**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 23, 2022

## Atlanta, Georgia

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## Record of the Proceedings

# Table of Contents

## Attendees

### HICPAC Members

Lisa Maragakis, MD, MPH, Co-Chair
Nicholas Daniels, MD, MPH
Mohamad Fakih, MD, MPH
Judy Guzman-Cottrill, DO
Colleen Kraft, MD, MSc
Michael Lin, MD, MPH
JoAnne Reifsnyder, PhD, MBA, MSN

### *Ex Officio* Members

Brooke Decker, MD, National Institutes of Health (NIH)
Matthew Ellis, MPH, CIC, REHS, Indian Health Service (IHS)
Melissa Miller, MD, MS, Agency for Healthcare Research and Quality (AHRQ)
LCDR Scott Steffen, PhD, CQIA, CQI, Food and Drug Administration (FDA)
Judy Trawick, Health Resources and Service Administration (HRSA)

### Liaison Representatives

Kristina Bryant, American Society of Nephrology (ASN)
Maureen Carew, Public Health Agency of Canada (PHAC)
Holly Carpenter, American Nurses Association (ANA)
Paul Conway, American Association of Kidney Patients (AAKP)
Patti Costello MT-CHEST, MT-CSCT, American Hospital Association (AHA)
Eve Cuny, MS, Organization for Safety, Asepsis and Prevention (OSAP)
Karen DeKay, MSN, RN, CNOR, CIC, Association of periOperative Registered Nurses (AORN)
Kris Ehresmann, Association of State and Territorial Health Officials (ASTHO)
Keith Kaye, MD, MPH, Society for Healthcare Epidemiology of America (SHEA)
Chris Lombardozzi, America's Essential Hospitals (AEH)
Lisa McGiffert, Patient Safety Action Network (PSAN)
Karen Ravin, MD, Pediatric Infectious Diseases Society (PIDS)
Mark Russi, MD, MPH, American College of Occupational and Environmental Medicine (ACOEM)
Robert Sawyer, MD, Surgical Site Infection Society (SIS)
Christa Schorr, DNP, MSN, Society for Critical Care Medicine (SCCM)
Benjamin Schwartz, MD, National Association of County and City Health Officials (NACCHO)
Sarah Smathers, MPH, CIC, FAPIC, Association of Professionals of Infection Control and Epidemiology (APIC)
Pamela Truscott, American Health Care Association (AHCA)
Valerie Vaughn, MD, MS, FHM, FACP, Society of Hospital Medicine (SHM)
Stephen Weber, Infectious Disease Society of America (IDSA)
Elizabeth Wick, American College of Surgeons (ACS)

### CDC Representatives

Lillian Asonganyi
Gregory Barone
Michael Bell, MD
Kristina Betz
Darian Bishop
LaTasha Boswell MPH, RN, CIC
Sydnee Byrd, MPA
Denise Cardo, MD
Abigail Carlson, MD
Koo-Whang Chung, MPH
Mylaica Conner Henry, MPH
Kendra Cox, MA
Jonathan Dinkins
Jaida Dixon
Nimita Fifadara
Kristi Gillis
Jeremy Goodman
Janet Glowicz
Jyothi Gunta
Alison Laufer Halpin
Kathrine Haluch
Lauri Hicks, DO
Jamesa Hogges, MPH
Bria Jarrell

Parag Mahale
Cliff McDonald
Kerri Moran
Elizabeth Mothershed
Preeta Kutty
Celia Joshi
Alexander Maillis
Michele Neuburger
Devon Okasako-Schmucker, MPH
Belinda Ostrowsky
Hanako Osuka
Marie de Perio, MD
Kiran Perkins, MD, MPH
Edgar Plummer
Chris Prestel
Danielle Rankin
Amy Roberts
Audrey Robnett-Brown
Monica Rounds
Amanda Smith
Christine So, MPH
Kevin Spicer
Amber Taylor
Andrea Thames-Allen
Laura Wells, MA
Carrie Whitworth

**Members of the Public**

Iris Alcantara
Gary Evans
Stephanie Henry, Cambridge Communications & Training Institute (CCTI)
Devin Jopp
Kevin Kavanagh, Health Watch USA
Doe Kley, RN, MPH, CIC, T-CHEST, Clorox Company
Reginald Kole
Julia Marders, FDA
Natalie Roehlk, Summit Healthcare Regional Medical Center

## Executive Summary

The United States (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 virtual meeting of the Healthcare Infection Control Practices Advisory Committee (HICPAC) on August 23, 2022 via Zoom for Government. The meeting was called to order at 12:13 PM Eastern Time (ET). The presence of a quorum of HICPAC voting members and *Ex Officio* members was confirmed, which was maintained throughout the meeting.

Dr. Michael Bell shared with HICPAC all of the great work that DHQP continues to do with COVID-19 and now with monkeypox, particularly with respect to vaccines and continuing to monitor the outbreaks closely.

