated or localized herpes zoster. Postexposure prophylaxis is not necessary, and work restrictions are not necessary.

The second recommendation is for healthcare personnel without presumptive evidence of immunity to varicella zoster virus who have had exposure to varicella or disseminated or localized herpes zoster.

I'm just going to pause for a second before I read what to do to state that we will talk in a minute, as before, about what exposure means. So there are differences in what constitutes an exposure for these different clinical scenarios, and we address that in the Exposure section in the text.

So for healthcare personnel without presumptive evidence of immunity who have an exposure to varicella – disseminated or localized zoster – postexposure prophylaxis should be given in accordance with CDC and ACIP recommendations. And those workers should be excluded from work from the 8th day after their first exposure through the 21st day after their last exposure.

Then we address a couple of specific situations. Work restrictions are not necessary for healthcare personnel who are already receiving the varicella vaccine series and who receive the second dose of vaccine within 5 days after the exposure. In bullet 2, the work exclusion needs to be extended from 21 to 28 days if varicella zoster immune globulin is administered as postexposure prophylaxis.

On the next slide, slide 30, for healthcare personnel who have varicella or disseminated herpes zoster or for immunocompromised healthcare personnel with localized zoster, these workers should be excluded from work until all lesions have dried and crusted, or for those who have only non-vesicular lesions that cannot crust, exclude from work until no new lesions appear within a 24-hour period.

Then in recommendation D, slide 31, for immunocompetent healthcare personnel with localized herpes zoster, including vaccine-related rash, recommendations are, cover all lesions and exclude from the care of patients at increased risk for complications from varicella disease such as neonates, pregnant women, and immunocompromised people until all lesions are dried and crusted, or for those who only have lesions that do not crust until no new lesions appear. If lesions cannot be covered – for example on hands or face – then restrict from work until all lesions are dried and crusted or until no new lesions appear.

In the narrative outline, again we broke out the occupational exposures and combined together varicella and disseminated zoster and separated that from localized zoster, which would be single dermatomal localized disease.

On slide 33, we address what would count as an occupational exposure to varicella or disseminated zoster. And we note that varicella can be spread person-to-person by direct contact or inhalation of infectious aerosols, or possibly through infected respiratory secretions that are aerosolized.

We note that unprotected, e.g. not wearing recommended personal protective equipment [PPE], unprotected contact with patients with varicella or disseminated zoster, their secretions, or air containing infectious particles may be considered an exposure to varicella zoster virus. Exposures in healthcare may include unprotected entry into a source patient's room and touching vesicular fluid from skin lesions. Experts differ regarding the duration of exposure to an infectious patient that is needed for transmission and sources suggest timeframes from 5 minutes up to an hour. Transient, unprotected entry into a source patient's room without touching the patient or surfaces is generally not considered an exposure. So there was a little bit more specificity that we were able to provide working with the varicella zoster subject matter expert group around defining exposures in this setting.

Then on slide 34, localized herpes zoster, we state that varicella zoster virus can also spread from a person with active herpes zoster to cause chickenpox in a susceptible person from unprotected direct contact with vesicular fluid filled skin lesions of zoster. And the lesions are infectious until they dry or crust over. So, to make clear that for localized zoster the primary concern is really direct contact.

I will pause there. I know that is a lot. Zoster and varicella turned out to be a little complicated to get together. I am very happy to take comments or questions about that section.

Dr. Yokoe: Okay. Are there comments or questions for Hilary? Hilary, actually I have a couple of questions myself. For immunocompromised healthcare personnel, is there any definition of what you consider to be immunocompromised?

Dr. Babcock: There is not that I am aware of. But we can certainly look to see what has been used in prior studies in which they have tried to define risk for dissemination. We could try to look at that.

Dr. Yokoe: I'm just thinking it might be helpful since it does impact work restrictions.

Dr. Babcock: Yes.

Dr. Yokoe: And then my last question is around localized herpes zoster and exclusion from caring for certain patient populations, high-risk patient populations. Is the rationale for that pretty solid? And I ask because I think practices are pretty variable and there are some hospitals where there are no work exclusions, even for healthcare personnel who are caring for high-risk patients, as long as lesions are localized and can be covered.

Dr. Babcock: So what I will say about that is – I'm looking back through. This is actually not a change from the prior recommendations in '98. It was a category 1A recommendation back in '98. And on slide 26, you can see "restrict immunocompromised personnel with localized zoster from the care of high-risk patients until lesions are crusted and allow them to care for other patients with lesions covered."

We did not explicitly review literature that addressed that specific question. I will say anecdotally at our institution, like in our neonatal ICU [intensive care unit], that is the practice. But I don't know how carefully it is followed in terms of immunocompromised patients – which, as we've discussed before, are intermixed on many of our hospital floors.

