

**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

June 3, 2021

Atlanta, Georgia

Record of the Proceedings

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Attendees

HICPAC Members

Hilary Babcock, MD, MPH, Co-Chair
Lisa Maragakis, MD, MPH, Co-Chair
Deverick Anderson, MD, MPH
Nicholas Daniels, MD, MPH
Elaine Dekker, RN
Mohamad Fakih, MD, MPH
Judith Guzman-Cottrill, DO
Michael Lin, MD, MPH
Michael Anne Preas, RN
JoAnne Reifsnyder, PHD, MBA, MSN
Sharon Wright, MD

Ex Officio Members

Elizabeth Claverie-Williams, MS, Food and Drug Administration (FDA)
Megan Hayden, RN, MS, CNS, CIC, CPH, Centers for Medicare and Medicaid Services (CMS)
Jonathan Merrell, RN, BNS, MBA, Indian Health Services (IHS)
Melissa Miller, MD, BSN, MS, Agency for Healthcare Research and Quality (AHRQ)
Tara N. Palmore, MD, National Institutes of Health (NIH)
Judy Trawick, Health Resources and Service Administration (HRSA)

Liaison Representatives

Paul Conway, American Association of Kidney Patients (AAKP)
Eve Cuny, MS, Organization for Safety, Asepsis, and Prevention (OSAP)
Karen DeKay, MSN, RN, CNOR, CIC, Association of periOperative Registered Nurses (AORN)
Kristen Ehresmann, RN, MPH, Association of State and Territorial Health Officials (ASTHO)
Ashely Fell, MPH, Council of State and Territorial Epidemiologist (CSTE)
Hana E. Hinkle, PhD, MPH, National Rural Health Association (NRHA)
Keith Kaye, MD, MPH, Society for Healthcare Epidemiology of America (SHEA)
Alan Klinger, MD, American Society of Nephrology (ASN)
Jennifer Meddings, MD, Society of Hospital Medicine (SHM)
Lori Nerbonne, Patient Safety Action Network (PSAN)
Toju Ogunremi, BSc, MSc, Public Health Agency of Canada (PHAC)
Tara N. Palmore, MD, National Institutes of Health (NIH)
Mark Russi, MD, MPH, American College of Occupational and Environmental Medicine (ACOEM)
Robert Sawyer, MD, Surgical 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)
Andrea Shane, MD, MPH, Pediatric Infectious Disease Society (PIDS)
Sarah Smathers, MPH, CIC, FAPIC, Association of Professionals of Infection Control and Epidemiology (APIC)
Margaret VanAmringe, MHS, The Joint Commission (TJC)

CDC Representatives

Christina Banister, DHQP
Michael Bell, DHQP
Toni Brown, DHQP
Rebecca Byram, DHQP
Sydnee Byrd, DHQP
Denise Cardo, DHQP
Jim Chatfield, DHQP
Koo Chung, DHQP
Kendra Cox, DHQP

Dominique Godfrey, DHQP
Ann Goding Sauer, DHQP
Rita Helfand, NCEZID
Heather Jones, DHQP
Alex Kallen, DHQP
Jill Kumasaka, DHQP
Preeta Kutty, DHQP
Denise Leaptrot, DHQP
Fernanda Lessa, DHQP

Nigel Lewis, DHQP
Stefanie McBride, DHQP
Kerri Moran, DHQP
Beth Pallo, DHQP
Gemma Parra, DHQP
Monica Payne, DHQP
Joe Perz, DHQP
LaTasha Powell, DHQP
Melissa Schaefer, DHQP
Henrietta Smith, DHQP
Christine So, DHQP

Erin Stone, DHQP
Nimalie Stone, DHQP
Marwan Wassef, DHQP
Jennifer Watkins, DHQP
Lauren Wattenmaker, DHQP
J. Todd Weber, DHQP
Laura Wells, DHQP
Cheryl Williams, DHQP
Taitainia Williamson, DHQP
Sarah Yi, DHQP

Members of the Public

Iris Alcantra
James Arbogast
Shelly Beschta
Deborah Campbell
Ruth Carrico
Patti Costello, American Hospital Association
Nychie Dotson
Pam Falk
Chris Freedman
Jim Gauthier, Diversey Care in North America
Kaitlin Heath
Stephanie Henry, Cambridge Communications &
Training Institute
Edmond Hooker, Xavier University & University
of Cincinnati
Jessica Jorquera
Kevin Kavanagh, Health Watch USA
Doe Kley, The Clorox Company
Iwain Lam
Betty McGinty
Chastity Myers

Kia Parker
Ann Marie Pettis
Kelcey Mathis
Silvia Quevedo, APIC
Maria Rodriguez, Xenex Disinfection Services
Gary Roselle, Department of Veterans Affairs
Matthew Samore
Taylor Simmons, HHS/OS/OASH/NVPO
Chelsea Sliker
Keith St. John, Professional Disposables
International
Scott Steffen, FDA
Judith Steinberg, HHS/OS/OASH/NVPO
Rachel Stricof, CSTE
Lisa Tomlinson, Association for Professionals in
Infection Control and Epidemiology
Ashley VandeBergh
Devyn Vondracek
Kristy Weinshel, SHEA
John Whelan
Karen Williams, NIH
Denise Winzeler

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 June 3, 2021 via Zoom for Government. The meeting was called to order at 12:00 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.

Drs. Maragakis and Babcock welcomed and introduced two new HICPAC members (Colleen Kraft, MD; Sharon Wright, MD, MPH); two new *Ex Officio* members (Jonathan Merrell, RN, BNS, MBA representing IHS; Megan Hayden, RN, MS, CNS, CIC, CPH representing CMS); and three new Liaison Representatives (Toju Ogunremi, BSc, MSc representing PHAC; Sarah Smathers, MPH, CIC, FAPIC representing APIC; Patti Costello, MT-CHEST, MT-CSCT representing AHA).

Dr. Cardo provided a DHQP update in the context of COVID-19 challenges, with a focus on health disparities, health and healthcare equity, and diversity and inclusion in terms of priorities for HHS, CDC, and DHQP. CDC's Director, Dr. Walensky, has asked all programs to identify specific goals and metrics to accelerate the process for addressing these issues. DHQP will identify concrete goals and actions to impact the individual, institution (healthcare facility), and healthcare personnel (HCP) levels. Dr. Cardo emphasized the importance of moving from challenges to opportunities. Although much progress had been made in infection prevention, COVID-19 has highlighted the fragility of the US healthcare system. Consideration must be given to sustainability of the impact of infection prevention and prevention programs (e.g., infection control programs, laboratory activities, data collection efforts, and stewardship programs). Prevention efforts must be focused in a way that addresses racial disparities and issues related to diversity that is not just an afterthought, but is integrated in all efforts. DHQP has a very important goal to undertake organizational improvement efforts for its own workforce development in terms of ensuring that it is diverse in terms of inclusion and opportunities. A critical issue in which HICPAC can play a primary role is reassessing infection control recommendations and thinking about how to make programs sustainable across the continuum and across facilities with various levels of resources. HICPAC applauded the focus on diversity, inclusion, and disparities in terms of how it can impact healthcare-associated infections (HAIs).

Drs. Reifsnyder and Lin provided a detailed update from the Long-Term Care/Post-Acute Care Workgroup on the expert opinion white paper titled, "Consideration for Use of Enhanced Barrier Precautions in Skilled Nursing Facilities" in terms of four major topics, including: Implementation Approaches, Cost Consideration, Considerations During Shortages of Gowns and Gloves, and Unresolved Questions. HICPAC voted unanimously to approve the white paper.

Dr. Babcock provided an update on the *Guideline for Infection Control in Healthcare Personnel* (HCP). As a reminder, the original guideline was published in 1998 and has been under revision for about a decade. In terms of the status report, Section 1: Infrastructure and Routine Practices for Occupational Infection Prevention and Control Services was published in October 2019. The workgroup is now moving through the pathogen sections to get them reviewed, approved, and posted. A lot of progress already has been made on Section 2: Epidemiology and Control of Selected Infections Transmitted Among HCP and Patients. HICPAC already has approved the following sections: Pertussis (February 2018); Mumps, Rubella (May 2018); Measles (August 2018); Meningococcal Disease (November 2018); Diphtheria, Group A Streptococcus (May

2019); and Varicella (August 2019). Cleared and submitted for public comment are: Diphtheria, Group A Streptococcus, Meningococcal Disease, and Pertussis. In progress but on hold due to COVID-19 are: Respiratory Viral Pathogens, *S. aureus*, Conjunctivitis/Adenovirus, Rabies, Vaccinia, Scabies, and Pediculosis. Upcoming are: Hepatitis A, Hepatitis B, Hepatitis C, Herpes, Human Immunodeficiency Virus (HIV), and Tuberculosis (TB).

Dr. Judith Guzman-Cottrill provided a *Neonatal Intensive Care Unit (NICU) Guideline* update, reporting that there was new content to share or review. Regarding the two remaining sections, the section on central line-associated bloodstream infection (CLABSI) is currently open for public comment through June 8, 2021 and a literature search update is being performed to bring the data current. Finalization is underway for the section on respiratory illness as well.

Dr. Bell described the new Isolation Precautions Workgroup, pointing out that *The Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (2007)* has been at the center of a number of outbreaks. CDC has continued to look critically at this guideline for opportunities to update, revise, and refine what is recommended and explain why. To date, there have been the all-or-none Contact Precautions for isolation. There may be value in thinking about a gradient of approaches there, learning lessons from Enhanced Barrier Precautions (EBPs). While that is not a foregone conclusion, CDC wants to give this serious consideration. Although this remains to be discussed and will take a while, Dr. Bell stressed that it is an exciting time. The Co-Chairs, Drs. Maragakis and Babcock, have agreed to consider ways to take the next steps within HICPAC. DHQP has a very eager group of individuals on the Systemic Evidence Review Team who are willing to lend their work effort and intellectual support to this task to assist DHQP and HICPAC in producing a document that is up-to-date in terms of current thinking, practical in terms of implement ability, and that will not take a decade to produce.