Dr. Michael Lin presented an update on behalf of the Isolation Precautions Guideline Workgroup (WG) that included a discussion about the goals of creating and updating the 2007 guideline to be concise and available on a mobile device, a description of the conceptual framework of pathogen transmission reservoirs and pathways that the WG is approaching with 3 planned sections, and identification of the first key question on the effectiveness of masks versus respirators. More key questions are anticipated to be forthcoming, and HICPAC looks forward to an update during its November 2022 meeting, with further discussion of this WG's draft recommendations.

Dr. Kraft provided an update on the Healthcare Personnel Guideline (HCP) Guideline WG's progress, which is continuing its work to update the 1998 document with organism- and pathogen-specific recommendations, several of which have already been published. Rabies has received final clearance and will soon be published. Work is progressing on the remainder (e.g., measles, mumps, rubella, varicella, *S. aureus*, cytomegalovirus, parvovirus, and conjunctivitis), which will be published as a group. There also was a discussion about avoiding overlap by coordinating with the Advisory Committee on Immunization Practices (ACIP).

Dr. Guzman-Cottrill presented an update from the NICU Guideline WG, which is working on the fourth and final section of Neonatal Intensive Care Unit (NICU) infection control guidance to add a guideline on respiratory infection transmission to the other guidance that already exists on *Clostridium difficile (c. diff)*, *Staphylococcus aureus* (*S. aureus*), and central line-associated bloodstream infection (CLABSI) prevention. Given that the literature search identified no relevant studies, the next step is to publish the WG's findings as a systematic review similar to what was done with *c. diff* and the Society for Healthcare Epidemiology of America (SHEA) companion document.

Dr. Guzman-Cottrill also presented an update from the Neonatal Pediatric Surveillance WG. This WG is reviewing National Healthcare Safety Network (NHSN) neonatal pediatric surveillance definitions. She will present a more detailed update and possibly draft recommendations regarding pediatric-specific NHSN definitions during the November 2022 HICPAC meeting.

The presentations were followed by public comments, and no federal entity comments were provided during this meeting. The work plan is for the WGs to continue their great work. No votes were taken during this HICPAC meeting.

HICPAC stood adjourned at 1:22 PM ET.

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**National Center for Emerging and Zoonotic Diseases**
**Division of Healthcare Quality Promotion**

**Healthcare Infection Control Practices Advisory Committee (HICPAC)**

August 23, 2022
Atlanta, Georgia

**Minutes of the Meeting**

The United States (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 remote meeting of the Healthcare Infection Control Practices Advisory Committee (HICPAC) on August 23, 2022.

## Call to Order / Roll Call / Announcements

**Sydnee Byrd, MPA, Program Analyst**
**Division of Healthcare Quality Promotion**
**National Center for Emerging and Zoonotic Infectious Diseases**
**Centers for Disease Control and Prevention**

**Lisa Maragakis, MD, MPH**
**HICPAC Chair**

**Michael Bell, MD**
**HICPAC Designated Federal Officer**

Ms. Byrd called to order the August 23, 2022 HICPAC meeting at 12:13 PM Eastern Time (ET), welcomed everyone, and called the roll, establishing that a quorum was present. Quorum was maintained throughout the meeting. HICPAC members disclosed the following conflicts of interest (COIs):

- Dr. Judy Guzman-Cottrill is a consultant for Oregon Health Authority's Healthcare-Associated Infections (HAI) Program.
- Dr. Colleen Kraft is a scientific advisor for Seres Therapeutics and Rebiotix Ferring
- Dr. Michael Lin receives research support in the form of contributed products from OpGen, LLC and Sage Products, which is now a part of Stryker Corporation. He previously received an investigator-initiated grant from CareFusion Foundation, which is now part of BD.
- Dr. Lisa Maragakis receives research funding from the Clorox Company.

Ms. Byrd indicated that public comment was scheduled following the presentations. She explained public comments would be limited to 3 minutes each, and that commenters should state their names and organization for the record before speaking. She reminded everyone that the public comment period is not a question and answer (Q&A) session.

Dr. Maragakis welcomed and thanked everyone for attending. She announced that nominations continue to be solicited for membership on HICPAC. Nominations should be received no later than September 17, 2022. Nominations can be made by email to HICPAC@cdc.gov. HICPAC is still awaiting a replacement for an *Ex Officio* member from Centers for Medicare and Medicaid Services (CMS), which will be announced in the future. HICPAC is happy to welcome Kristina (Kris) Bryant, MD, who will serve as the Liaison Representative for the American Society of Nephrology (ASN), replacing Dr. Alan Kliger. Dr. Bryant is the current Project Chair of ASN's Nephrologists Transforming Dialysis Safety (NTDS). She is the Director of System Pediatric Epidemiology and Infectious Diseases at Norton Healthcare in Louisville, Kentucky, and a Professor of Pediatrics at the University of Louisville School of Medicine. Dr. Bryant is also the immediate past President of the Pediatric Infectious Diseases Society (PIDS) Board of Directors, a Co-Editor of the PIDS-sponsored *Handbook of Pediatric Infection Prevention and Control,* and a member of the American Academy of Pediatrics (AAP) Committee on Infectious Diseases (COID). She served as a member of HICPAC from 2016 to 2020.