I agree that that's potentially an area of concern, though I would just again point out it is not a change in the recommendation.

Dr. Yokoe: Great. Thank you.

Dr. Bell: Hilary, can I ask a quick question?

Dr. Babcock: Yes.

Dr. Bell: It's more a wording thing than anything else in the narrative. The final sentence, transient unprotected entry...

Dr. Babcock: Yes.

Dr. Bell: Rather than "transient," since most entry will have been transient, if you want to try and specify brief or momentary – something that will have readers get a sense of, if it's less than the 5-minute range that you described above, it's not really an exposure.

Dr. Babcock: Sure. Thank you.

Dr. Yokoe: Other comments or questions on the Varicella section?

Dr. Bryant: This is Kris. Hilary, do you think it would be worthwhile addressing the recommended personal protective equipment issue and what that means for varicella? In the interest of full disclosure, Hilary and I have talked about this offline because of concerns at my hospital.

And so, what mask should be worn when you're seeing a patient with varicella? If you have presumptive evidence of immunity, do you need to wear a mask? It seems like there's a lot of variability around that. And do you think there's a role to be more decisive here or not, based on available evidence?

Dr. Babcock: This is also one of those fine lines that we have been trying to walk, in terms of this is the guidance for occupational medicine and occupational health management and is not the infection control precautions recommendations document. So this is not the Isolation Precautions document, I guess is what I'm saying, but is the occupational health document. So we have been wary of making comments about the specific isolation and associated PPE that is required for a given pathogen. We have tried not to be super-specific around that because that's covered in the Isolation Precautions guidance and we don't want to be in a situation where we end up in conflict between those 2 documents.

We have generally said you should be wearing the recommended personal protective equipment. I agree and yes, that this has been a difficult area for places and there is definitely some variability in what kind of protection is required for people who have immunity, if any. But I am not sure that we will be able to address that in this document.

Dr. Bryant: Okay. Thank you.

Dr. Kainer: Hilary, this is Marion Kainer. Similar to the measles presumptive immunity, the same comments apply for varicella. There's a different presumed immunity for healthcare workers compared to the general population. So if you could use similar language for people to refer to the ACIP guideline and pay particular attention to the presumed immunity definition for healthcare workers rather than the general population.

Dr. Babcock: Sure. We'll look at having similar language in the text for all of these to see if we can highlight that for you.

Dr. Kainer: Yes. Because this again is age-based. The age base doesn't apply for healthcare workers, just for the general community.

Dr. Yokoe: Other questions or comments on the Varicella section? Okay. This is really terrific. Do you want to proceed to Meningococcal Disease?

Dr. Babcock: I would love to. So, slide 35 starts the Meningococcal Disease update section. This is not a particularly significant, large revision. We again reviewed the '98 recommendations, ACIP updates, and then put together this draft.

On slide 36, again we will not be specific about meningococcal vaccine use. And so those sections will be deleted with reference to ACIP and to specific items for laboratory personnel.

On slide 37, the old recommendation in 1998 is shown for the use of postexposure prophylaxis, and our draft update recommendation is shown below. So, I will confess I like the old recommendation because it was very clear and specific right there in the recommendation.

But as the definition of what counts as exposure is more complicated for some of the other pathogens than they might be for meningococcal disease, we have tried to not include the definition of an exposure in the recommendation because the recommendations get increasingly unwieldy and long. So we have tried to remove the exposure definition from the recommendations and put it in that Occupational Exposure section in the text instead.

The recommendation here reads much more simply to administer antimicrobial prophylaxis to people who have had an exposure regardless of vaccination status. And then the exposures will be described in the Occupational Exposure section.

On the next slide, again, we will be taking out these vaccine recommendations. And on slide 39, then we have the work exclusion recommendations that state to exclude healthcare personnel with *Neisseria meningitidis* infection from work until at least 24 hours after the start of antimicrobial therapy, and that work restrictions are not necessary for healthcare personnel who only have nasopharyngeal carriage of *Neisseria meningitidis* without evidence of invasive infection.

So again, in the Occupational Exposure section – that text is on slide 41. And here we stated that *Neisseria meningitidis* can be transmitted person-to-person by unprotected face-to-face contact with persons with clinical disease or direct contact with their respiratory secretions or saliva.

We give some examples, including mouth-to-mouth resuscitation, endotracheal tube placement or management, airway suctioning while not wearing or correctly using recommended PPE, and we provide a timeframe around that from the 7 days before symptom onset until receiving effective microbial therapy for 24 hours.