Dr. Maragakis and Dr. Guzman-Cottrill provided a National Healthcare Safety Network (NHSN) Workgroup update, which included a review of the workgroup's goals and charge and a detailed description of the proposed modifications to the surveillance infection definitions in Chapter 17 of the *NHSN Patient Safety Component Manual* to ensure that they fit appropriately for pediatric populations. The workgroup is still working through Chapter 17, but will move on to the other chapters once that is completed.

HICPAC stood adjourned at 3:05 PM on June 3, 2021.

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Healthcare Infection Control Practices Advisory Committee (HICPAC)

June 3, 2021
Atlanta, Georgia

DRAFT 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 June 3, 2021.

Welcome and Introductions

**Lisa Maragakis, MD, MPH
HICPAC Co-Chair
Senior Director, Healthcare Epidemiology and Infection Control
The Johns Hopkins Hospital and Health System
Associate Professor of Medicine and Epidemiology
Division of Infectious Diseases
The Johns Hopkins University School of Medicine**

**Hilary Babcock, MD, MPH
HICPAC Co-Chair
Medical Director, BJC Infection Prevention and Epidemiology Consortium
Medical Director, BJC Occupational Health (Infectious Diseases)
Professor of Medicine, Infectious Disease Division
Washington University School of Medicine**

Mr. Koo Chung called the June 3, 2021 HICPAC meeting to order at 12:00 PM ET and thanked everyone for joining. He then 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. Guzman-Cottrill is a consultant to the Oregon Health Authority.
- Dr. Michael Lin receives research support in the form of contributed products from OpGen, Inc. 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 has received research funding from the Clorox Company.

Drs. Maragakis and Babcock welcomed everyone and introduced the following new HICPAC Members, *Ex Officio* Members, and Liaison Representatives:

HICPAC Members

- Colleen Kraft, MD is the Associate Chief Medical Officer at Emory University Hospital. Dr. Kraft was unable to attend this meeting and will receive further introduction when she is able to join.
- Sharon Wright, MD, MPH is the Chief Infection Prevention Officer at Beth Israel Lahey Health. Dr. Wright leads infection prevention in that system of 13 hospitals, long-term care, and behavioral care units, and ambulatory care practices. In this role, she provides the strategic and operational oversight for infection prevention and antimicrobial stewardship. Since 2001, she has served as the Hospital Epidemiologist at the Beth Israel Deaconess Medical Center, the academic center where her work is focused on healthcare-associated infections (HAIs), in particular novel approaches to reducing central line-associated bloodstream infections (CLABSI), surgical site infections (SSIs), and outbreak management. She is also an Associate Professor of Medicine at the Harvard Medical School and on the faculty in the Division of Infectious Diseases at Beth Israel Deaconess. She received her MD from Columbia University Vagelos College of Physicians and Surgeons and her MPH from Harvard T.H. Chan School of Public Health. She completed her internal medical residency at NewYork-Presbyterian Hospital, an Infectious Disease Fellowship at Harvard Combined Program in Infectious Diseases, and a second Fellowship in Pediatric Health Services Research at Boston Children's Hospital. Dr. Wright is serving nationally as the President-Elect on the Board of Trustees of the Society of Healthcare Epidemiology of America (SHEA).

Ex Officio Members

- Jonathan Merrell, RN, BNS, MBA is representing the IHS. He is the Deputy Director for Quality Health Care with the HIS and is an enrolled member of the Delaware Tribe of Indians and the Cherokee Nation of Oklahoma by Delaware descent. As Deputy Director for Quality Health Care at IHS, he serves as the principal advisor to the IHS Director on health care quality and provides leadership over the IHS offices dedicated to quality, which include the Office of Quality and the National Compliance Program. He has been the Deputy Director for Quality Health Care since 2018 and served as Acting Director the year prior to that. He has served as the Director in the Office of Clinical Support for the Portland Area Office of the Indian Health Service. Mr. Merrell was previously the Senior Vice President of Performance Improvement at OCHIN, Inc. He also has served as Adjunct Faculty for the IHI and Northeastern State University (NSU) of Oklahoma. Mr. Merrell has served as a member of the National Quality Forum (NQF) and served as a member of the National Association of Community Health Centers (NACHC), Social Determinants Measurement Committee. He brings excellent expertise to HICPAC.
- Megan Hayden, RN, MS, CNS, CIC, CPH is representing CMS. She is a Lieutenant Commander with the United States Public Health Service (USPHS) where she serves as a Nurse Consultant for the Division of Nursing Homes and is a Nurse in the USPHS Commissioned Corp. This division creates policies related to CMS requirements for participation for long-term care facilities (LTCF) and provides guidance to state surveyors who certify facilities to CMS requirements. She holds certification in infection prevention and control, public health, and community health. LCDR Hayden has worked in various settings

throughout her career, including emergency medicine, health departments, and the United States Army.

Liaison Representative

- Toju Ogunremi, BSc, MSc is representing PHAC. Ms. Ogunremi is in the Healthcare Associated Infections Prevention and Control Section of the Infectious Diseases Prevention and Control Branch at PHAC. This section develops national infection control guidelines for community healthcare settings, with a focus on HAIs, antimicrobial-resistant organisms, and emerging infections. She is currently the Vice Chair of the Guidelines Collaboration Working Group (GCWC) for the Guidelines International Network (GIN), which is a global network of experts in guideline development, implementation, and research.
- Sarah Smathers, MPH, CIC, FAPIC is representing APIC. Ms. Smathers has an MPH and Certification in Infection Prevention. She serves as the System Director of Infection Prevention and Control at the Children's Hospital of Philadelphia (CHOP), the oldest and first hospital dedicated to children and one of the largest pediatric networks in the US. She is currently the Chair of the Public Policy Committee for APIC and previously served as President of the Delaware Valley/Philadelphia Chapter of the APIC. She is an Adjunct Professor and Co-Director of the Infectious Disease Prevention and Control Certificate at Drexel University's Dornsife School of Public Health, and serves on the Public Health Steering Committee to establish the first Delaware County Health Department. She also is a member of the Solutions for Patient Safety (SPS) Infection Prevention Advisory Group. Ms. Smathers trained in Hospital and Molecular Epidemiology, earning her MPH at the University of Michigan. She is an APIC Fellow who has a special interest in infection prevention program development.
- Patti Costello, MT-CHEST, MT-CSCT is representing the American Hospital Association (AHA) and hopes to join the next meeting.

Division of Healthcare Quality Promotion (DHQP) Update

Denise Cardo, MD

**Director, Division of Healthcare Quality Promotion
National Center for Emerging and Zoonotic Infectious Diseases
Centers for Disease Control and Prevention**

Dr. Cardo welcomed new members and liaisons to HICPAC. She reminded everyone that the last time she gave an update, she highlighted the existing challenges of COVID-19 that need to be addressed, including: 1) gaps in the healthcare delivery system in terms of infection prevention and control across the healthcare delivery system and critical needs in post-acute care, early detection and management, treatment delivery, and survivors' quality of life; 2) protecting healthcare personnel (HCP); 3) health equity and access in terms of underlying conditions, tailored messages, and access to quality care; 4) the public health-healthcare connection; and 5) sustainability of programs.

During this session, Dr. Cardo focused on health disparities, health and healthcare equity, and diversity and inclusion in terms of priorities for HHS, CDC, and DHQP. CDC's Director, Dr. Walensky, has asked all programs to identify specific goals and metrics to accelerate the process for addressing these issues. DHQP will identify concrete goals and actions to impact the individual, institution (healthcare facility), and HCP levels. In terms of the individual level, the focus is on the patient in terms of prevention of HAIs, ways to combat antibiotic resistance, and

other patient safety issues. For instance, the Black community in some areas have a higher rate of methicillin-resistant *Staphylococcus Aureus* (MRSA) compared to non-Blacks. Consideration must be given to how to address that in terms of not only describing the issue, but also by taking action. In terms of the institution/healthcare facility, the focus is on how to promote quality programs for the prevention of infection and improvement of antibiotic use in all healthcare facilities. Analyses and efforts should focus on specific areas where healthcare facilities care for under-served populations. At the HCP level, there must be protection in terms of safety, responsibilities, and conditions to work. CDC is already doing some work in this area in terms of Project Firstline¹ and work with AHA and other groups. This should be focused in a way that addresses racial disparities and issues related to diversity that is not just an afterthought, but is integrated in all efforts. DHQP has a very important goal to undertake organizational improvement efforts for its own workforce development in terms of ensuring that it is diverse in terms of inclusion and opportunities.

It is very important for CDC and HICPAC to think about how to move from challenges to opportunities. A lot of the progress that has been made in the prevention of infections is changing, with an increase being observed in infections. Consideration must be given to sustainability of the impact of prevention and prevention programs (e.g., infection control programs, laboratory activities, data collection efforts, and stewardship programs). With COVID-19, many activities had to be paused that resulted in an impact on the progress made in infection prevention. The healthcare facility, state, and national levels all have roles, responsibilities, and accountability in terms of the sustainability of programs' impact on prevention. Local and state health departments are critical and vary by state. The need for the connection of public health-healthcare has been highly evident with COVID-19. Even before COVID-19, it was known that the transmission of antimicrobial-resistant pathogens was not limited to just one institution. More than ever, it is evident that there cannot be a very strong program at the healthcare and hospital levels if there is not a strong connection with state- or local-level public health and post-acute care. At the national level, agencies must coordinate, complement, accelerate, and facilitate the processes for the state, local, and facility levels.

Another critical issue in which HICPAC can play a primary role is reassessing infection control recommendations. A lot has been learned during COVID-19 and it has been made clear that recommendations must be evidence-based, feasible, sustainable, and flexible to address all of the challenges in terms of patient populations and healthcare facilities. As Dr. Bell always highlights in his talks, there is no such concept of transmission of a microorganism being exclusively aerosol, non-aerosol, droplet, contact, et cetera. In most situations, it is a combination. Therefore, reassessment is needed and the focus must always be on how to protect the patient and HCP. There is a major opportunity to learn from everything that is happening to move from good to fantastic.