On behalf of DHQP, Dr. Bell thanked everyone for giving their time to the HICPAC. This continues to be a major source of input and important work for DHQP and the agency at large.

## Division of Healthcare Quality Promotion (DHQP) Update

Dr. Bell provided a brief DHQP update. The efforts of DHQP continue to move at a very high speed. DHQP is responsible for the agency's vaccine safety efforts and, thus, the nation. The Immunization Safety Office (ISO), in particular, has been extremely hard at work for the last 2.5 years with COVID-19 vaccines for various age groups as they roll out. It is also carefully monitoring the monkeypox vaccine for its post-marketing use and safety profile. While there have been no reports of any serious adverse events (SAEs) beyond local reactions to date, close tracking will continue. The monkeypox outbreak continues to move through the nation but is not affecting people who have not had close contact with someone who is infected. Over 13,000 cases have been identified in 49 states, the District of Columbia (DC), and territories. The overwhelming majority of these have had close skin-to-skin contact in some form or another, which is exactly what is expected from monkeypox.

## Isolation Precautions Guideline Workgroup Update

**Michael Lin, MD, MPH**
**HICPAC Isolation Precautions Guideline WG Co-Chairs**

Dr. Lin pointed out that the findings and conclusions presented during this session were in draft format, have not been formally disseminated by the CDC, and should not be construed to represent any agency determination or policy. As a reminder, the goal of the Isolation Precautions Guideline WG is to update the *Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (2007).*[1] The intent of the update is to make the guideline more concise and suitable for mobile devices, provide an updated scientific foundation for how pathogens spread in the healthcare setting, recommend new categories of transmission-based precautions, and make it applicable to all healthcare settings—not just acute care.

The WG has been diligently working to think about what new categories of transmission-based precautions could be considered in addition to the current precautions. Rather than having 4

[1] https://www.cdc.gov/infectioncontrol/guidelines/isolation/index.html

separate parts for the topics of Scientific Data, Fundamental Elements, Precautions, Recommendations, and an Appendix as in the 2007 version, the proposed outline structure is to have 2 parts. Part 1 would include a combination of Scientific Data, Fundamental Elements, Precautions, and Recommendations, and Part 2 would consist of the Appendix. The length of the 2007 guideline is 82 pages. The aim is for the new Part 1 to be approximately 10-12 pages in length. Part 1 will define the new transmission framework and evidence base and will focus on modes of transmission of infection and prevention. Most of the content included in the 2007 longer guideline will be removed, and instead, other sources within CDC will be referenced. For instance, the *Core Practices Guideline* document will contain some of the details related to the basics of prevention. Other existing guideline documents will be referenced, and perhaps some of the content will go into new guidelines. The proposed outline of the updated guideline is as follows:

- ❑ Part 1, Section A: Review of Scientific Data Regarding Transmission of Infectious Agents in Healthcare Settings

- ❑ Part 1, Section B: Fundamental Elements Needed to Prevent Transmission of Infectious Agents in Healthcare Settings
  - 1.B.i Hand Hygiene
  - 1.B.ii Personal Protective Equipment (PPE) for Healthcare Personnel
  - 1.B.iii Patient Placement
  - 1.B.iv Transport of Patients

- ❑ Part 1, Section C: Precautions to Prevent Transmission of Infectious Agents
  - 1.C.i Standard Precautions
  - 1.C.ii Transmission-based Precautions
  - 1.C.iii Syndromic and Empiric Applications of Transmission-based Precautions
  - 1.C.iv Discontinuation of Precautions (Incorporate in Part 1)

- ❑ Recommendations Part 2

Dr. Lin provided a summary of what can be expected in Part 1, Section A. Section A will update the conceptual framework for infection transmission. One of the early sections discusses factors affecting transmissibility. Whether a transmission occurs is determined by pathogen, environmental, and host factors at the time of the event. Pathogen factors are generally biologically intrinsic. Environmental factors include air (e.g., ventilation) and surface (e.g., material) conditions. Host factors include defense mechanisms that are non-immune based (e.g., intact skin) or immune-based (e.g., prior infection or vaccine status).

In terms of the significance of infection, infections are not uniform in severity or consequence. Based on the health impact that an infection may have on an individual and the community, some pathogens are recognized as requiring intensive efforts to prevent morbidity and mortality, while others do not rise to that level. The boundaries describing those categories require risk assessment, which is done in public health and infection control.