And again note that transient, that we could substitute the word brief, non-face-to-face contact such as being in a patient's room or delivering a food tray is not considered an exposure.

Then we have included reference to the *Biosafety in Microbiological and Biomedical Laboratories* guidance that has specific guidance around how to define exposures in a lab setting. So that could be referenced for people who are dealing with microbiologists and potential exposures in that setting.

That is Meningococcal Disease. And again, this is not up for vote. This is just up for feedback and comments. We would love to have those now.

Dr. Yokoe: Feedback and comments for Hilary? Mike.

Dr. Bell: Hilary, this is Mike. I have one – I don't know if it's stylistic or a contextual thing - to suggest for the draft narrative. The examples of non-face-to-face contact really address food services and EVS [Environmental Services] rather specifically. I don't want there to be a sense that non-clinical staff don't deserve prophylaxis. You know, there is that lesson learned from anthrax and the postal service, etc.

And so with that in mind, would it be possible to add a third example – I understand the value of calling those 2 out, but maybe a third example for someone who only delivered medication or something a little bit more clinical so that regardless of your work category, the exposure does not require postexposure prophylaxis.

Dr. Babcock: Yes. I think that I understand your point and we can definitely come up with a third example of a clinical care provider doing something that would also not warrant postexposure prophylaxis.

Dr. Bell: Terrific. Thank you.

Dr. Yokoe: Great.

Ms. Dekker: This is Elaine Dekker.

Dr. Babcock: Hi. Elaine.

Ms. Dekker: Hi. This is coming from some of our experiences here in our trauma settings and in our ICUs. It kind of speaks to what Michael was talking about. We frequently have people who are in the room in large volume and there are some of them, like at the doorway, documenting things. And we have not considered them exposed, but there's been a lot of pushback on that because, well, "I was in the room when they were intubating."

So – have there been studies that show those people who are usually 10-12 feet away, but in the room for a period of time, are also not at increased risk of exposure – to help support not giving everybody in the room prophylaxis?

Dr. Babcock: Yes. We have tried to be very specific about that, the very close, face-to-face contact so that the people who are farther away from the patient, regardless of how long they were there or what they were doing, would not need prophylaxis and are not at risk.

We can certainly try to add a comment in there that it's not just brief contact but also that even if you're in the room but not close to the patient for a long time, that still also does not need postexposure prophylaxis. Would that address that concern?

Ms. Dekker: I think it would. It would be very helpful. Thank you.

Dr. Yokoe: Great. Other comments or questions? Okay. Excellent. Do you want to move onto the next steps?

Dr. Babcock: Sure. So slide 42 shows our next steps. So as mentioned, we're hoping for a vote on the Measles section today. The *S. aureus* data, evaluation, and extraction are continuing, and we hope to be able to start drafting recommendations soon. We will incorporate feedback from today on the Varicella and Meningococcal Disease sections and hope to be able to bring those back for a vote at our in-person meeting in November.

We are working on the Influenza and Viral Respiratory Diseases literature desk review. They're going to circle back with the subject matter experts to be sure that we have found all the relevant literature.

And then the next pathogen sections that we have for update are shown there. So Diphtheria, Group A [*Streptococcus*], Polio, Parvo[virus], CMV [cytomegalovirus], Adenovirus, and Rabies are coming up next. These are grouped in ways that may not always seem to make a lot of sense, but they are grouped in ways that we can then hopefully get finalized and sent through

clearance in logical groupings that will engage the same CDC areas so that they can do reviews on related pathogens and related sections all together at the same time. That's part of the rationale on the way these are grouped. So those are our next steps.

And on the next-to-last-slide, 43, just to acknowledge all the wonderful workgroup members that have put in lots of time and effort as well as David Kuhar and the rest of the technical support CDC group that have really done a lot of great work on keeping this moving forward and keeping us all on track. And that's all I have.

((Crosstalk))

Dr. Yokoe: Huge thanks to you, Hilary, and to the whole Workgroup and to the CDC support staff. Incredibly productive and you've added a lot of clarity to the previous recommendations. So thank you very much.

Dr. Babcock: Thank you.

Dr. Kainer: This is Marion. I have a quick question or suggestion on this whole thing.

Dr. Babcock: Sure.

Dr. Yokoe: Sure.

Dr. Kainer: At the time that we had prioritized the pathogens, we did not at that time have these very widespread, multi-state outbreaks of hepatitis A. And I'm just wanting to ask the group to potentially consider the timing of when we look at hepatitis A. In Tennessee, we now have 190 cases of hepatitis A. We're certainly not the most infected state, but we're just going up on the epi-curve. [Unintelligible] for healthcare workers who are working either in food preparation or indirect patient care during the infectious period.