In closing, Dr. Cardo emphasized that there must be a cultural change in expectations to move from a concept of preventing infections to moving toward eliminating infections, from a response mindset to a containment mindset, and from acute care only to all healthcare and community settings in order to have an impact in each and every life today and always. She thanked everyone for all of their work as HICPAC members and their work, commitment, passion, and action during the COVID-19 pandemic despite all of the challenges to ensure that patients, HCP, and communities were protected.

¹ <https://www.cdc.gov/infectioncontrol/projectfirstline/>

Discussion Points

HICPAC applauded the topics of diversity, inclusion, and disparities in terms of how it can impact HAIs and because diversity is important to think about with respect to the need for a diverse group of thinkers to help overcome gaps and problems.

Patient Safety Action Network's (PSAN) liaison representative expressed gratitude for acknowledging the importance of patient representation for solutions. Patients and families are probably the only ones who see and have firsthand knowledge of the continuity between acute care and post-acute care. CDC has always been patient-friendly and included the patient voice.

Dr. Cardo expressed her hope that one day, inclusion of the patient would be the default for all discussions and decisions.

HICPAC emphasized the importance of the sustainability of infection prevention. Everyone is experiencing dismay with the HAIs that have increased during the past year and a half of the disruption caused by the pandemic. It is very demoralizing and there is much work ahead, but it can be used to highlight the value of all of the work that HICPAC and many teams across the country are doing for infection prevention and that it really does make a difference.

Dr. Cardo said that it was very sad for everyone to see infections increasing. However, it demonstrates that being active makes a difference. Sustainability is more than money, though that is important. It also involves visibility and commitment from all levels.

HICPAC expressed hope that given the rise in infections that has occurred during the pandemic, it is important to understand that some of the basic challenges were truly underestimated such as insufficient supplies of gowns, gloves, sanitizers, et cetera due to the disruption in the supply chains. Stockpiles must be assessed at the local, state, and federal levels. Hopefully, people will correlate the rise in infections not only due to being in the hospital, but also due to the supply challenges while in the hospital for the staff to provide the same standard of care that was possible pre-pandemic.

Dr. Cardo added that it is time to question quality and how to ensure that the materials are available for people to do what they are supposed to be doing. Rather than focusing on just N95s, something is needed that can protect HCP that is easy to wear and visible to implement no matter where they are. Consideration must be given to what the ideal would be and how to move to that ideal versus just fixing glitches that were found. Quality supplies are critical to protect patients and HCP.

In thinking about reassessing infection control recommendations and sustainability and how well hospitals did in preventing HAIs and meeting metrics pre-pandemic, HICPAC pointed out that the pandemic highlights and is a reflection of how truly fragile the healthcare system is in terms of infection control. The diversion of resources and attention to pandemic mitigation strategies takes the eye off of infection prevention, HAIs, and how staff take care of patients. Making programs sustainable across the continuum is a really important body of work that everyone needs to get in front of so that when the next catastrophe occurs, everyone does not have to start all over again with HAI prevention.

Dr. Cardo stressed that policies, programs, and practices must be addressed. While they are not truly starting over, they must develop a blueprint of what could be more ideal.

HICPAC observed that hospitals also found themselves at different levels of resources in terms of being able to financially survive the pandemic. This goes far beyond COVID-19 in that hospitals and other types of facilities already were at different levels of resources for HAI prevention. HICPAC must keep in mind that it is important to ensure that what they recommend can be implemented in areas that potentially do not have the resources needed for implementation.

Dr. Bell added that there is also an indication that the wonderful successes there have been built on a very fragile base and it does not take much to reach the tipping point. That involves supply chains and how to maintain the levels and quality of work desired when everything is stretched to the limit on a good day. He challenged everyone to think about this in terms of what kinds of processes can be applied to an existing system and how the system should evolve to require less help. He sees a lot of duct tape being applied in the US and across the world. When he sees infection control used as duct tape for a system that is inherently badly designed or insufficiently supported, it seems like a bad use of a good tool. They must think not only about what can be said about the experience from the pandemic, but also more broadly about the optimization of healthcare delivery. This involves staffing, design, communications processes, et cetera. This is a great opportunity to reflect in both directions to decide what would be best.

HICPAC emphasized the importance of considering not only individual infections such as COVID-19, but also having the umbrella of the whole infection prevention approach as a country and cascading that to hospitals and other facilities.

Long-Term Care/Post-Acute Care (LTC/PAC) Workgroup Update

Michael Lin, MD, MPH
HICPAC Member

JoAnne Reifsnyder, PHD, MBA, MSN
HICPAC Member

Dr. Reifsnyder reminded everyone that the LTC/PAC workgroup was formed to develop input on topics related to care of the nursing home population and the implementation and scope of Enhanced Barrier Precautions (EBP). On behalf of the LTC/PAC workgroup, Drs. Lin and Reifsnyder presented the expert opinion white paper titled, "Consideration for Use of Enhanced Barrier Precautions in Skilled Nursing Facilities."

In terms of background, it is known that multidrug-resistant organism (MDRO) transmission is common in skilled nursing facilities (SNF) and contributes to significant morbidity and mortality for residents and increased costs for the healthcare system. EBP is an approach of targeted gown and glove use during high contact resident care activities that is designed to reduce transmission of *S. aureus* and MDROs. EBP may be applied when Contact Precautions do not otherwise apply to residents with wounds or indwelling medical devices regardless of MDRO colonization status and infection or colonization with an MDRO. Effective implementation of EBP requires staff training on the proper use of personal protective equipment (PPE) and the availability of PPE with hand hygiene products at the point-of-care. The white paper focuses on application of EBP in SNFs.

Dr. Lin highlighted the framework for applying EBP in SNFs in terms of the following four major topics, including: Implementation Approaches, Cost Consideration, Considerations During Shortages of Gowns and Gloves, and Unresolved Questions. Only some minor changes were

made since the last meeting based on input collected at that time. He summarized the topics as follows:

Implementation

- Routine care of residents with indwelling devices or wounds requires that staff participate in initial and on-going training on the facility's expectations about hand hygiene and gown and glove use along with proof of competency regarding appropriate use and donning and doffing technique for PPE.
- Facilities should develop a method to identify residents with indwelling devices or wounds, and post clear signage outside of resident rooms.
- Gowns and gloves should be available outside of each resident room, and alcohol-based hand rub should be available for every resident room (ideally both inside and outside the room).
- Facilities with rooms containing multiple residents should provide staff with training and resources to ensure that they change their gown and gloves and perform hand hygiene in between care of residents in the same room.

Cost Consideration

- Implementation of routine EBP would incur costs related to PPE (gowns/gloves), staff time to don and doff PPE, and signage materials.
- Potential savings would include avoidance of infections and hospitalizations.
- An economic analysis of a randomized controlled trial involving the use of EBP in a bundle to prevent catheter-associated urinary tract infections estimated net savings of approximately \$15,000 per year per facility:
 - Savings would accrue to payers and not to skilled nursing facilities
 - Centers for Medicaid and Medicare and private insurers/commercial plans may need to consider the implementation and cost of EBP in payment models

Considerations During Shortages of Gown and Gloves

- Facilities may encounter shortages of gowns or gloves. Neither extended use nor re-use of gowns and gloves is recommended for mitigating shortages in the context of EBP.
- To optimize PPE supply facilities can consider substituting disposable gowns with washable cloth isolation gowns that have long sleeves with cuffs.
- Facilities can identify where PPE overuse is occurring:
 - For example, overusing gloves to assist or care for residents who are not on transmission-based precautions to eat, during bed making, or transporting bagged linen or trash.
- When there are not enough gowns and gloves for implementation of EBP as recommended, facilities may temporarily prioritize EBP for residents with wounds over residents with medical devices alone. Risk of healthcare personnel self-contamination with *S. aureus* and MDROs is higher during care of residents with wounds, compared to residents with medical

devices alone. Facilities implementing EBP based on a resident's MDRO colonization or infection status may also prioritize EBP for novel or targeted MDROs over other MDROs:

- Facilities should include procedures for PPE shortages in their emergency preparedness plan and/or facility assessment. During PPE shortages, facilities should document all actions taken to remedy the shortage.

Unresolved Questions

- The presence of wounds or indwelling medical devices is readily identifiable by healthcare personnel and thus is a practical criterion for identifying nursing home residents at risk for MDROs. However, further studies are needed to address if risk scores based on functional status or other resident characteristics can more efficiently identify residents without wounds or indwelling medical devices who would benefit from EBP.
- The contribution of EBP to the prevention of respiratory virus transmission is unknown. Appropriate use of gown and gloves can interrupt fomite-related transmission of some predominantly respiratory pathogens (e.g., adenovirus and possibly SARS-CoV-2), but healthcare personnel should continue to follow PPE guidance for the care of residents with suspected or confirmed COVID-19.
- Other approaches to MDRO control in skilled nursing facilities may include universal decolonization strategies such as skin and nasal antiseptics. At this time, there are no studies comparing the effectiveness of EBP versus a universal decolonization approach; multiple approaches may be needed for optimal MDRO control.

Discussion Points

HICPAC requested further commentary regarding actively screening for colonization with MDRO pathogens in this setting, especially with issues related to functional status as a known risk factor and that research has demonstrated that post-acute settings are hotspots for MDRO colonization.

Dr. Lin emphasized this is an expert opinion white paper upon which HICPAC would be voting. It is not a guidance or guideline. This paper is silent on screening. Many nursing homes may choose to screen based on their local epidemiology. The innovation in terms of the white paper is that it allows nursing homes to have a practical approach to infection control that does not necessarily have a foundation based on screening, recognizing that many facilities do not have the capability to perform screening upon admission and screening is inherently focused on a specific pathogen or pathogens. This liberates some nursing homes from having to do screening and allows them to take a global approach. It is important to point out that the experts on this panel discussed wounds and devices as being risk factors for MDRO colonization. It is also important to recognize that even for those residents who do not have MDRO colonization but do have wounds or devices are at risk for acquisition. They may be negative for MDRO colonization, but they still may benefit from Enhanced Barrier Precautions as it may prevent them from acquiring MDROs that may not be present at time of admission. Screening is outside the scope of this white paper, but for those nursing homes that do perform screening for methicillin resistant *S. aureus* (MRSA) or Carbapenem-Resistant *Enterobacteriaceae* (CRE), this does provide an alternative to strict Contact Precautions that require the resident to be in their room all of the time and allows for a more practical approach that is resident-centered and is able to prevent transmission.