Section A also provides an overview of transmission pathways. Pathogen transmission pathways can be grouped into two broad categories, pathogens that spread via the air and pathogens that spread via touch. Pathogens generally spread via a major pathway, though minor pathways may contribute additionally to spread. Pathogen transmission epidemiology is

informed by observing patterns of infection spread. This involves surveillance that is done during endemic and pandemic periods.

Transmission via air may occur at short distance through direct splash or spray of the pathogen onto a susceptible part of the body or may occur variably across ranges of distance and time via suspended infectious particles. Pathogens suspended in the air most efficiently cause infection via inhalation and deposition along the respiratory tract, anywhere from the nasopharynx to the lungs. All pathogens that spread via the air preferentially transmit over short distances due to a greater concentration of infectious particles in the air near an infected person. However, each pathogen has a signature pattern of observed transmission that extends variably across short-to-long distances and over time, reflecting unique characteristics of pathogen survival in the air and required infectious dose for the susceptible host.

Transmission via touch occurs through physical contact with the pathogen. Intact skin is inherently protective. It can be colonized by pathogenic organisms (e.g., *S. aureus*). Non-intact skin is more vulnerable to infection. Percutaneous exposures include bloodborne pathogens (e.g., hepatitis B, hepatitis C, HIV). For mucous membranes, there are pathogens targeting the gastrointestinal (GI) tract (e.g., norovirus) or those infecting any mucosal surface (e.g., adenovirus). Transmission can involve intermediary personnel, surfaces, or reservoirs (e.g., hands, shared medical equipment, environmental surfaces, and water systems).

In terms of next steps, Section A text has been drafted and is under WG review. For Section B, Fundamental Elements Needed to Prevent Transmission of Infectious Agents in Healthcare Settings, an outline has been drafted and reviewed by the WG, and writing is in process. Section C, Precautions to Prevent Transmission of Infectious Agents, is currently under discussion. The Evidence Review Team is currently evaluating the following question, “For healthcare personnel caring for patients with respiratory infections, what is the effectiveness of medical/surgical masks compared with N95 respirators in preventing infection?”

**Discussion Points**

Dr. Maragakis observed that this sounded like a tremendous amount of work and great progress toward defining the conceptual framework and all of the areas described. She asked whether additional key questions were proposed other than the one mentioned in the presentation, and what HICPAC could do to assist the WG.

Dr. Lin indicated that the question he presented is a targeted question for review that is one of several that probably will be considered in the course of formulating the new guideline. The WG also is in discussion about evaluating the effectiveness of eye protection, with or without the rest of the commonly used personal protective equipment (PPE), in preventing respiratory viral transmission. This is on deck and currently being defined before being put forth to the Evidence Review Team. In terms of what HICPAC can do, many people are directly involved already as technical advisors on HICPAC and the WG. The aim for the November HICPAC meeting is to provide more details for discussing proposed precautions. Reflecting back on this, a key aspect of what he presented during this session, compared to the 2007 guideline, is a more explicit acknowledgement of the continuum of spread that is seen with respiratory pathogens across distance and time. There is less emphasis on dichotomizing that per se, as well as a more explicit recognition of the need to use important aspects of risk assessment related to how infections impact people in society in terms of making specific decisions about which PPE to use.

Dr. Cardo asked what questions, concerns, and/or confusion the WG anticipates from experts in the field and others involved in infection control who have not been involved in this process.

Dr. Lin said he thought some questions that may arise would pertain to how to educate and communicate any changes that are made. Anything new in the guideline likely will require an adjustment, which is at least one pragmatic aspect the WG has to consider. That said, the WG's charge is to ensure that the guideline focuses on what is most accurate and relevant scientifically that is known currently, and then come together as a group on implementation.

Dr. Bell expressed gratitude to Dr. Lin and the entire WG for their efforts to date. As a field, they have many colleagues who are extremely comfortable with the status quo. This is also true for health systems. Change is hard, and there are going to be ripple effects, which they need to be ready to support. That said, he did not think there is anything concrete they needed to or could do at this stage other than being as clear as possible about what is implied. The clarity of rationale being brought to this update will be very valuable for the transparency and implementation consistency of what is recommended. In addition, there will also be a need to grapple with when to do more—or not. Historically, seasonal influenza has been ignored even though it can be very severe and kills many people. With that in mind, the guideline needs to be clear about what to do and when to do it. The other reality is that COVID-19 level precautions are not going to be implemented for every runny nose or cough from a realistic, real-world perspective. The guideline must include useful recommendations that can be implemented meaningfully. Implementation is going to be influenced by certain instances of environment and population. None of this is as easy as a black-and-white cartoon approach, but at the end of the day, they need to be able to move past that to be clearer about those realities. Dr. Bell also foreshadowed that even though this tends to be thought about from the respiratory infection perspective, there is also the touch transmission component in which different pathogens are treated differently in terms of contact isolations. Sometimes people take this very seriously, and other times they do not. This probably reflects an internal risk assessment that is being done, which he thinks they need to be much more upfront about. The gray zone of individual interpretation is probably less helpful in terms of ensuring good infection control.