And there are some very significant opportunities for improvement in terms of, at the level of employee health and in communications. So just raising that out there just with these really significant multi-state outbreaks of hepatitis A which I don't are going to go away anytime soon, which have appeared after we had done the prioritization.

Dr. Babcock: Sure. Thank you for that, Marion. I do feel your pain. I understand the feeling of a need for urgency around hepatitis A a little bit. I will, without being too cynical, just point out that the timing of this process for us to go through each of these pathogens and review and write and bring to the Committee and bring back and bring to the Committee again and then go through clearance and then get posted for public comment and then get approved means that even if we started hepatitis A tomorrow, we would really not be bringing back meaningful help in the timeframe that I think would be the most helpful.

So we can certainly discuss it internally, but I suspect that the CDC Hepatitis group that is working in response to these, you know, will be working on



interim guidance and recommendations as needed in a more timely fashion. I don't know if Mike or anyone else at the CDC can speak to that. But I think that even if we started now, we wouldn't be all that helpful, I'm sad to say.

- Dr. Bell: Yes, Marion, I believe that it's an important issue. But I think that depending on circumstances, we could make an argument for several other components as well. And I don't know how practical it's going to be to try and adjust. We can certainly take a look on this end to see if there's anything we can do to bring that forward. But I can't make any promises.
- Dr. Kainer: Totally understand. And I think that some interim guidance probably would be helpful. Just in terms of what we are uncovering at the present time here where there are definitely some opportunities for improvement.
- Dr. Yokoe: Okay, great. Thank you Marion. And thanks again Hilary. Dan, do you want to move onto the NICU Guideline?
- Dr. Diekema: Sure. So the next presenter, Dr. Kristina Bryant, is going to provide a workgroup update on the guideline for infection prevention in neonatal intensive care unit patients. Dr. Bryant?

### **Neonatal Intensive Care Unit Guideline Workgroup Update**

- Dr. Bryant: Thank you. All right. I hope everyone has the slide set available. Slide 2 is a brief overview of what I hope to cover today. We will review an update on Key Question 1 and a risk factor summary. I'll provide updates on Key Question 3 for the *S. aureus* section of the guideline and give you some news about CLABSI [central line-associated bloodstream infection] and respiratory illness. And we have something to celebrate with regard to the *C. difficile* [*Clostridioides difficile*] section.

So just as a reminder, Key Question 1 for *S. aureus* is on slide 3. This question actually has 3 parts. What are the risk factors for endemic *S. aureus* infection in NICU patients? Do these factors differ between MRSA [methicillin-resistant *Staphylococcus aureus*] and MSSA [methicillin-susceptible *Staphylococcus aureus*]? Do these factors differ in the setting of an outbreak?

Part 2 of the question is, what are the risk factors for endemic MRSA colonization in NICU patients? And do these factors differ in the setting of an outbreak?

And finally, part 3 – what are the risk factors for endemic MSSA colonization in NICU patients? And do the factors differ in the setting of an outbreak?

Our literature search retrieved 19 observational studies: 1 that addressed *S. aureus*, 15 that addressed MRSA, 2 that addressed MSSA, and 2 that looked at MRSA versus MSSA.

I should emphasize that our analysis included risk factors that were confirmed by the authors to have occurred prior to the incidence of infection or colonization. That seems intuitive, but the studies weren't always clear.

All right. So what did we find? So, risk factors for *S. aureus* infection included lower birth weight, younger gestational age, and prior colonization. For clinicians on the call who care for NICU babies, none of these are likely a surprise.

Lower birth weight is a risk factor for *S. aureus* infection in both endemic and outbreak settings. And this was supported by 4 studies. Younger gestational age was identified as a significant risk factor in 3 studies. And this was no different between MRSA and MSSA in 2 studies. Prior colonization as a risk factor for both *S. aureus* and MRSA infection is supported by 2 studies.

Now, we did find that regarding MSSA versus MRSA infection, NICU infants with MSSA infections were significantly older at the time of diagnosis.

Let's move on to slide 6. I'll entitle this slide, "what we didn't find." So, gender is not associated with *S. aureus* infection. Black race, it's not clear. The studies were really conflicting with regard to this risk factor. There were conflicting results across 3 studies. One showed that black race was a risk factor for MRSA. One showed no association. And 1 showed significantly higher MRSA infections versus MSSA infections.

For all of the other risk factors, we evaluated age of admission, delivery method, inborn status, multiple gestation, Apgar score, respiratory support, and the presence of pneumonia. There was really insufficient evidence to make a risk factor determination. In this category, there were risk factors for which there was a single study, and so we really can't make a determination for these particular factors.