Patient Safety Action Network (PSAN) inquired as to whether cohorting of patients was considered as an effective approach to prevention of MDRO transmission in SNFs.

Dr. Lin indicated that this was outside of the scope of this workgroup's discussion. They recognized that there are many approaches that includes efforts such as cohorting, which could be complementary to EBP. One of the main concerns about cohorting patients in rooms is that HCP should change their gowns and gloves in between the residents in the same room, but in practice, people do not necessarily do so. While cohorting is a valuable approach, it would not necessarily change the workgroup's recommendations for how to use PPE in the context of moving from resident to resident.

HICPAC commended the workgroup for creating a white paper that is based on common sense.

HICPAC inquired as to whether there was any discussion about decolonization and how that might fit in with recommendations or expert opinion in LTCF or post-acute care settings.

Dr. Lin indicated that the workgroup was not focused on considering all approaches to infection control in SNFs. They had a very specific focus on EBPs that were already introduced by CDC as an alternative method of preventing transmission of MDROs. Prior to the introduction of EBPs, the two major transmission-based precaution options for MDROs were Standard Precautions and Contact Precautions. The Workgroup and CDC recognized that there needed to be a more feasible approach to control MDRO transmission in the long-term, particularly with onerous aspects of Contact Precautions such as having residents staying in their rooms while on Contact Precautions and not being able to leave. The workgroup's focus was really EBP that was already recommended for novel MDROs, and whether there is an opportunity to expand EBPs beyond novel MDROs to routine MDROs or even *S. aureus* that sometimes causes harm if it is methicillin susceptible but is not necessarily an MDRO. All alternative approaches are not listed. Decolonization is mentioned simply as a potential approach in the last paragraph under "Unresolved Questions." This was meant to acknowledge that multiple approaches may be needed.

Suggestions:

- Perhaps there might be an ability to "ride the wave" of COVID-19 screening. Many facilities would have said several months ago that there would be no way to screen everyone who comes and goes, but now they can.
- Possibly add a note under "Considerations During Shortages of Gown and Gloves" gowns should be laundered according to approaches and policies that are required in healthcare settings to address the issue of laundry disinfection as opposed to just random laundry cycles.
- "Cost Considerations" should acknowledge that competency training on how to identify patients, how to use PPE, et cetera might carry an additional cost:
 - Dr. Lin will check the economic analysis that is cited in this section to confirm whether training was included. It is reasonable to add training as a line item for the first sentence under "Cost Considerations."
 - SNFs already should have training in place for PPE donning and doffing, for instance, so there should not be significant costs associated with this recommendation.

- Given that this is an area in which time is of the essence and efficiency matters to the caregivers in these communal settings, a heavy emphasis on changing gowns and gloves is essential and ongoing education is very important in terms of ensuring adherence among staff.

Vote: White Paper

A vote was placed on the floor for approval of the Long-Term Care/Post-Acute Care workgroup's white paper titled, *Consideration for Use of Enhanced Barrier Precautions in Skilled Nursing Facilities*. This included approval of a proposed change based on the discussion to the first sentence regarding the cost consideration that would read as follows, "Implementation of routine Enhanced Barrier Precautions would incur costs, including personal protective equipment, gowns, and gloves as well as training, staff time to don and doff PPE, and signage materials." HICPAC voted unanimously to approve the recommendation, with no opposition and no abstentions. The disposition of the vote was as follows:

- 9 Favored: Anderson, Babcock, Daniels, Dekker, Fakhri, Guzman-Cottrill, Lin, Maragakis, Preas
- 0 Opposed
- 0 Abstained

Healthcare Personnel Guideline (HCP) Workgroup Update

Hilary M. Babcock, MD MPH HICPAC Co-chair

Dr. Babcock provided an update on the *Guideline for Infection Control in Healthcare Personnel (HCP)*. As a reminder, the original guideline was published in 1998. In terms of the status report, Section 1: Infrastructure and Routine Practices for Occupational Infection Prevention and Control Services was published in October 2019. The workgroup is now moving through the pathogen sections to try to get them reviewed, approved, and posted. A lot of progress has already been made on Section 2: Epidemiology and Control of Selected Infections Transmitted Among HCP and Patients. HICPAC already has approved the following sections: Pertussis (February 2018); Mumps, Rubella (May 2018); Measles (August 2018); Meningococcal Disease (November 2018); Diphtheria, Group A *Streptococcus* (May 2019); and Varicella (August 2019). Cleared and submitted for public comment are: Diphtheria, Group A *Streptococcus*, Meningococcal Disease, and Pertussis. In progress but on hold due to COVID-19 are: Respiratory Viral Pathogens, *S. aureus*, Conjunctivitis/Adenovirus, Rabies, Vaccinia, Scabies, and Pediculosis. On deck are: Hepatitis A, Hepatitis B, Hepatitis C, Herpes, Human Immunodeficiency Virus (HIV), and Tuberculosis (TB).

The most recent grouping was Pertussis, Meningococcal Disease, Diphtheria, and Group A *Streptococcus* sections. These initially were posted in March 2020 and given the COVID-19 situation, there was concern that people were not giving these the attention they would under normal circumstances. Therefore, these were re-cleared by CDC and submitted to regulations.gov for a second round of public comment to show that there was truly an opportunity for public comment. No new public comments were received.

As part of this process, the Pertussis, Meningococcal Disease, Diphtheria, and Group A *Streptococcus* sections were sent back through the specific areas for CDC subject matter expert (SME) review. There were some minor wording changes to the text of the Diphtheria section

based on discussion with the SMEs. No changes were made to the recommendations. The plan is to post the Pertussis, Meningococcal Disease, Diphtheria, and Group A Streptococcus sections. The Workgroup will be reassembled to continue with the next section. Dr. Babcock noted that Michael Tapper was engaged with this Workgroup for a long time, but he passed away in March 2020. His name is being kept in memoriam and he will be acknowledged in the guideline as well.

Neonatal Intensive Care Unit (NICU) Guideline Workgroup Update

Judith Guzman-Cottrill, DO
HICPAC Member

Dr. Guzman-Cottrill reported that the NICU Guideline Workgroup had no new content to share or review. In terms of the two remaining sections, the section on CLABSI is currently open for public comment. The public comment period will end on June 8, 2021. In addition, a literature search update is being performed to bring the search through the current date. Finalization is underway for the section on respiratory illness as well.

New Isolation Precautions Workgroup Update

Michael Bell, MD
HICPAC Designated Federal Officer

Dr. Bell emphasized the updates provided during this meeting is work that is being done by people who are also doing so much for the COVID-19 response, and he did not want anyone to walk away feeling like progress on HICPAC has not been made. Even a small amount is a lot to be proud of. Having said that, he noted that he was about to increase the span of the work. There are a number of guidelines that include upwards of 1000 recommendations. Of those guidelines, there are four that are the major pillars of what CDC recommends:

- *Infection Control in Healthcare Personnel*
- *Guidelines for Environmental Infection Control in Health-Care Facilities (2003)*
- *Guideline for Disinfection and Sterilization in Healthcare Facilities (2008)*
- *Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (2007)*

The Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (2007) has been at the center of the CDC response to several outbreaks. CDC has continued to look critically at this guideline for opportunities to update, revise, and refine what is recommended and why. To date, there has been the 'all-or-none' Contact Precautions for isolation. There may be value in thinking about a gradient of approaches, learning lessons from Enhanced Barrier Precautions (EBPs). That is not a foregone conclusion by any stretch, but CDC wants to give this serious consideration.

The other major point is that of respiratory infection transmission. There are practical issues that drove the use of a black and white approach to short-range droplet splashes versus long distance inhalation. As far back as 2000-2001, anytime there has been a concerning respiratory outbreak, the default has been to recommend use of a respirator. That is an indicator that at some level, people feel that there is more to it than just splashes or long-distance inhalation. That means that they can probably do a better job of describing the rationale behind the

recommendation. There are also new data that have been developed the past year or two. The COVID-19 pandemic has been a tragedy and huge challenge. At the same time, it has been the driver of some research that has been helpful in reframing the thinking about these issues. Making the most of that new evidence is an opportunity CDC does not want to miss.

There is an opportunity to update *The Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (2007)* (isolation guideline). The basic infection prevention and control guidelines were written as though they were large textbooks with individual experts taking on different chapters, some cross-pollination to make sure everyone agreed, and a large reference section in the end. What we've learned since then is that the current use of evidence and the current implementation of infection control requires a much higher degree of precision in terms of how evidence is tied to recommendations. Hence, CDC is no longer in the business of writing extremely large textbook-like documents.

Parallel to that, the evolution of CDC's guidance includes the *Core Infection Prevention and Control Practices for Safe Healthcare Delivery in All Settings—Recommendations of the HICPAC* (core practices document) also affects the updating procedure. Many routine recommendations that are not likely to change based on evidence and that apply to all elements of healthcare, such as hand hygiene and allowing only trained individuals to perform a certain procedure, were moved to the core practices document as a base source for those standards of care. This means it may not be necessary to reassess or revise those sections because they now have a place to live, although some items may need to be maintained or changed as necessary.

In terms of practice, many of the detailed recommendations in the isolation guideline, such as Appendix A, where each different infection has a recommended isolation practice, are not likely to change in overarching ways. The diseases and pathogens that cause them have not changed. The discussions of rationale and some of the implications of that rationale have evolved and those will be addressed. However, there is not likely to be a wholesale change in what constitutes appropriate infection control for most pathogens. There will be some subtle changes and a few more significant ones. This is also occurring in the context of not only thinking through transmission, but also thinking through the types of PPE available.