Dr. Fakih said this was "music to his ears." He believes that ease of implementation and adoption is always very important for those on the frontline. He expressed hope that the revised guideline would offer more clarity in the recommendations. The US is in a completely different environment and is facing issues not previously encountered. He believes that health systems will support such a product, particularly if it is going to help them do their work. Everyone has had to move outside of their comfort zones during COVID-19, so hopefully, this updated guideline will be good for the country.

Dr. McGiffert wondered how patients would be directly included in the guidelines in terms of acquiring their input and communicating the recommendations to them. This is a key component that is missing from many guidelines. It will be a shortcoming if the thinking behind the guideline does not include the patient perspective in helping to prevent spread of infections. The patient plays a very important role, and how they can do that should be in the guideline.

Dr. Lin indicated that there is not a patient representative on the WG, but HICPAC meetings represent important opportunities to acquire public input—including from patients. He welcomed other suggestions regarding ways to obtain patient input.

Dr. Bell clarified that this document is focused on how infections spread as a foundational element. It will lead to recommendations for various settings and patient populations. There

probably is not anything to react to at this point, but attending HICPAC meetings to hear about what is proposed and about upcoming meetings will be a good starting point.

## Healthcare Personnel Guideline (HCP) Workgroup Update

**Colleen Kraft, MD, Chair**
**Infection Control in Healthcare Personnel Workgroup**

Dr. Kraft provided an update on the *Guideline for Infection Control in Healthcare Personnel, 1998*. The findings and conclusions presented during this session were drafts, have not been formally disseminated by the CDC, and should not be construed to represent any agency determination or policy. As a reminder, the original guideline was published in 1998. The HCP WG's goal is to provide updated information on issues for Infection Control in Healthcare Personnel (HCP), Section 2. The WG's charge is to focus on pathogen-specific issues for Infection Control in Healthcare Personnel. Where information is out of date, the WG is making updates using evidence-based methods where evidence is available.

In terms of the status report, **Section 1: Infrastructure and Routine Practices for Occupational Infection Prevention and Control Services** was published in October 2019.[2] Regarding **Section 2: Epidemiology and Control of Selected Infections Transmitted Among HCP and Patients,** Diphtheria, Group A *Streptococcus*, Meningococcal Disease, and Pertussis, all were published on the CDC website in November 2021.[3] HICPAC already approved the following sections: Measles (August 2018); Mumps, Rubella (May 2018); Varicella (August 2019); Parvo, Cytomegalovirus (November 2019); and Rabies (August 2021). The Rabies section has completed final clearance. In progress are *S. aureus*, Measles, Mumps, Rubella, and Varicella. The WG will soon be restarting Cytomegalovirus, Parvovirus, and Conjunctivitis. On deck are Scabies/Pediculosis, Hepatitis A, Hepatitis B, Hepatitis C, Bloodborne Pathogens (Hepatitis B, Hepatitis C, HIV), Herpes, and Tuberculosis (TB) as it relates to HCP.

Regarding the next steps, the Rabies section will be published on the Infection Control Guideline Library website. The *S. aureus* section will be updated once the literature review is complete. The Measles, Mumps, Rubella, Varicella, Cytomegalovirus, Parvovirus, and Conjunctivitis sections are being updated and will be submitted to clearance as a group. Some sections were approved pre-pandemic, so updates may require additional HICPAC approval during the November meeting.

### Discussion Points

Dr. Maragakis acknowledged the tremendous amount of work that has been done on this guideline and asked whether there is anything the WG needs from HICPAC moving forward.

Dr. Kraft said, as noted in the previous discussion, that thinking about the patient and HCP perspectives is important in giving the guidelines additional depth and making them more robust.

[2] https://www.cdc.gov/infectioncontrol/guidelines/healthcare-personnel/infrastructure.html
[3] https://www.cdc.gov/infectioncontrol/guidelines/healthcare-personnel/selected-infections/index.html

In terms of emerging pathogens such as monkeypox and re-emerging pathogens such as polio, Dr. Guzman-Cottrill asked whether there is a role for HICPAC and the WG in terms of more urgent recommendations that are needed, such as community and HCP immunization.

Dr. Kraft expressed her hope that there is a role for the WG. A focus specifically on HCP and their safety at work is a good perspective to have as the WG considers different contexts among HICPAC, in general, to ensure that their thoughts and recommendations are focused on the context. For instance, when considering JYNNEOS vaccine versus ACAM2000 vaccine for various HCP, ACAM2000 cannot be used with all nurses because many work with immunosuppressed patients. A focus on what the HCP needs to be vaccinated and to be back to work and confidence in recommendations are key.

