

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 (DHQP)



Healthcare Infection Control Practices Advisory Committee
November 5, 2020
Atlanta, Georgia

Record of the Proceedings

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Meeting Agenda

Healthcare Infection Control Practices Advisory Committee (HICPAC)

November 5, 2020

Centers for Disease Control and Prevention

Atlanta, GA

Teleconference

Thursday, November 5, 2020

<i>Time</i>	<i>Topic</i>	<i>Purpose</i>	<i>Presider/Presenter(s)</i>
1:00pm	Welcome and Roll Call	Information	Hilary Babcock (HICPAC Co-Chair) Lisa Maragakis (HICPAC Co-Chair) Michael Bell (DFO, HICPAC; CDC)
1:10	Division of Healthcare Quality Promotion (DHQP) Update	Information	Denise Cardo (DHQP, CDC)
1:20	Coronavirus Disease 2019	Information	Michael Bell (DFO, HICPAC; CDC)
1:50	Long-term Care/Post-acute Care Workgroup Update	Information/ Discussion	Michael Lin (HICPAC) JoAnne Reifsnnyder (HICPAC)
2:20	Healthcare Personnel Guideline Workgroup Update	Information	Hilary Babcock (HICPAC)
2:30	Neonatal Intensive Care Unit Workgroup Update	Information	Kristina Bryant (HICPAC)
2:40	Federal Entity Comment	-	-
2:45	Public Comment	-	-
2:55	Summary and Work Plan	Information	Hilary Babcock (HICPAC Co-Chair) Lisa Maragakis (HICPAC Co-Chair)
3:00	Adjourn	-	-

List of Attendees

HICPAC Members

Dr. Hilary Babcock, Co-Chair
Dr. Lisa Maragakis, Co-Chair
Dr. Deverick Anderson
Dr. Kristina Bryant
Dr. Vineet Chopra
Dr. Nicholas Daniels
Ms. Elaine Dekker
Dr. Mohamad Fakih
Dr. Judy Guzman-Cottrill
Dr. Michael Lin
Dr. Jan Patterson
Ms. Michael Anne Preas
Dr. JoAnne Reifsnyder

***ex officio* Members**

Ms. Elizabeth Claverie-Williams, Food and Drug Administration (FDA)
Dr. Tara Palmore, National Institutes of Health (NIH)
Dr. Melissa Miller, Agency for Healthcare Research and Quality (AHRQ)
Ms. Judy Trawick, Health Resources and Service Administration (HRSA)

Liaison Representatives

Holly Carpenter, American Nurses Association (ANA)
Karen DeKay, Association of Perioperative Registered Nurses (AORN)
Kathy Dunn, Public Health Agency Canada (PHAC)
Kris Ehresmann, Association of State and Territorial Health Officials (ASTHO)
Ashley Fell, Council of State and Territorial Epidemiologists (CSTE)
Allen Klinger, American Society of Nephrology (ASN)
Chris Lombardozzi, America's Essential Hospitals (AEH)
Ronell Myburgh, DNV GL Healthcare
Silvia Quevedo, Association of Professionals of Infection Control and Epidemiology (APIC)
Mark Russi, American College of Occupational and Environmental Medicine (ACOEM)
Robert Sawyer, Surgical Infection Society (SIS)
Christa Schorr, Society of Critical Care Medicine (SCCM)
Keith Kaye, Society for Healthcare Epidemiology of America (SHEA)
Ben Schwartz, National Association of County and City Health Officials (NACCHO)
Hana Hinkle, National Rural Health Association (NRHA)
Eve Cuny, Organization for Safety, Asepsis, and Prevention (OSAP)
Kevin Kavanagh, Patient Safety Action Network (PSAN)
Andrea Shane, Pediatric Infectious Disease Society (PIDS)
Pam Truscott, American Health Care Association (AHCA)
Margaret VanAmringe, The Joint Commission (TJC)
Sanjay Saint, Society of Hospital Medicine (SHM)
Stephen Weber, Infectious Disease Society of America (IDSA)