There has been a wholesale adoption of respirator use during COVID-19 and it is likely that there will be evidence of that taking root in some sectors. The weaknesses of relying on only respirator use also have been observed. At the same time, there is the benefit of the American Society for Testing and Materials (ASTM) rendering standards for barrier masks that include filtration standards and leakage. This is game-changing in that now it is possible to discuss non-N95 respirators as having potential benefits for protection. Now it is possible to think through what that implies in terms of how to move from an 'all-or-nothing' approach with a protective respirator to something a little more nuanced so that in an ideal situation, it might be possible to move toward using a better fitting, better functioning face mask for a wide variety of purposes and then targeting the use of more challenging equipment to very specific activities.

Although this remains to be discussed and will take a while, Dr. Bell stressed that it is an exciting time and that he has received agreement from both HICPAC Co-Chairs to consider ways to take the next steps within HICPAC. On the division side, DHQP has a very eager group of individuals who are willing to lend their effort and intellectual support to this task. Over the years, DHQP has developed a very active and effective Systemic Evidence Review Team led by Erin Stone, as well as a growing capability to writing and editing in-house to lighten the burden on their colleagues who have fulltime jobs outside of HICPAC and for whom it can be very challenging to draft large pieces of text. Altogether, this will produce a document that is up

to date in terms of current thinking, practical in terms of ability to implement, and will not take a decade to produce.

Discussion Points

HICPAC wholeheartedly endorsed trying to revise the isolation guideline as quickly as possible versus writing it in a textbook-like fashion.

American College of Occupational and Environmental Medicine (ACOEM) pointed out that despite the speed with which the guideline might be produced, there will be questions pertaining to a more universal approach to HCP masking, droplet precautions for respiratory infections, the continuation of patient masking, HCP reporting to work sick, and everything seen this year for non-COVID respiratory pathogens and the impact of social distancing and masking.

Dr. Bell stressed that there is an interesting opportunity to rely upon the experts on HICPAC, in DHQP, and within the Workgroup to generate interim guidance as a tried and tested strategy. For this entire document, in terms of reframing how infection transmission is thought about and trying to bring it closer to what is happening, there is going to be a need to fill the gap between the framing and the accumulation of what they would like to refer to as an evidence based in terms of that new framing. It is going to be a while before people start writing papers pointing to that framework as the rationale or driver for what they are doing. That means in the interim, it will be necessary to translate for them. There is tremendously compelling information to show that source control is valuable and even outside of healthcare, people will wrestle with how to not leave that valuable tool behind. CDC/HICPAC can help the process by coming to consensus on a statement that says, for example, "While there is not a level of high criticality evidence, there is good information supporting the use of this and HICPAC and CDC recommend it." As evidence improves, he imagines that they will be able to refine this in an iterative manner. The ability to provide updates online also will be beneficial.

HICPAC stressed that there are many questions arising about what a respiratory season masking plan looks like now and going forward as opposed to the height of the pandemic. With that in mind, HICPAC is willing to help with interim guidance in terms of serving as a sounding board for implementation implications and by sharing their experiences forged by fire over this last year. This is an opportunity to embed what they believe is likely to come out of the framing of the revised formal guideline into the way people are thinking about how to manage going forward.

HICPAC emphasized the importance for all recommendations of considering/incorporating the concepts of ease of implementation, acceptability, value, potential for compliance, and sustainability. There will be some evidence-based recommendations that may be difficult to implement, but should be implemented nevertheless. For instance, universal masking is not popular but it is pretty sustainable. Universal eye protection is a much harder sell. It is much less acceptable, much more difficult to manage, and there is much less buy-in and support. This speaks to perhaps picking a universal intervention that has the biggest benefit using the predominant mode of transmission expected and then focusing the other interventions where they are needed. A great deal has been learned about sustainability. As workers are asked to do and manage increasing more, they must be protected and they must be able to do the work.

Dr. Bell agreed but said that at the same time, he would hold the line in terms of stating clearly what the best thing to do is for HCP and patients. He is always cautious about creating wiggle room where there should not be any simply because it is hard. A lot of things are hard, but it is

imperative that they happen. Part of this body, part of the process, and the importance of guidelines is that they clearly define what should happen when they know that. They have not completely covered the waterfront in terms of places where the work of DHQP/HICPAC needs to be implemented. They have learned a lot, thanks to their colleagues in long-term care, about the needs and the downsides of not being ready to implement what is needed in many facilities where there are very susceptible and fragile residents. There are also groups like Emergency Medical Services (EMS) teams who are transporting someone who is unconscious in a homeless shelter who may have active multidrug-resistant tuberculosis (MDR-TB), but they may not be protecting themselves. Lessons learned about source control through COVID-19 may be applicable to protecting that element of the healthcare sector, and they might be able to make some in-roads by saying that anyone being transported should be practicing source control unless they are intubated. If someone refuses or is unable, then the individual staff member should be wearing respiratory protection. That is a systematic approach to a clear, real-world challenge, but is one for which there has not necessarily been sufficient bandwidth to reach at this point. There are probably other groups that warrant similar attention and consideration. In addition to sustainability, people need to understand *why* they are being asked to do something. People are likely to complain about protection if they do not perceive themselves to be at much risk. This is why for regular influenza seasons people are comfortable doing nothing, yet there are 30,000 deaths in the US annually due to influenza. It pales in comparison to what has occurred with COVID-19, but it is significant. With Ebola, people were very willing to sustain the use of a lot of PPE, even to the extent of duct taping it on. The issue of perceived risk and what HICPAC might want to describe as the expert committee in terms of levels of risk comes into play here. It is going to be silly if they do not acknowledge that not all pathogens are as risky as every other pathogen. Now that people have seen that it is nice not to have all of those respiratory viruses all season, they are likely to change their attitude. However, there is a risk assessment piece that is never talked about. Consideration must be given to how to frame this and how to help their colleagues systematize that kind of thinking.

Based on what others are doing, HICPAC suggested rating each guideline in terms of ease of implementation (medium, low, high), cost of implementation (expensive, inexpensive, budget-breaking), criticality, value-added, et cetera. Using a similar concept with the isolation guidelines might answer the question of explaining *why* in order to support the understanding of the staff and people who are trying to implement the recommendations, which they can then incorporate into their own risk assessment processes.

In terms of the continuum for respiratory protection, HICPAC requested additional information about the game-changing masks Dr. Bell mentioned and if it would be possible to see some samples.

Dr. Bell indicated that the ASTM standards have paved the way and then the National Institute for Occupational Safety and Health (NIOSH) upgraded them slightly. Currently, there is an 8010 standard that refers to 80% filtration and 10% inward leakage. This references the fact that it is not a highly sealed super tight-fitting respirator and there can be a little inward leakage. The fact that it is being measured at all makes it likely that the overall fit is going to be superior to what is seen with ordinary surgical masks. It has been known for a while that the non-woven material in surgical masks filters pretty well, but when there is a three-quarter inch gap on each cheek, people will breathe through the gap and not through the filter. That is the rationale that led to the advent of mask fitters and for wearing a cloth mask on top of a surgical mask. The fit component is likely to be a significant step forward in evolution. Previously, the argument was that a surgical mask was nothing more than a simple barrier and is a spit guard that does not protect the wearer. There have been publications showing that HCP in facilities using surgical masks

seem to gain some protection from influenza or other pathogens. The similarity in impact of respirator use versus surgical mask use was probably clouded by that factor, combined with the fact that people are not that adept at wearing protective respirators in a reliable way. There was imperfection on both sides, but the fact that masks are now being discussed as having an additional functionality allows them to move closer to a real interpretation of what these devices can do. The source control argument is a very important piece without exception. The wearer protection piece is beginning to become clearer as more data come to light, so they should be able to get behind it in a way that “holds water” in a way that the previous arguments did not. The previous black and white dichotomy precluded meaningful conversations. With any luck, this new approach will break down some of those barriers.

HICPAC observed that the preventability of diseases such as influenza and respiratory syncytial virus (RSV) and hospitalizations has been striking across the continuum. Consideration of how to apply masking and make recommendations around transmission-based precautions with the evidence now available has the potential for major impact for children who are asthma-prone, reducing hospitalizations, et cetera with better source control. For instance, universal masking resulted in the unintended consequences of many staff members not getting sick all year long and major reductions in pediatric admissions for other common respiratory viruses. There is a great opportunity here to do more.

Dr. Bell pointed out that this was a reminder of the extent to which it was once assumed that central line-associated bloodstream infections (CLABSI) in patients was unavoidable, until it was realized that it could be reduced considerably. Similarly, he expressed his hope that someday they will look back on where they were over the past decade and think of it as being similar to plumbing in the Dark Ages. Historically, respiratory hygiene has been messy and there is a great opportunity to tighten that up.

In terms of the make-up of the new workgroup, Patient Safety Action Network (PSAN) requested that consideration be given to inviting some of the frontline people who utilize the guidelines and equipment such as EMS and Intensive Care Unit (ICU) nurses, and even patients. It would be wonderful to see a combination of the wonderful scientific experts that CDC/HICPAC utilize with the functionality of clinical implementation. This would multiply the champions for the *why* rationale.

Dr. Bell explained that Project Firstline is an outreach and training initiative that CDC is very active in right now. This was developed for exactly what PSAN mentioned. Reliance on hospital epidemiologists and infection control professionals, and infection prevention programs cannot be expected to do everything. This is done by nurses, environmental services staff, EMS staff, and others who are hands-on minute-by-minute with each patient. To that end, bringing people together has been an extremely exciting upshot of that program. They can talk about including them in guideline development process and more importantly about including them in the community of the work. For instance, EMS staff are not reached out to at all. Some people will talk to the Medical Directors of Emergency Departments (ED), but not to the actual EMS staff. Getting them to the table and to have a trust relationship with CDC is at the top of the list. Similarly, the American Nurses Association (ANA) is now a close partner and is extending CDC’s reach in terms of sharing information and hearing feedback from nurses who come from a very wide variety of backgrounds and struggle with real-world implementation issues on a daily basis. Having that intelligence to inform what CDC is doing is incredibly valuable.