On slide 7, you'll see Question 1.2 and the evidence summary. Risk factors for MRSA colonization include lower birth weight, younger gestational age, multiple gestation, longer pre-colonization length of stay. In terms of what was not associated with MRSA colonization: age at NICU admission, delivery method, race, gender, and congenital malformations.

The jury is still out on inborn status, Apgar score, and administration of antibiotic therapy. And this is probably worth spending a minute on. Inborn status was split, with 4 studies showing significance and 4 studies suggesting no association. For Apgar score, there was 1 study that showed Apgar score to be a significant risk factor, 2 studies that showed no association, and 1 study that showed a negative association.

And then administration of antibiotic therapy is really interesting. So, 2 studies suggested that current or recent use of antibiotics may have a protective effect against MRSA colonization, but 1 of these studies suggested that antibiotic use greater than 7 days prior was a risk factor.

So we really can't determine – the association is unclear. And there's insufficient evidence to say anything about the hospital exposures that are listed on the next slide, which is slide 8. So, central venous catheter exposure, exposure to an MRSA carrier, healthcare worker hand hygiene compliance or prior infection – for these factors there is a single study. And that did not allow us to make any determinations.

The final part of this question, risk factors for endemic MSSA colonization in NICU patients, the evidence base consisted of 2 studies, which both evaluated a composite outcome of MSSA infection and colonization. Now, this really wasn't part of our initial question, but we did drill down on this. And in these studies the outcome was comprised equally of infection and colonization cases. And the yield from this was that birthweight, gestational age, and Apgar score are all unclear risk factors because the studies yielded conflicting results.

In summary, for Key Question 1 we did identify risk factors for both *S. aureus* infection and MRSA colonization. Now, this Key Question really wasn't written to allow us to be able to formulate actionable recommendations. We ask, what are the risk factors and we can say something about the risk factors.

We do think this information is clinically very useful though. So when we identify populations at risk, we can potentially develop targeted interventions to these populations. Our literature search did not retrieve evidence that looked at interventions for specific high-risk NICU groups. We did not retrieve any evidence that targeted optimal interventions to reduce transmission in NICU patients that are at higher risk for *S. aureus* infection or colonization.

And so we hope that this information – which will actually be included in our document narrative, will be used to drive further investigation. I could pause for just a second and ask if there are any questions about Key Question 1 for *S. aureus*.

Dr. Diekema: Any questions for Dr. Bryant? I'm not hearing any. I think you can proceed.

Dr. Bryant: Thank you. All right. Slide 11 addresses *S. aureus* Key Question 3. What are the most effective strategies for preventing *S. aureus* transmission from colonized or infected NICU infants to other patients? And do these strategies differ between MRSA and MSSA or in the setting of an outbreak?

We talked about *S. aureus* Key Question 3 at length when we were last together. Just as a reminder, there were 13 observational studies retrieved in the literature review and 4 descriptive studies. We presented draft recommendations to HICPAC. We received some very useful feedback. Slide 12 summarizes where we are in the process. We have a narrative summary and a recommendation justification table that has been drafted and continues to undergo revision.

You may recall that one of our first recommendations for Key Question 3 highlighted a number of practices – hand hygiene, isolation precautions – that

are really part of Core Practices. And so we've been having a lot of discussion since the NICU document is being published in sections. Do we really need to reiterate Core Practices in every section? When is it useful to reiterate the Core Practices?

We don't want to duplicate work, but we want the document to be very useful to providers on the front line. We recognize that users of this document will not just be healthcare epidemiologists and infection preventionists, but a variety of personnel. So we are currently looking at how best to address the Core Practices. We'll have an update about that next time. We are considering whether or not we need a NICU version of the Core Practices document, and Loretta Fauerbach is taking the lead on that.

All of you on this call who participated in the last HICPAC meeting will recall that we had some specific recommendations around mupirocin use in NICU infants. What we have since realized is that although mupirocin is widely used in NICUs, intranasal mupirocin is not approved for use in patients less than 12 years of age. And this is because pharmacokinetic data in neonates and premature infants indicate that unlike an adult, significant systemic absorption can occur following intranasal administration of nasal mupirocin.

So, the HICPAC document cannot recommend mupirocin use when FDA says it's not approved in patients less than 12 years of age. We think that the most useful approach will be to summarize all of the mupirocin data in the narrative. The CDC team is conducting a targeted search for mupirocin adverse events. This, too, will be summarized in the narrative.

And recall that we are continuing to partner with SHEA to develop companion documents for each section of the NICU guideline. SHEA is a bit more at liberty to make practical guidance recommendations, and we hope that the SHEA document could perhaps make some useful statements about mupirocin use in the NICU where the HICPAC document cannot.