CDC Representatives

Lauren Andersen

Suparna Bagchi

Ana Bardossy
Mike Bell
Tiffany Boles-Green
Stephanie Booth
Susan Calley
Denise Cardo
Abigail Carlson
Koo Chung
Kendra Cox
Michael Craig
Anthony Fiore
Ann Goding Sauer
Alice Guh
Alison Halpin
Rita Helfand
Alfonso Hernandez
Robert Hood-Cree
Matthew Hudson
Kara Jacobs Slifka
Amelia Keaton
Rima Khabbaz
Seth Kroop
Fernanda Lessa
Ruoran Li
Denise Leaptrot
Quesha Marcus-White
Stephanie McBride
Ti McCray
Kelly McGill

Federal Agency

Gary Roselle, VA

Members of the Public

Lynne Batshon, SHEA
Deb Campbell, KY Hospital Association
Charlemagne Chua, ASP Inc.
Jill Culiner, BD
Sarah En Sayed, Boston Strategic Partners
Chris Freedman, Karna
Mary Ellen Guinan, AEH
Kate Hayer
Kaitlin Heath
Deo Kley, Clorox Company
Michelle Lee, OSAP
Vivian Leung, CT Department of Public Health
Lisa McGiffert, PSAN

Kimberly Miller Williamson
Lauren Moccia
Kerri Moran
Shannon Novosad
Bola Ogundimu
Devon Okasako
Christal Oliver
Chrystal Oliver
Trisha Patel
Joe Perz
Latasha Powell
Chris Prestel
Kristin Roberts
Victoria Russo
Melissa Schaffer
Eric Scott
Chelsea Slaker
Henrietta Smith
Christine So
Molly Stillions
Nimalie Stone
Beth Pallo
Kimberly Tieg
Abigail Viall
Ashley Wadley
Lauren Wattenmaker
Mary Beth White Comstock
Wyatt Wilson
Shiu Wu

Betty McGinty, Boston Scientific
Ann-Marie Pettis, APIC
Janet Prust, 3M Health Care
Maria Rodriguez, Xenex Disinfection Services
Puja Shah, CSTE
Linda Spaulding, Inco & Associates
Keith St. John, CDI
Lisa Tomlinson, APIC
Nancy Trick, BD
Valerie Vaughn
Kristy Weinschel, SHEA
Jessica Wilson, OSAP
Denise Winzeler, AAPACN

Executive Summary

The US Department of Health and Human Services (HHS) and the Centers for Disease Control and Prevention (CDC) National Center for Emerging and Zoonotic Infectious Diseases (NCEZID) Division of Healthcare Quality Promotion (DHQP) convened a teleconference meeting of the Healthcare Infection Control Practices Advisory Committee (HICPAC) on November 5, 2020. The Designated Federal Officer (DFO) and co-Chairs confirmed the presence of a quorum of HICPAC voting members and *ex officio* members, which was maintained throughout the meeting.

Dr. Hilary Babcock provided an update on the work of the Healthcare Personnel Guideline Workgroup. Dr. Kristina Bryant provided an update on the work of the Neonatal Intensive Care Unit Guideline Workgroup. Drs. Michael Lin and JoAnne Reifsnyder provided an update on the work of the Long-term Care/Post-acute Care Workgroup. Drs. Michael Bell and Denise Cardo provided a report on the current status of the COVID-19 outbreak.

HICPAC stood in recess at 2:43pm on November 5, 2020.

**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**

November 5, 2020

Teleconference

Meeting Summary

The United States Department of Health and Human Services (HHS) and the Centers for Disease Control and Prevention (CDC), National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), Division of Healthcare Quality Promotion (DHQP), convened a meeting of the Healthcare Infection Control Practices Advisory Committee (HICPAC) on November 5, 2020, via teleconference.