A HICPAC member pointed out that while source control is important, it may be much more powerful to focus on vaccination as a recommendation. All of the mitigation strategies are

evidence-based, but perhaps layering them in terms of their effectiveness in preventing harm to HCP, patients, the community, et cetera would sell it to the public in a different way. This will move the nation to a safer and healthier state.

Dr. Bell noted that CDC and HICPAC have already weighed in on the importance and requisite nature of occupational immunization. For the healthcare workforce, this is already recommended and will continue to be recommended. He reminded everyone of the hierarchy of controls that are discussed in terms of occupational health. Part of what will be described in this document will be the importance of meaningful air handling in order to have good indoor air quality. There are certain strategies that do not rely on individuals to wear an item that are always preferred over person-dependent action, such as immunization, air handling, administrative control, better ways to triage, et cetera. Does someone with a fever and a cough really need to be sitting in a waiting room ever? It has been proven that this may not be necessary. If that is the case, it is possible to go a long way in engineering controls and making them more consistent across the healthcare delivery system. There is not a single solution by any stretch.

National Healthcare Safety Network (NHSN) Workgroup Update

Deverick Anderson
HICPAC Member

Lisa Maragakis
HICPAC Co-Chair

Judith Guzman-Cottrill
HICPAC Member

Dr. Maragakis thanked Dr. Anderson for Co-Leading the NHSN workgroup, which has continued to meet intermittently. The NHSN workgroup is comprised of HICPAC members and experts from the community who have been invited to participate. The workgroup collaborates closely with its CDC/NHSN colleagues with 3 primary goals, which are to: 1) gather information, conduct research, draft position papers, as needed, and analyze relevant issues and facts for HICPAC on specific short- and long-term developmental and planning aspects of NHSN; 2) generate conversation and elucidate issues and opinions among experts from within the public and private health sectors regarding surveillance for patient safety; and 3) generate bidirectional communication regarding expertise and frontline experiences between NHSN and constituents represented by workgroup members regarding key issues with NHSN. The charge of the NHSN workgroup is to improve the safety, infection prevention, and antimicrobial therapy of patients by informing the evolution of NHSN with information from experts outside of CDC. The NHSN workgroup has tackled a variety of topics since its formation, and they value the opportunity to have an ongoing dialogue and to address some important issues, recognizing the vast importance of NHSN to the work that they do and the ever-growing need that NHSN is addressing. Dr. Maragakis indicated that during this session, they would hear from Dr. Guzman-Cottrill who has been working with her colleagues in pediatrics to tackle the issue of surveillance infection definitions and making recommended modifications to ensure that they fit appropriately for pediatric populations.

Dr. Guzman-Cottrill indicated that the workgroup is a multidisciplinary group that includes pediatricians in the fields of infectious diseases, neonatology, infection preventionists, and CDC technical experts who support the workgroup. The objective of the workgroup is to improve

neonatal and pediatric surveillance definitions and metrics for HAIs. Specifically, this group aims to propose criteria that are age-specific, reflective of clinical determinations, feasible in terms of the known limitations of surveillance, and appropriate for their intended use. Children are not just small adults, so the workgroup has been working hard to go through the definitions to ensure that appropriate pediatric definitions are included. For this part of the presentation, Dr. Guzman-Cottrill reviewed the workgroup's proposals to date. They have been reviewing the definitions of each infection that is found in Chapter 17 of the NHSN Patient Safety Component Manual². It was not until going through it, infection by infection, that she realized how long Chapter 17 is. For each infection, the workgroup utilized the current Chapter 17 definition as their base and then modified that definition specifically for the pediatric patient. For all of the definitions, the asterisk indicates "with no other recognized cause."

The proposed bone infection revision involves no changes to #1 and #2 and the modification of #3, with pediatric patients in mind to create a proposed new definition #4:

4. Patient ≤ 12 months of age has new onset of one of the following localized signs and symptoms: fever ($>38^{\circ}\text{C}$), hypothermia ($<36^{\circ}\text{C}$), erythema, limited mobility or range of motion, drainage, swelling, or heat.

This definition is focused on infants ≤ 12 months of age because the pediatricians and IPs in the group are suggesting that infants oftentimes have different clinical signs or symptoms when they present with this infection. The highlighted items are the additions the workgroup included in the proposed revision. Infants can actually have hypothermia when they have osteomyelitis with limited mobility or range of motion. Those two are not currently in the definition. The rest of the definition would remain the same.

The proposed disc space infection (DISC) definition revision involves no changes to #1 and #2 and modification of #3, with pediatric patients in mind to create a proposed new definition #4:

4. Patients <61 days of age may use at least one of the following localized signs or symptoms: fever ($>38.0^{\circ}\text{C}$), hypothermia ($<36.0^{\circ}\text{C}$), tenderness, limited mobility, or swelling at the involved vertebral disc space.

The workgroup felt that infants <61 days of age may also present with this infection with hypothermia ($<36.0^{\circ}\text{C}$), tenderness, limited mobility, or swelling at the involved vertebral disc space. The rest of the definition would be the same as the current definition #3.

For joint or bursa infection, there is a proposal from the workgroup to retain items #1 and #2 and the modification of #3, with pediatric patients in mind to create a proposed new definition #4:

4. Patient <12 months of age has new onset of one of the following localized signs and symptoms: fever ($> 38^{\circ}\text{C}$), hypothermia ($< 36^{\circ}\text{C}$), erythema, limited mobility or range of motion, drainage, swelling, or heat

The workgroup felt that infants <12 months of age may also present with this infection with hypothermia ($<36.0^{\circ}\text{C}$), erythema, limited mobility or range of motion, or drainage. The rest of the definition would be the same as the current definition #3.

² https://www.cdc.gov/nhsn/pdfs/pscmanual/pcsmanual_current.pdf

Moving on to the central nervous system (CNS), first is CNS intracranial infection (IC) that includes brain abscess, subdural or epidural infection, or encephalitis. There is a proposal from the workgroup to retain items #1, #2, and #3 and revise existing #4:

4. Patient ≤ 12 months of age has at least **one** of the following signs or symptoms: fever ($>38.0^{\circ}\text{C}$), hypothermia ($<36.0^{\circ}\text{C}$), apnea, bradycardia, localizing neurologic signs, seizure activity or changing level of consciousness (for example, irritability, poor feeding, lethargy)

Definition #4 currently states that the patient is ≤ 1 year of age and has at least two signs and symptoms. The revised #4 include the additions signs and symptoms in the proposed revision. The workgroup felt that throughout the manual the recommendation should be to change ≤ 1 year of age to ≤ 12 months of age for greater specificity and clarification. In addition, there is a proposal to add seizure activity because this certainly can be one of the signs or symptoms in infants ≤ 12 months of age who present with one of these types of IC infections. The rest of the definition would be the same as the current definition #4.

The proposed meningitis infection (MEN) revision involves no changes to #1 and #2 and the modification of #3:

3. Patient ≤ 12 months of age has at least **one** of the following elements: fever ($>38.0^{\circ}\text{C}$), hypothermia ($<36.0^{\circ}\text{C}$), apnea, bradycardia, seizure activity, neck stiffness, bulging fontanelle, or irritability.

Definition #3 currently states that the patient is ≤ 1 year of age and has at least two signs and symptoms. The workgroup proposes a revision to change ≤ 1 year of age to ≤ 12 months of age for consistency and to add seizure activity, neck stiffness, and bulging fontanelle. The rest of the definition would be the same as the current definition #3.

The proposed spinal abscess/infection (SA) revision involves no changes to #1 and #2 and the modification of #3, with pediatric patients in mind to create a proposed new definition #4:

4. Patient <61 days has at least one of the following localized signs or symptoms: fever ($>38.0^{\circ}\text{C}$), hypothermia ($<36.0^{\circ}\text{C}$), back pain or tenderness, radiculitis, paraparesis, or paraplegia

The workgroup has a proposed revision to add a 4th new definition to focus on infants <61 days of age and an addition of hypothermia ($<36.0^{\circ}\text{C}$) as one of their localized signs or symptoms presenting with this type of infection. The rest of the definition would remain the same as the current definition #3.

The proposed gastroenteritis infection (GE) revision involves no changes to #1 and the modification of #2 with pediatric patients in mind to create a proposed new definition #3:

3. Patient <61 days has at least **one** of the following localized signs or symptoms: fever ($>38.0^{\circ}\text{C}$), hypothermia ($<36.0^{\circ}\text{C}$), acute onset of change in stool frequency or consistency, visible blood in stool, or abdominal distension

This definition excludes *Clostridioides difficile*. The workgroup has a proposed revision to add an age-specific #3 for infants <61 days who have at least **one** localized sign or symptom. No changes are proposed for any of the supporting laboratory evidence from the #2 definition.

The proposal by the workgroup for the necrotizing enterocolitis infection (NEC) definition is to modify or change the current existing definition for #1, which is that the infant has at least one of the imaging and one of the test findings. The first proposed changes is to replace ≤ 1 year of age with ≤ 12 months of age. One minor but important change on the imaging test finding is to add “or pneumatosis on abdominal imaging” to test finding a. Pneumatosis intestinalis. This was found by the IPs to be an important modification who are doing the chart reviewing in identifying this infection. Everything else in #1 remains the same and no revisions are proposed to #2. The workgroup proposed the following revised reporting instruction for NEC to provide additional instructions for the reporting facility and the IP reviewing the chart:

Necrotizing enterocolitis (NEC) criteria include neither a site-specific specimen nor organism identified from blood specimen. The pathophysiology of NEC is multifactorial: NEC is not an infectious disease and NEC is not a hospital-acquired infection. NEC definitions are provided to facilitate the provision of an exception for assigning a BSI secondary to NEC. A BSI is considered secondary to NEC if the patient meets one of the two NEC criteria AND an organism identified from blood specimen collected during the secondary BSI attribution period is an LCBI pathogen, or the same common commensal is identified from two or more blood specimens drawn on separate occasions collected on the same or consecutive days.