Dr. Bell reminded everyone that HICPAC has a parallel committee, the Advisory Committee on Immunization Practices (ACIP), that leads in terms of vaccine recommendations—including for HCP. HICPAC tries not to duplicate ACIP's work, and similarly, ACIP has removed all of the infection control content from their documents so that they do not have to cross-update. Everything HICPAC does will be in alignment with the formal workings of ACIP and recommendations thereof. There is a very nice synergy.

## Neonatal Intensive Care Unit (NICU) Guideline Workgroup Update

**Judith Guzman-Cottrill, DO**
**NICU Workgroup Chair**

Dr. Guzman-Cottrill provided an update on the *Guideline for Infection Prevention in Neonatal Intensive Care Unit Patients.* The findings and conclusions herein are draft and have not been formally disseminated by the CDC and should not be construed to represent any agency determination or policy. As a reminder, the goal of the NICU Guideline WG is to provide updated information on infection control in the NICU. The WG's charge is to provide input on NICU topics, including *Clostridioides difficile*, *Staphylococcus aureus*, central line-associated bloodstream infection (CLABSI), and respiratory infection transmission prevention in NICUs.

In terms of the NICU guideline status report, ***Clostridioides difficile* in Neonatal Intensive Care Unit Patients: A Systematic Review** was published in August 2018.[4]
**Recommendations for Prevention and Control of Infections in Neonatal Intensive Care Unit Patients: *Staphylococcus aureus* (2020)** was published in September 2020.[5]
**Recommendations for Prevention and Control of Infections in Neonatal Intensive Care Unit Patients: Central Line-associated Blood Stream Infections (2022)** was published in February 2022.[6]

**Respiratory Illness Transmission in Neonatal Intensive Care Units: A Systematic Review** is in progress. For this guideline, the WG identified the following 3 key questions:

- **Key Question 1:** In neonatal intensive care unit patients, does prophylaxis after viral exposure (e.g., palivizumab, oseltamivir) compared to no prophylaxis, prevent the transmission of infection?

[4] https://www.cdc.gov/hicpac/reviews/cdiff-nicu/index.html
[5] https://www.cdc.gov/infectioncontrol/guidelines/nicu-saureus/index.html
[6] https://www.cdc.gov/infectioncontrol/guidelines/nicu-clabsi/index.html

- **Key Question 2:** In neonatal intensive care unit patients, does prophylactic administration of palivizumab, compared with no palivizumab, prevent the transmission of respiratory syncytial virus (RSV) during RSV season?

- **Key Question 3:** In neonatal intensive care unit patients, does prophylactic administration of palivizumab, compared to no palivizumab, prevent the transmission of RSV during an RSV outbreak?

The Office of Guidelines and Evidence Review (OGER), led by Erin Stone, recently completed the updated evidence review related to respiratory infection prevention in this specific setting. They pulled a total of 2,103 titles and abstracts that were screened for the study selection process. Of those, 2,001 studies were excluded as not being relevant to the key questions. A total of 102 full-text articles were reviewed, and all were excluded. Of these, 32 were not relevant to the key questions, 35 were not primary research, 15 were extremely small with less than 10 subjects, 12 had no statistical analyses, and 8 reported only non-NICU patients. After this rigorous study selection process, no relevant studies were included in the analysis. This was a similar outcome to the *c. diff* section that is already published on the CDC website.

Given that there were no high-quality studies to review, this section will be submitted for final clearance and then published as a systematic review on the HICPAC website, similar to the *C. difficile* section. It will include an introduction explaining why this topic was chosen, a complete evaluation with an explanation of how the systematic review was completed, and a conclusion. Given this, a HICPAC vote is not necessary. These important questions still need to be answered. Similar to the other sections, a Society for Healthcare Epidemiology of America (SHEA) companion document to summarize best practices and expert guidance in these and additional topics is being written by a separate WG and will be published concurrently with the NICU Guideline WG's systematic review.

## Discussion Points

Dr. McGiffert asked whether there are any existing NICU guidelines on this issue, emphasizing that many people look to CDC for guidance.

Dr. Guzman-Cottrill explained that this was a systematic review for the purpose of creating a new HICPAC guideline specific to this patient population. There currently is no such guideline. However, SHEA is working to create some type of guidance document or white paper to try to address a lot of these important questions because there is currently no national guideline. The systematic review document mentions that the backbone of infection prevention spans all ages and all types of healthcare settings, including the NICU, and links are provided to many of the core practices and the *Infection Control Guideline*.