Welcome and Roll Call

The following HICPAC committee members disclosed potential conflicts: Lisa Maragakis received research funding from Clorox. Kristina Bryant received research funding from Pfizer and Sanofi Pasteur and honoraria from Med Study. Judith Guzman-Cottrill serves as a consultant to the Oregon Health Authority. Michael Lin received research support in the form of contributed products from Sage Products (Stryker Corporation) as well as investigator-initiated grant from CareFusion Foundation (Becton, Dickinson and Company). Jan Patterson serves as a consultant for her local health department and her spouse received research funding for fungal studies from Basilea and Astellas. Quorum was established and the meeting proceeded as scheduled.

Dr. Babcock introduced three new liaison organizations and their representatives to HICPAC. The National Rural Health Association; Dr. Hana Hinkle. The Organization for Safety, Asepsis and Prevention; Ms. Eve Cuny. The Patient Safety Action Network, Dr. Kevin Kavanagh. She also noted changes to liaison representatives for the Society for Healthcare Epidemiology of America. Dr. Louise Dembry is being replaced with Dr. Keith Kaye, a past president of SHEA, and Director of Research in Infectious Diseases at the University of Michigan. Dr. Maragakis also announced the retirement of Dr. Daniel Schwartz, *ex officio* member for the Centers for Medicare and Medicaid Services. She also announced the retirement of three HICPAC members, Kristina Bryant (2016-present); Vineet Chopra (2016-present); and Jan Patterson (2014-present).

DHQP Update

Dr. Denise Cardo, Director, DHQP/CDC

Dr. Cardo presented lessons learned from the Coronavirus Disease 2019 (COVID-19) pandemic response that are applicable to the committee and DHQP. First, there are many issues and barriers related to gaps in the healthcare delivery system, including infection prevention and control. There have been huge improvements in infection prevention and control in hospitals, but implementation across the healthcare delivery system is not uniform, especially within nursing homes where care is being delivered. DHQP's work during investigations of transmission of antibiotic resistance and emerging pathogens has brought this into focus and how important it is to improve overall infection prevention. Next, the early detection and management of infection is important to healthcare delivery systems. Quickly detecting and managing cases and colonization, especially for emerging resistant pathogens, can

help contain and further prevent transmission. This is even more critical with COVID-19. Therefore, the need for new diagnostic testing tools for not just COVID-19, but many other types of infections are needed. However, new diagnostic tools alone are not enough. Diagnostic stewardship is also important for early detection, management, and containment of infections, including emerging resistant pathogens. During the COVID-19 response efforts, the lack of health equity and access has been very visible. Health inequity and lack of access to quality care are also critical factors that are applicable to the infections that pertain to the Committee and need to be addressed in the future. Not just in terms of tailoring messages for patients and clinicians but also improving quality of care through the prevention of infections and improvements of antibiotic use across the United States. Lastly, survivors of COVID-19 are experiencing many complications. The quality of life of these survivors and the impact that this infection, including other HAIs, have on their lives is an important aspect to consider when discussing prevention. We need to start working with professional organizations and other institutions that can help increase prevention efforts to avoid infections, particularly populations at higher risk.

Dr. Cardo discussed the need to integrate infection prevention and control to all healthcare delivery systems, including all patient encounters. Data is needed to create more targeted actions and strategies. DHQP is working on this critical need by expanding the National Healthcare Safety Network (NHSN), looking at different data sources, and moving toward data automation. The strategies in place to improve infection prevention and antibiotic use in acute care settings, specifically for large hospitals and urban areas, may not be the same strategies that we need to address in other healthcare settings, such as nursing homes. It's clearer now, that we need to embrace different implementation strategies to improve infection prevention in different settings. A lot of great work has recently been done on effective communication and ongoing education to train professionals in infection prevention and control. Now, these efforts have been expanded to a wider group of personnel through Project Firstline, being led by Dr. Michael Bell. Another critical aspect of this response is the need for a public health-healthcare connection that is also applicable to combat antibiotic resistance. During the COVID-19 response, the HAI/Antibiotic Resistance (AR) state programs have improved their connection with nursing homes. These connections are the building blocks for moving forward with more effective interventions in these settings. Nothing can be lasting without policies for accountability and sustainability. Therefore, our work with CMS has expanded and will continue to be a critical aspect of DHQP's work.