The proposed gastrointestinal tract infection (GIT) revision involves no changes to #1 and modification of #2 with pediatric patients in mind to create a proposed new definition #3:

3. Patient ≤ 12 months has at least two of the following signs or symptoms compatible with infection of the organ or tissue involved: fever ($>38.0^{\circ}\text{C}$), hypothermia ($<36.0^{\circ}\text{C}$), feeding intolerance requiring patient to be NPO, abdominal distension, abdominal pain or tenderness

The workgroup has proposed revision for ≤ 12 months of age and adding hypothermia ($<36.0^{\circ}\text{C}$), feeding intolerance requiring patient to be NPO, abdominal distension. The rest would remain the same.

The proposed intraabdominal infection (IAB) revision involves no changes to #1 and #2 and the modification of #3 with pediatric patients in mind to create a proposed new definition #4:

4. Patient ≤ 12 months has at least two of the following signs or symptoms compatible with infection of the organ or tissue involved: fever ($>38.0^{\circ}\text{C}$), hypothermia ($<36.0^{\circ}\text{C}$), feeding intolerance requiring patient to be NPO, abdominal distension, abdominal pain or tenderness, elevated transaminase level(s), or jaundice

The proposed myocarditis/pericarditis (CARD) revision involves no changes to #1 and #2 and a revision to #3:

3. Patient ≤ 12 months of age has at least two of the following signs or symptoms: fever ($>38.0^{\circ}\text{C}$), hypothermia ($<36.0^{\circ}\text{C}$), apnea, bradycardia, tachycardia, paradoxical pulse, or increased heart size

The proposed revision to endocarditis #6 (ENDO) is to add item iv. superior vena cava or inferior vena cava abscess in a patient with congenital single ventricle and Fontan physiology, seen on echocardiogram under the “at least **one** of the following” section and item a. prior

endocarditis, prosthetic valve, uncorrected or incompletely corrected congenital heart disease, history of rheumatic heart disease, hypertrophic obstructive cardiomyopathy, or known IV drug use under the “and at least **three** of the following” section.

The proposed revision to endocarditis #7 (ENDO) is to revised item a. prior endocarditis, prosthetic valve, uncorrected or incompletely corrected congenital heart disease, history of rheumatic heart disease, hypertrophic obstructive cardiomyopathy, or known IV drug use.

The proposed revision to mediastinitis (MED) is to leave #1, #2, and #3 as is and in #4 to change ≤ 1 year of age to ≤ 12 months of age and to add tachycardia to the signs and symptoms.

For conjunctive (CONJ), no revisions are proposed to #1 and #2. The addition of a new #3 is proposed as follows:

3. Patient has at least two of the following signs or symptoms: periorbital pain, erythema, edema, or swelling

AND

Organism(s) identified from conjunctival scraping or purulent exudate obtained from the conjunctiva or contiguous tissues, (for example, eyelid, cornea, meibomian glands, or lacrimal glands) by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment, for example, not Active Surveillance Culture/Testing (ASC/AST).

The proposed eye revisions are to #2 and are to add fever ($>38.0^{\circ}\text{C}$) and proptosis. No revisions are recommended to #1.

The proposed upper respiratory (UR) revisions are to add tachypnea and nasal discharge to #1 and change ≤ 1 year of age to ≤ 12 months of age and to add stridor, tachypnea, and cough to the signs and symptoms in #3. All else remains the same.

Discussion Points

Pediatric Infectious Diseases Society (PIDS) expressed gratitude for this tremendous work. Having this additional guidance and definitions will be very helpful, especially with regard to the extremely challenging NEC.

Dr. Guzman-Cottrill noted that the workgroup is still working through Chapter 17, but will move on to the other chapters once that is completed. While it is a long process, it is very much overdue.

Patient Safety Action Network (PSAN) commended the excellent and detailed presentation and expressed hope that the entire committee would think about telemedicine and how the standards or guidelines that CDC publishes will impact that for all patient populations, not just pediatrics. Patients have concerns about some of the state legislation that is currently taking place with regard to telemedicine. Many laws are being passed without any standards of care around telemedicine, especially with regard to infection.

Dr. Guzman-Cottrill said that one example would be surgical site infections (SSI) that oftentimes are diagnosed after the patient goes home from surgery, and consideration must be given to how to capture those with telemedicine being such an important part of healthcare delivery now.

Dr. Babcock observed that there was a revision in a number of the pediatric definitions that removed criteria or removed requirements. For instance, there were changes from “must have two of these” to “must have one of these.” At first she was somewhat concerned about whether that might lead to overcalling, but upon looking through them again it made sense.

Dr. Guzman-Cottrill stressed that the workgroup members are very thoughtful and lent a lot of their clinical expertise, along with the IPs who are reviewing the charts. In addition, the CDC technical experts from NHSN have been incredibly helpful because they are the ones who are fielding the emails from the facilities when they are not sure if a patient meets the criteria. While there are less clinical criteria now in some of the definitions, those were discussed in detail to ensure that they do not under- or over-call infections.

Federal Entity Comment

Gary A. Roselle, MD
National Director
Infectious Diseases Service
Veterans Health Administration
Department of Veterans Affairs

I was really happy to hear at the beginning the talk about sustainability. I can ensure anything for 6 months, but how do you sustain the effort and enthusiasm. In another X amount of time, people will forget about COVID just like they have forgotten about AIDS, forgotten about H1N1, or are inured to deaths from flu, so that's critical. I also think that elimination of HAIs as a goal is good. When the VA first started doing that a few years ago for MRSA, I got a fair amount of abuse because they said it was hopeless. Well, it's probably hopeless to get to elimination, but it's not hopeless to get asymptotic. Containment is really important because we can't ever figure out what an outbreak is. Well, one case can be considered enough for an outbreak and I don't think we can forget that so we don't end up with 50 cases. In non-acute care, I don't think people understand—the public certainly doesn't—the number of people in nursing homes across the country is huge. What goes on in them is extraordinarily varied. The concept of infection control being everyone's business is also important. You heard talk about people who clean the rooms never get contacted. They don't know that they are important in saving lives. They want to know that, but they don't know that. Then lastly, if we depend on people doing things, we will fail because that is a failure point. We say, “Well, put on your mask right. Put on your gown between rooms. Put on this, that, and the other.” That is a failure point. We can educate from now to forever, but people get busy. So, what do we need? Better engineering controls. Alcohol hand rub has changed a ton. That I consider an engineering tool because it's easy. You walk in a room. You do it. Vaccines are an engineering control, yet if you go to long-term care, probably 40% of the staff have not been vaccinated. Lastly, PPE. My favorite subject. If you go back several hundred years, particularly to plague masks and things, we're wearing the exact same thing we were hundreds of years ago. It is no different. We changed the media a little bit in front of your nose, but everything else is the same. There's got to be better ways so that you don't depend on people to remember everything, and you don't depend on having enough of X or Y. With that, I will be quiet and I thank you very much. I have to mention the yeoman's work that everyone has done during the pandemic, both for the patients and also for your committee where that's “another duty as assigned.”

Public Comment

Edmond Anderson Hooker, MD, DrPH
Xavier University and University of Cincinnati

I appreciate the time to make a comment. I cannot overemphasize my appreciation for everything that HICPAC has done over the last year. But, I'm concerned that HICPAC continues to not address one of the big "elephants in the room," literally in the room, which is the hospital bed. We know that hospital beds are a huge source of infection. My concern is that the hospital manufacturers have recommended a 5- or 6-step process. HICPAC has published many things saying that disinfection is different than cleaning. Yet, most hospitals are cleaning hospital beds with 1 step. They are combining disinfection and cleaning, which is not what is appropriate as stated by the manufacturers and even by the CDC. The problem is that the hospitals have an issue in that they have got to turn the beds over quickly, so they are doing a 1-step process. CDC/HICPAC needs to "step up to the plate" and say, "It's time to stop. We need a 5- to 6-step process that cleans, rinses the cleaner, disinfects, rinses the disinfectant, and then the bed needs to be inspected." I just presented a paper at SHEA looking at 4 hospitals in a Midwest hospital system in which 72% of those beds had failed, 72% of the mattresses had failed, and this is not uncommon. There is published research saying that anywhere from 25% to 33% of beds have failed. Unfortunately, it's much higher than that. The CDC and HICPAC need to step up and stay, "Beds must be inspected after every single use." I really cannot overemphasize the importance of this. This is killing people—these beds. The FDA had a warning come out about 3 or 4 years ago where they said, "We had all of these failed mattresses and blood came out on the patient." It's time for HICPAC to issue guidance because the hospitals aren't going to do this on their own because they've got to turn the beds over too quickly. When I finish talking here in a sec, I will add to the Chat feature my poster from SHEA just because you need to understand that beds are failing and they're not being inspected. Anybody that works in a hospital knows that mattresses are failing. Thank you so much for all your work and effort and I know that you all are doing the best that you can with the limited resources that you have. Thank you, thank you, thank you.

Lori Nerbonne, RN
Patient Safety Action Network (PSAN)

I am an RN Patient Advocate and one of the comments I was going to add is the #1 complaint I am receiving is that hospital bed sheets are not being changed and rooms are not being cleaned. I recently had a close friend say she was in the hospital x 8 days and her sheets were not changed once. She was hospitalized due to a severe wound infection on her leg. The other issue is patients are wearing socks while they walk around the unit and then getting into bed with dirty socks (these socks are provided by hospitals). Just some feedback that agrees with what Dr. Hooker presented to the group. Hospital beds are an enormous source of infections in hospitals. Thank you!