So, next steps. We'll continue to refine our draft recommendations. We'll finalize the narrative summary. And in November, we will present you with a *S. aureus* document. I'll pause there and ask for questions.

Dr. Diekema: All right. Any questions for Dr. Bryant about the *S. aureus* section of her presentation?

Dr. Bell: Not a question but an additional clarification with regard to not wanting to recommend something that's not part of the existing FDA label. Some of you might be thinking but, you know, we do make recommendations for off-label use of a product. It's really more about the fact that this is a specific safety concern as opposed to using something off-label for a purpose. What we're saying is, we would then be contravening a safety issue in the FDA language and we don't want to go there unless there's a great deal more robust information which we would then also bring to FDA. So that's some background of the conversations what we've had on that topic.

Dr. Bryant: Thank you for that clarification, Mike.

Dr. Diekema: Any other comments, clarifications, or questions? Okay. Hearing none, I believe you can proceed.

Dr. Bryant: Great. Thank you. So 2 quick updates about CLABSI and respiratory infections. For the central line-associated bloodstream infection component of the guideline, we had one Key Question. What are effective strategies to prevent CLABSI in neonatal intensive care unit patients? The literature search has been updated. Six hundred and forty three articles underwent title and abstract screen. Four hundred and fifteen underwent full-text review, and 79 are being included for extraction.

The next step is to extract those articles, develop the GRADE [Grading of Recommendations Assessment, Development and Evaluation] tables, and draft recommendations. We hope we may have some draft recommendations for you in November. We will certainly have recommendations at the first HICPAC meeting of 2019.

For Respiratory Illness, again 1 Key Question. What are effective strategies to prevent respiratory illness in NICU patients? The literature search is being updated and we have new exclusionary criteria. I'll say the exclusionary criteria have been updated. The 2012 search included infants less than 12 months of age. The current search is really restricted to NICU infants.

And similar to the process we used for *S. aureus*, we are really not going to address any healthcare worker issues. We will defer those to Dr. Babcock and her team working on the Healthcare Personnel Guideline, so those studies that are strictly dealing with healthcare personnel issues are not going to be included.

Next steps are on slide 17. We need to update the 2012 extraction tables and then conduct the title and abstract and full-text review.

All right. And then finally, *C. difficile*. I am pleased to report that the *C. difficile* systematic review has achieved CDC clearance and will be available on the CDC webpage, I'm told, by the end of the month. It's very exciting.

The SHEA companion document will be in the next issue of *ICHE* [*Infection Control & Hospital Epidemiology*]. I have seen the page proofs. Please look for that very soon, probably within the next couple of days.

Dr. Bell: Congratulations.

Dr. Bryant: Thank you. So many thanks. If you just scroll ahead to slide 22, you'll see the Workgroup members. Again, special thanks to Alexis Elward, who has been part of the NICU guidelines since 2012, since the very beginning. And very exciting to see the first section complete. And of course a huge thank-you to the whole Workgroup team and our CDC colleagues.

Are there any questions?

Dr. Diekema: Thank you so much. And congrats to everybody. It's nice that we're going to see the *C. difficile* systematic review so soon. I reiterate the appreciation you expressed to all the Workgroup members and CDC advisors and support people.

So with that, does anyone have any final questions for Dr. Bryant before we move to public comment? Just waiting a second just to see if anyone is talking into the void, hasn't unmuted their phone. All right. Well, thanks again. And I think we're ready to move to the public comment period.

### Public Comment

Coordinator: The phone lines are now open for public comments. If you would like to make a comment, please press "star 1," and record your name. If you'd like to withdraw your comment, press "star 2." Thank you.

Dr. Diekema: While we're waiting to see if there's any public comments, Erin or Mike, are one of you prepared to read the text of the draft recommendations for Measles for the subsequent vote?

Coordinator: And again if you would like to make a comment, please press "star 1." And I'm showing no public comments at this time.

### Vote and Call Summary

Dr. Diekema: All right. Well then, I think we can proceed to voting on the recommendations, draft recommendations on Measles from the Healthcare Personnel Workgroup that were just presented by Dr. Babcock. I think in the past we had the actual text read and go recommendation by recommendation. Do I have any of my CDC colleagues on the line?

Ms. Stone: Hi, Dan. It's Erin. There are 5 draft recommendations that the Committee will be voting on. Would you prefer that I read all 5 at once and then the group vote on those 5, noting any concerns with any of the specific recommendations as they vote? Or would you prefer to go recommendation by recommendation?

Dr. Diekema: I'd like to go recommendation by recommendation.