Next, Dr. Cardo discussed some examples of what DHQP is doing with long-term care facilities to keep COVID-19 out, including early detection and controlling transmission. In this effort, NHSN has expanded to now have all CMS-certified nursing homes reporting to NHSN. This data is not just aggregate data, but many facilities are now reporting results of point-of-care testing at the resident level. This level of data can be important in the future to look at HAIs and antibiotic resistance in these settings.

Lastly, Dr. Cardo reminded the Committee that what we've experienced with the pandemic confirms the need to challenge ourselves by moving toward the elimination of infections, by moving swiftly to contain cases as soon as they are identified, and by working in all healthcare settings. She also reminded the committee that we must not forget that behind each case is a person and the family that it affects.

DHQP Update Discussion

Dr. Babcock opened the call for comments on Dr. Cardo's session. Dr. Maragakis echoed Dr. Cardo's comments regarding humanizing the statistics. In her institution, they have incorporated active engagement with patient and family advisory boards as well as their spiritual care department. During the pandemic, when visitor restrictions were in place, the spiritual care department would reach out to patient's family members for photos or voice recording that they could share with patients during their rounds. This mindfulness of quality of life was very important.

Ms. Trawick asked how the committee could help with the goals of Project Firstline and requested a brief overview. Dr. Bell explained that infection prevention and control training has historically been focused on healthcare providers such as infection preventionists. However, this training does not trickle down very effectively to frontline staff, particularly beyond traditional healthcare providers. Most healthcare encounters aren't by physicians. The vast majority of these encounters are by nurses, nursing assistants, technicians, and environmental services. These professionals are asked to do certain tasks, but there has not been a concerted effort to reach them to help them understand the rationale behind why they are asked to do something and what those actions and practices are likely to yield for the patient. In the past, during crisis situations, these frontline workers were given a set of things they have to do, but now we're trying to build a more robust infrastructure so that everyone has an understanding of the potential impact and the rationale behind these things they are asked to do. How we are reaching these professionals is also important. In reality, many of these healthcare workers may not have the luxury to attend professional meetings and seminars so figuring out how to deliver convenient, easily accessible, and short digestible information that are relevant to the people we are trying to reach is critical. This can be in the form of podcasts, YouTube clips, and smartphone-enabled digital content is what we're thinking about. Materials related to Project Firstline are scheduled to be released towards the end of November and thereafter. The network of partnerships that has been developed is extremely broad and will continue to get broader. This network includes a variety of professional societies, specialty societies, and non-academic organizations. These organizations that have reach into communities and cultures that traditionally have not been engaged in the most effective ways. Part of this relationship building, and networking is also related to a desire to have ongoing discourse. This question and answer-type interactive approach is to learn about the challenges that are happening in special locations and communities that might have different resources or unique healthcare challenges.

Ms. Dekker asked if conversations were ongoing on how to change the mindset regarding resources and staffing needs in long-term care and skilled nursing facilities. These locations have different staffing models as well as resources. Dr. Cardo agreed and added that not only do healthcare workers in nursing homes have different levels of training, but they face different realities regarding their salary, the need to work in multiple locations, and not staying in the same job for long periods of time. She believes if we don't address improving the quality of life for the healthcare workers when we are tackling prevention in nursing homes, it will be hard. In terms of health equity or overall equity, analysis of demographics and salaries of those working in nursing homes compared to hospitals has shown that there is a big difference. She continued that serious change may require system-level work.