Dr. Maragakis pointed out that these evidence reviews highlight evidence that is lacking and what direction further investigation needs to take. Many of the key questions come out of issues with which frontline providers are struggling. Asking these key questions, conducting systematic evidence reviews, and highlighting what is there or not makes a very important contribution. It will be a roadmap for some researchers to follow to try to answer some of these questions.

## Neonatal & Pediatric Surveillance Workgroup Update

**Judith Guzman-Cottrill, DO**
**NICU Workgroup Chair**

Dr. Guzman-Cottrill reminded everyone that the Neonatal Pediatric Surveillance WG focuses on the current neonatal and pediatric National Healthcare Safety Network (NHSN) definitions. This WG has been meeting monthly and is charged with reviewing the current definitions to ensure that all of the definitions are also applicable to clinical presentations seen and the diagnostic evaluations that are used when evaluating infants and young children with HAIs. As the WG marches through the current definitions, they are also drafting new definitions that do not exist in the current NHSN manual for conditions specific to infants and young children. Thus far, the WG has completed its review of NHSN manual Chapter 17 definitions and is nearly finished with Chapter 7. While the WG hoped to have some draft recommendations to present during this meeting, they decided not to do so because the WG's August and September meetings are being dedicated to a final re-review and discussion of Chapter 17 recommendations. This approach was taken because several WG members were unable to consistently attend the WG's monthly meetings due to COVID-19 related priorities over the past 2 years. On behalf of the WG, she plans to present the first set of recommendations during the November HICPAC meeting.

## Federal Entity Comment

No federal entity comments were provided during the August 23, 2022 HICPAC meeting.

## Public Comment

**Kevin Kavanagh, MD, MS**
**Health Watch USA[sm]**

Unfortunately, the United States public healthcare system has fallen behind other developed nations in the ability to detect and stop the spread of infectious disease. For the most part, our system is unorganized, non-uniform, and cost-driven. In a November 2010 white paper from the CDC, SHEA, APIC, and IDSA, a plan of action outlined the elimination of healthcare-associated infections—many of which are antibiotic resistant. One of the outlined 4 pillars of HAI elimination was data for action. Unfortunately, we have not yet been able to achieve this. When data is available, it is all too often highly adjusted and its access if often delayed by over a year. Risk adjustment must be done with caution. One needs to make sure that adjustments are applied to circumstances which cannot be mitigated and not used to normalize deviants. First, risk adjustment for community levels of MRSA is problematic, especially when a facility does not implement universal MRSA screening and intervention upon admission. If community rates are too low to warrant implementation of this strategy, they are too low to be risk-adjusted. Second, risk adjustment for COVID-19 patients with MRSA and other antibiotic-resistant organisms are also problematic. One is only affected if exposed to the resistant organism. During the pandemic, MRSA infections in the private sector rose 17% above their 2015 baseline. In contradistinction, the Veteran's Administration saw an 84% decrease in MRSA infections since 2010—a decrease which was maintained through fiscal year 2022. Third, requiring that only current inpatients who contract COVID-19 14 days or more after admission be counted as hospital onset will capture few patients. One needs to consider that Omicron has an incubation period of approximately 3 days and that the average length of hospital stay is 4.6 days. Not tracking patient acquisitions of COVID-19 places both patients at risks and masks the need for mitigation strategies. Finally, strategies need to be based on the characteristics of the pathogen—not on the political environment. Relaxing school guidance when the US has almost 500 deaths a day, along with 1 in 8 patients developing long COVID, is problematic—especially when there is a teacher and bus driver shortage. It would make more sense to stay the course, especially when a new formulated bivalent booster to BA.5 is just weeks away. Thank you.

## Summary and Work Plan

**Lisa Maragakis, MD, MPH**
**HICPAC Chair**

In closing, Dr. Maragakis briefly summarized the meeting. The day began with the DHQP update from Dr. Bell, in which he shared with HICPAC the vaccine safety work that is underway for both COVID-19 and monkeypox and an update on their work around the monkeypox outbreak. Dr. Lin presented an update on behalf of the Isolation Precautions Guideline WG that included a discussion about the goals of creating and updating the 2007 guideline to be concise and available on a mobile device, a description of the conceptual framework of pathogen transmission reservoirs and pathways that the WG is approaching with 3 planned sections, and identification of the first key question on the effectiveness of masks versus respirators. More key questions are anticipated to be forthcoming, and HICPAC looks forward to an update during the November meeting, with further discussion of some of this WG's draft recommendations. Dr. Kraft provided an update on the HCP Guideline WG's progress. They are continuing their work to update the 1998 document with organism- and pathogen-specific recommendations. Several of these have already been published. Rabies has reached final clearance and will soon be published. Work is progressing on the rest (e.g., measles, mumps, rubella, varicella, *S. aureus*,