Jim Gauthier, MLT, CIC,
Certified Infection Preventionist
Senior Clinical Advisor
Diversey Care in North America

Hello. My name is Jim Gauthier and I am Senior Clinical Advisory to Diversey Care in North America. I am a Certified Infection Preventionist. My comments concern sections of the CDC's

Guidelines for Environmental Infection Control in Health-Care Facilities (2003). I would like to comment on a recent infection control practice not reflected in the 2003 guideline that could maintain public safety in healthcare settings by ensuring hospital mattress or stretcher covers are intact and cleanable, while lowering institutional operating costs. From 2011-2016, the FDA received over 700 reports of hospital mattress covers failing to prevent body fluids and blood from leaking into the mattress, exposing patients to blood and bodily fluids left behind by other patients. Peer-reviewed studies have shown that mattress damage can be as high as 40%, and we just heard that it can be higher, and compromised mattresses have led to outbreaks of hospital-acquired infections. FDA has issued Safety Communications about the risks posed by damaged mattress covers, which FDA regulates as medical devices. In 2017, FDA recommended that mattress covers be routinely inspected for signs of damage, and when damage is identified, the cover should be replaced immediately, citing CDC's *Guidelines for Environmental Infection Control in Health-Care Facilities* issued in 2003. Textile technology has advanced significantly since those guidelines were published 18 years ago, and there are now commercial technologies that safely and effectively repair minor damage on mattress covers. These technologies provide an effective and environmentally responsible alternative to outright mattress disposal and replacement. For example, there is a clinically validated patch that creates an impermeable and cleanable surface provided the damage is minor and no fluid ingress is observed. Both outside and inside the US, the patch is regulated as a medical device. Two peer-reviewed papers have described the successful implementation of a mattress assessment and maintenance program in several major hospitals. These studies outline the criteria for assessing mattress covers that are appropriate to repair versus damaged and in need of replacement. To provide healthcare institutions with an affordable, safe alternative to outright mattress replacement and to support institutional environmental hygiene, I recommend that CDC revise sections Part I.G.8 and Part II.G.VII.C of those 2003 guidelines to reflect advancements in textile technology for safely and effectively repairing damaged mattresses and stretcher covers under appropriate situations. FDA and other agencies rely directly or by implication on the CDC guidelines for the regulation of products and recommendations of practice. If CDC moves with updating their guidance, I recommend that CDC inform FDA so FDA can act upon device marketing submissions or inquiries accordingly. For ease of reference, I would be pleased to identify for CDC relevant literature on this topic. Thank you for your time and interest.

Kevin Kavanagh, MD, MS
Health Watch USAsm

I'm Kevin Kavanagh from Health Watch USAsm. Thank you very much for allowing me to give this public comment. I would like to encourage the CDC to be the leader in the world in tracking and controlling dangerous pathogens, to be totally transparent, and to provide the public with timely information. This week, I became concerned that CDC may no longer be leading the world in these imperatives. I was reading the foreign press, the *Daily Mail*, and there was an article regarding the Delta variant with the B.1.617.2 strain, sometimes called by the public the "India double mutation variant." This article reported that this dangerous variant is on the verge of spreading rapidly in the United States, making up 1% of the genetically sequenced cases in May, and is now comprising 7%. The article's data was derived from a website, outbreak.info, a website operated by Scripps Research with funding from the NIH, National Center for Data to Health (CD2H), and the CDC. The data is obtained from the World Health Organization (WHO) Global Influenza Surveillance and Response System (GISRS) initiative and is downloaded daily. Outbreak.info's data is current up to May 27th. The CDC's website's data is current up to May 8th. The CDC does not list the Delta variant as a variant of concern. State-specific data is not available for the Delta variant on the CDC's website. State-specific data, however, is available

on outbreak.info. Needless to say, the CDC should classify the Delta variant as a variant of concern. The CDC's main site should be easy to access and have the most up-to-date data available in the world. I feel that advisories regarding both the India variant and the P.1 resilient, or Gamma variant, need to be made. All variants appear to be on the verge of spreading rapidly in the United States. As of May 27th, the Gamma variant comprised 14% of sequenced cases. We need to be genetically sequencing more cases. Outbreak.info has data on 5800 sequenced cases in the last 60 days, but this represents only 0.2% of the approximately 3 million COVID cases which have occurred in the United States over the same time period. We should be sequencing at least 5% of all cases and 100% of the vaccine breakthrough cases regardless of if a patient was hospitalized or died. We also need to resist setting the bar for public health success at survival. Long COVID can be disabling and it is reported in up to 10% to 30% in even mild to moderate cases of COVID-19. The vaccines are effective against escaped mutants and variants, but only if 2 doses are given. Even at 1 dose, the vaccines do not perform as well as they do in preventing disease against the wild-type virus. Thank you.

Summary and Work Plan

Dr. Babcock summarized that during this meeting, HICPAC heard important themes from Dr. Cardo for work going forward around equity, diversity, and sustainability across the continuum of care and using regional approaches. There was discussion about the importance of coordination and complementary work across federal agencies, the importance of patient voices, and the importance of a reassessment of infection control recommendations. An excellent update was provided from the Long-Term Care/Post-Acute Care Workgroup, and HICPAC voted to approve the white paper titled, *Consideration for Use of Enhanced Barrier Precautions in Skilled Nursing Facilities*. A quick update was provided on where the HCP guideline stands and its first group of pathogens being posted. The NICU guidance CLABSI section is currently open for public comment and the respiratory illness section is being finalized. There was a robust discussion around the new workgroup to be formed around the revision of the 2007 isolation guidelines, which was very much appreciated. More details will be provided in the future on that plan. The NHSN Workgroup update included many updated pediatric definitions that everyone looks forward to moving forward. The federal entity and public comments are greatly appreciated. This was an excellent meeting and there is plenty of work getting restarted and beginning to move forward. Dr. Babcock expressed appreciation for all of the work of the members, liaisons, *ex officio* members, public commenters, and all who engage with HICPAC during these meetings.

Adjournment

Dr. Bell thanked the HICPAC members, Co-Chairs, federal liaisons, *ex officios*, and federal entity for their participation and thoughtful input during this meeting. This has been very helpful. He also thanked the team who orchestrated the Zoom platform for a smooth and productive virtual meeting that went remarkably well.

With no additional business raised or comments/questions posed, HICPAC stood adjourned at 3:05 PM ET.

Certification

I hereby certify that, to the best of my knowledge and ability, the foregoing minutes of the June 3, 2021 meeting of the Healthcare Infection Control Practices Advisory Committee, CDC are accurate and complete.

Date

Hilary Babcock, MD, MPH
Co-Chair, HICPAC / CDC

Date

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

Attachment #1: Acronyms Used in this Document

| Acronym | Expansion |
|-----------------|--------------------------------------------------------------------|
| AAKP | American Association of Kidney Patients |
| ACOEM | American College of Occupational and Environmental Medicine |
| AEH | America's Essential Hospitals |
| AHA | American Hospital 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 |
| ASC/AST | Active Surveillance Culture/Testing |
| ASTHO | Association of State and Territorial Health Officials |
| ASTM | American Society for Testing and Materials |
| BSI | Bloodstream Infection |
| <i>C. diff.</i> | <i>Clostridium difficile</i> |
| CARD | Myocarditis/Pericarditis |
| CD2H | National Center for Data to Health |
| CDC | Centers for Disease Control and Prevention |
| CLABSI | Central Line-Associated Bloodstream Infection |
| CMS | Centers for Medicare and Medicaid Services |
| CNS | Central Nervous System |
| COI | Conflicts of Interest |
| CONJ | Conjunctive |
| CRE | Carbapenem-Resistant <i>Enterobacteriaceae</i> |
| CSTE | Council of State and Territorial Epidemiologists |
| DFO | Designated Federal Official |
| DHQP | Division of Healthcare Quality Promotion |
| DISC | Disc Space Infection |
| EBP | Enhanced Barrier Precautions |
| ED | Emergency Department |
| EMS | Emergency Medical Services |
| ENDO | Endocarditis |
| FDA | (United States) Food and Drug Administration |
| GE | Gastroenteritis Infection |
| GCWC | Guidelines Collaboration Working Group |
| GIN | Guidelines International Network |
| GISRS | Global Influenza Surveillance and Response System |
| GIT | Gastrointestinal Tract Infection |
| HAI | Healthcare-Associated Infection |
| HCP | Healthcare Personnel |
| HHS | (United States Department of) Health and Human Services |
| HICPAC | Healthcare Infection Control Practices Advisory Committee |
| HRSA | Health Resources and Services Administration |
| IAB | Intraabdominal Infection |
| IC | Intracranial Infection |
| ICU | Intensive Care Unit |
| IHS | Indian Health Services |
| IP | Infection Preventionist |

| Acronym | Expansion |
|-------------------|---------------------------------------------------------------|
| LTCF | Long-Term Care Facility |
| LTC/PAC Workgroup | Long-Term Care/Post-Acute Care Workgroup |
| MEN | Meningitis Infection |
| MED | Mediastinitis |
| MDRO | Multidrug-Resistant Organism |
| MDR-TB | Multidrug-Resistant Tuberculosis |
| MRSA | Methicillin-Resistant <i>Staphylococcus Aureus</i> |
| NACCHO | National Association of County and City Health Officials |
| NACHC | National Association of Community Health Centers |
| NCEZID | National Center for Emerging and Zoonotic Infectious Diseases |
| NEC | Necrotizing Enterocolitis Infection |
| NHSN | National Healthcare Safety Network |
| NICU | Neonatal Intensive Care Unit |
| NIH | National Institutes of Health |
| NIOSH | National Institute for Occupational Safety and Health |
| NQF | National Quality Forum |
| NRHA | National Rural Health Association |
| NSU | Northeastern State University |
| 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 |
| SA | Spinal Abscess/Infection |
| <i>S. Aureus</i> | <i>Staphylococcus Aureus</i> |
| SCCM | Society of Critical Care Medicine |
| SHEA | Society for Healthcare Epidemiology of America |
| SHM | Society of Hospital Medicine |
| SIS | Surgical Infection Society |
| SME | Subject Matter Expert |
| SNF | Skilled Nursing Facilities |
| SSI | Surgical Site Infection |
| TB | Tuberculosis |
| TJC | The Joint Commission |
| UR | Upper Respiratory |
| US | United States |
| USPHS | United States Public Health Service |
| VA | (United States Department of) Veterans Affairs |
| WG | Workgroup |
| WHO | World Health Organization |