Ms. Stone: Okay. For Measles recommendation A, it reads, for healthcare personnel with presumptive evidence of immunity to measles who have had an exposure to measles: 1) postexposure prophylaxis is not necessary; 2) work restrictions are not necessary; 3) implement daily monitoring for signs and symptoms of measles infection for 21 days after their last exposure.

Dan Diekema, how do you vote?

Dr. Diekema: In favor.

Ms. Stone: Debbie Yokoe?

Dr. Yokoe: In favor.

Ms. Stone: Vickie Brown?

Ms. Brown: In favor.

Ms. Stone: Kris Bryant?

Dr. Bryant: In favor.

Ms. Stone: Loretta Fauerbach?

Ms. Fauerbach: In favor.

Ms. Stone: Michael Howell?

Dr. Howell: In favor.

Ms. Stone: Lisa Maragakis?

Dr. Maragakis: In favor.

Ms. Stone: Jan Patterson?

Dr. Patterson: In favor.

Ms. Stone: Selwyn Rogers?

Dr. Rogers: In favor.

Ms. Stone: Thank you. Recommendation A passes unanimously.

Recommendation B reads, for healthcare personnel without presumptive evidence of immunity to measles who have an exposure to measles: 1) administer postexposure prophylaxis in accordance with CDC and ACIP recommendations; and 2) exclude from work from the 5th day after the first exposure until the 21st day after their last exposure regardless of whether of receipt of postexposure prophylaxis.

Dan Diekema, how do you vote?

Dr. Diekema: In favor.

Ms. Stone: Debbie Yokoe?

Dr. Yokoe: In favor.

Ms. Stone: Vickie Brown?

Ms. Brown: In favor.

Ms. Stone: Kris Bryant?

Dr. Bryant: In favor.

Ms. Stone: Loretta Fauerbach?

Ms. Fauerbach: In favor.

Ms. Stone: Michael Howell?

Dr. Howell: In favor.

Ms. Stone: Lisa Maragakis?

Dr. Maragakis: In favor.

Ms. Stone: Jan Patterson?

Dr. Patterson: In favor.

Ms. Stone: Selwyn Rogers?

Dr. Rogers: In favor.

Ms. Stone: Thank you everyone. Recommendation B passes unanimously.

Recommendation C, for healthcare personnel with known or suspected measles, exclude from work for 4 days after the rash appears.

Dan Diekema, how do you vote?

Dr. Diekema: In favor.

Ms. Stone: Debbie Yokoe?

Dr. Yokoe: In favor.

Ms. Stone: Vickie Brown?

Ms. Brown: In favor.

Ms. Stone: Kris Bryant?

Dr. Bryant: In favor.

Ms. Stone: Loretta Fauerbach?

Ms. Fauerbach: In favor.

Ms. Stone: Michael Howell?

Dr. Howell: In favor.



Ms. Stone: Lisa Maragakis?

Dr. Maragakis: In favor.

Ms. Stone: Jan Patterson?

Dr. Patterson: In favor.

Ms. Stone: Selwyn Rogers?

Dr. Rogers: In favor.

Ms. Stone: Thank you. Recommendation C for Measles passes unanimously.

Recommendation D reads, for immunosuppressed personnel who acquire measles, consider exclusion from work for the duration of their illness.

For this recommendation, Dan Diekema, how do you vote?

Dr. Diekema: In favor.

Debbie Yokoe: Just to clarify, I think that Hilary suggested adding “extending” exclusion.

((Crosstalk))

Ms. Stone: It reads, for immunosuppressed healthcare personnel who acquire measles, consider exclusion from work for the duration of their illness. Where’s the clarification? I’m so sorry.

Dr. Babcock: Could you put the word “extending” before the word “exclusion?”

Ms. Stone: Yes. I will read that again. For immunosuppressed personnel who acquire measles, consider extending exclusion from work for the duration of their illness.

And then, Dan Diekema?

Dr. Diekema: In favor.

Ms. Stone: Debbie Yokoe?

Dr. Yokoe: In favor.

Ms. Stone: Vickie Brown?

Ms. Brown: In favor.

Ms. Stone: Kris Bryant?

Dr. Bryant: In favor.

Ms. Stone: Loretta Fauerbach?

Ms. Fauerbach: In favor.

Ms. Stone: Michael Howell?

Dr. Howell: In favor.

Ms. Stone: Lisa Maragakis?

Dr. Maragakis: In favor.

Ms. Stone: Jan Patterson?

Dr. Patterson: In favor.

Ms. Stone: Selwyn Rogers?

Dr. Rogers: In favor.