cytomegalovirus, parvovirus, and conjunctivitis), which will be published as a group. There was also discussion of avoiding overlap by coordinating with the ACIP. Dr. Guzman-Cottrill presented an update from the NICU Guideline WG, which is working on the fourth and final section of NICU infection control guidance to add a guideline on respiratory infection transmission to the other guidance that already exists on *c. diff*, *S. aureus*, and CLABSI prevention. Unfortunately, no relevant studies were identified. Therefore, the next steps are to publish their work as a systematic review similar to what was done with *c. diff* and the SHEA companion document. Dr. Guzman-Cottrill also presented an update from the Neonatal Pediatric Surveillance WG that is reviewing neonatal pediatric surveillance definitions. She will present a more detailed update and possibly draft recommendations regarding pediatric-specific NHSN definitions during the November 2022 HICPAC meeting. The presentations were followed by public comments, and no federal entity comments were provided during this meeting. The work plan is that the WGs will continue their great work. No votes were taken during this HICPAC meeting.

## Adjournment

**Michael Bell, MD**
**HICPAC Designated Federal Officer**

Dr. Bell expressed gratitude to the WG members who continue to do this important work, particularly the Isolation Precautions Guideline WG for keeping an open mind and embracing a very complex new way of drafting this information. He looks forward to input from HICPAC as increasing details are added to that draft guideline. There is a great deal of opportunity for comment and various perspectives to help refine this to develop the best product possible.

With no additional business raised or comments/questions posed, HICPAC stood adjourned at 1:22 PM ET.

## Certification

I hereby certify that, to the best of my knowledge and ability, the foregoing minutes of the August 23, 2022 meeting of the Healthcare Infection Control Practices Advisory Committee, CDC are accurate and complete.

_____ Date

_____
Lisa Maragakis, MD, MPH
Co-Chair, HICPAC / CDC

## Attachment #1: Acronyms Used in this Document

| Acronym | Expansion |
|---|---|
| AAKP | American Association of Kidney Patients |
| AAP | American Academy of Pediatrics |
| ACIP | Advisory Committee on Immunization Practices |
| ACOEM | American College of Occupational and Environmental Medicine |
| ACS | American College of Surgeons |
| AEH | America's Essential Hospitals |
| AHA | American Hospital Association |
| AHCA | American Health Care Association |
| AHRQ | Agency for Healthcare Research and Quality |
| ANA | American Nurses Association |
| AORN | Association of periOperative Registered Nurses |
| APIC | Association of Professionals of Infection Control and Epidemiology |
| ASN | American Society of Nephrology |
| ASTHO | Association of State and Territorial Health Officials |
| CCTI | Cambridge Communications & Training Institute |
| CDC | Centers for Disease Control and Prevention |
| *C. Diff* | *Clostridium Difficile* |
| CLABSI | Central Line-Associated Bloodstream Infection |
| CMS | Centers for Medicare and Medicaid Services |
| CMV | Cytomegalovirus |
| COI | Conflicts of Interest |
| COID | Committee on Infectious Diseases |
| COVID | Coronavirus Disease |
| DC | District of Columbia |
| DFO | Designated Federal Official |
| DHQP | Division of Healthcare Quality Promotion |
| ET | Eastern Time |
| FDA | (United States) Food and Drug Administration |
| GI | Gastrointestinal |
| HAI | Healthcare-Associated Infection |
| HCP | Healthcare Personnel |
| HCW | Healthcare Workers |
| HHS | (United States Department of) Health and Human Services |
| HICPAC | Healthcare Infection Control Practices Advisory Committee |
| HIV | Human Immunodeficiency Virus |
| HRSA | Health Resources and Services Administration |
| IDSA | Infectious Disease Society of America |
| IHS | Indian Health Service |
| ISO | Immunization Safety Office |
| MRSA | Methicillin-resistant *Staphylococcus aureus* |
| NACCHO | National Association of County and City Health Officials |
| NCEZID | National Center for Emerging and Zoonotic Infectious Diseases |
| NHSN | National Healthcare Safety Network |
| NICU | Neonatal Intensive Care Unit |
| NIH | National Institutes of Health |
| NTDS | Nephrologists Transforming Dialysis Safety |

| Acronym | Expansion |
|---|---|
| OGER | Office of Guidelines and Evidence Review |
| OSAP | Organization for Safety, Asepsis and Prevention |
| PHAC | Public Health Agency of Canada |
| PIDS | Pediatric Infectious Disease Society |
| PPE | Personal Protective Equipment |
| PSAN | Patient Safety Action Network |
| RN | Registered Nurse |
| RSV | Respiratory Syncytial Virus |
| SAE | Serious Adverse Event |
| *S. aureus* | *Staphylococcus Aureus* |
| SCCM | Society for Critical Care Medicine |
| SHEA | Society for Healthcare Epidemiology of America |
| SHM | Society of Hospital Medicine |
| SIS | Surgical Site Infection Society |
| TB | Tuberculosis |
| US | United States |
| WG | Workgroup |