Ms. Stone: And for the final recommendation, Recommendation E for Measles, during a measles outbreak, administer measles vaccine to healthcare personnel in accordance with CDC and ACIP recommendations.

Dan Diekema?

Dr. Diekema: In favor.

Ms. Stone: Debbie Yokoe?

Dr. Yokoe: In favor.

Ms. Stone: Vickie Brown?

Ms. Brown: In favor.

Ms. Stone: Kris Bryant?

Dr. Bryant: In favor.

Ms. Stone: Loretta Fauerbach?

Ms. Fauerbach: In favor.

Ms. Stone: Michael Howell?

Dr. Howell: In favor.

Ms. Stone: Lisa Maragakis?

Dr. Maragakis: In favor.

Ms. Stone: Jan Patterson?

Dr. Patterson: In favor.

Ms. Stone: Selwyn Rogers?

Dr. Rogers: In favor.

Ms. Stone: And recommendation E passes unanimously. That means that all 5 recommendations were voted on and approved by the Committee. Thank you, everyone.

Dr. Diekema: Yes, thank you all very much. I feel like I should apologize for making everyone vote 5 times. The important part is that we've approved these updated Measles recommendations. We've heard about a lot of ongoing work from these 2 Workgroups, and next steps for both the Healthcare Personnel and NICU Guideline Workgroups. And we really look forward to seeing everybody at the next in-person meeting in November.

And all I have left really is to thank greatly the Workgroup members and CDC colleagues and the Committee members for all the work that's gone into this. Dr. Yokoe, do you have anything you want to say before we adjourn?

Dr. Yokoe: No, just want to echo thanks to everyone. This is really impressive amount of work. Thank you.

Dr. Diekema: Any other business or other comments from our CDC colleagues?

Dr. Bell: Just reminding everybody that if you joined and weren't part of the roll call, just please send a quick email to CDC. It's the HICPAC@cdc.gov email box. Thank you everybody for your effort. This has been wonderful and productive. Much appreciated.

Dr. Diekema: Great.

Dr. Yokoe: Great.

## **Adjourn**

Dr. Diekema: The meeting is adjourned.

Dr. Yokoe: Thank you.

Group: Thank you.

Coordinator: This concludes today's call. Thank you for your participation. You may disconnect at this time.

## Certification

I hereby certify that, to the best of my knowledge and ability, the foregoing transcripts of the August 29, 2018, teleconference of the Healthcare Infection Control Practices Advisory Committee, CDC are accurate and complete.

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Date

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Daniel J. Diekema, MD, MS  
Deborah Yokoe, MD, MPH  
Co-Chairs, Healthcare Infection Control  
Practices Advisory Committee, CDC

## Attachment #1: Acronyms Used in this Document

Acronym	Expansion
ACIP	Advisory Committee on Immunization Practices
ACOEM	American College of Occupational and Environmental Medicine
AEH	America's Essential Hospitals
AHRQ	Agency for Healthcare Research and Quality
AORN	Association of periOperative Registered Nurses
APIC	Association of Professionals of Infection Control and Epidemiology
ASTHO	Association of State and Territorial Health Officials
<i>C. difficile</i>	<i>Clostridioides difficile</i>
CDC	Centers for Disease Control and Prevention
CLABSI	Central Line-Associated Bloodstream Infection
CMV	Cytomegalovirus
CSTE	Council of State and Territorial Epidemiologists
DFO	Designated Federal Official
DHQP	Division of Healthcare Quality Promotion
EVS	Environmental Services
FDA	(United States) Food and Drug Administration
GRADE	Grading of Recommendations Assessment, Development and Evaluation
HHS	(United States Department of) Health and Human Services
HICPAC	Healthcare Infection Control Practices Advisory Committee
HRSA	Health Resources and Services Administration
<i>ICHE</i>	<i>Infection Control &amp; Hospital Epidemiology</i>
ICU	Intensive Care Unit
IDSA	Infectious Diseases Society of America
MRSA	Methicillin-Resistant <i>Staphylococcus aureus</i>
MSSA	Methicillin-Susceptible <i>Staphylococcus aureus</i>
NACCHO	National Association of County and City Health Officials
NCEZID	National Center for Emerging and Zoonotic Infectious Diseases
NICU	Neonatal Intensive Care Unit
NIH	National Institutes of Health
PHAC	Public Health Agency of Canada
PPE	Personal Protective Equipment
<i>S. aureus</i>	<i>Staphylococcus aureus</i>
SCCM	Society for Critical Care Medicine
SHEA	Society for Healthcare Epidemiology of America
SHM	Society for Hospital Medicine
SIS	Surgical Infection Society
UV	Ultraviolet
VA	(United States Department of) Veterans Affairs