Coronavirus Disease 2019 Update

Dr. Michael Bell, Deputy Director, DHQP/CDC

Today marks response day 305 and unfortunately, we are seeing escalation in multiple jurisdictions, in particular the North and Central regions of the country. We are looking at roughly 90,000 cases and 1,000 deaths a day in the coming weeks. This exceeds the incidence in late July, but the good news is that death has not risen in the same way. Hospitals and their staff remain stressed and many locations that have been more affected now are further away from urban centers that have a greater redundancy in healthcare resources. There has been a great deal of attention focused on how those locations can be supported; particularly, since multiple jurisdictions are likely to require support at around the same time. CDC does not have the staff to deploy to each and every facility at once, and state/local health departments are likely to be stretched as well. So, figuring out how to be of most benefit to stressed jurisdictions during this time is an active area of effort.

Supply chains for infection prevention and control equipment continue to be imperfect, at best. The patterns that we are seeing are patchy and unpredictable. Accommodating this continues to be a national challenge. Related to this issue, crisis standards of care with extended use of equipment is something we do not want to see extended beyond the absolute necessary window of time. Figuring out when to shift back towards normal use of personal protective equipment (PPE), particularly in acute care settings is an impending challenge.

As discussed by Dr. Cardo, nursing homes and other settings are in a slightly different situation. Their supply chains have often been less robust to begin with. Some settings are implementing the use of respiratory protection, yet having a respiratory protection program is not something that these settings have been required to do previously. Therefore, CDC, in conversation with CMS and the long-term care community, have been discussing ways to support their infrastructure so that implementing those administrative frameworks can be doable, while not disrupting the efforts to provide a meaningful home and safe environment for nursing home residents.

CDC and National Institute for Occupational Safety and Health (NIOSH) are working together to better define the potential benefits of the various types of masks that are being used for source control in a soon-to-be-released publication. For example, respirators, in general, are very good at source control; they block roughly 95+% of what someone coughs or sneezes out. Next, surgical and procedure masks are in the high 60s%, with cloth masks in the 40-60% range depending on the model. Face shields are around 2-5%. Bottom line is that there is a range of effectiveness and as more information becomes available, we'll be able to point people towards more effective devices. Parallel to this, manufacturers are beginning to develop more comfortable and usable devices.

Similarly, DHQP's modeling group, led by Dr. Rachel Slayton, is looking at data on the effectiveness of these devices. Even with a device that blocks about 50% of exhaled material, if as little as 50% of a community consistently uses them, the impact on the community transmission dynamic can be tremendous. We do not need a "100% hermetic system", but having a reduction by half or more of what people are exhaling turns out to be effective, especially if we can get the majority of the population to adhere to the practice. This is not only important for COVID-19 but could have broader implications for many other respiratory infections that may be preventable as well.

Next, infection control in terms of the environment, for example, surfaces and hand hygiene was a focus area in the beginning of the response, but based on what we have seen so far, fomites and soiled surfaces do not appear to be major drivers of transmission. However, CDC still recommends all the routine approaches to environmental hygiene and hand hygiene. In contrast, indoor air quality is an area receiving more attention. Hospitals have the easiest route given the infrastructure available to them (e.g., engineering/maintenance staff able to assess and improve air handling systems). This may be a bigger challenge in other settings such as ambulatory settings and non-clinical spaces. However, these spaces, for example, lobbies, waiting areas, and triage settings, in particular could benefit a great deal from improved air quality. Having better air exchanges in these settings and implementing newer technologies to reduce potential infectious particles in the air may well be a direction that we go nationally.

Coronavirus Disease 2019 Update Discussion

Ms. Dekker works on a campus where some buildings date back to the 1900s and patient care is actively taking place in these settings. How do these facilities address air quality issues in older buildings? Ms. Preas also echoed Ms. Dekker's concerns, but also added the importance of considering congregate settings, double occupancy rooms in acute care and long-term care settings, and behavioral health

settings as well. She emphasized that source control is critical, but the challenge of mask wearing with patients that are not feeling well or those with behavioral concerns cannot be overstated.

Dr. Babcock reinforced these issues and added that these issues could be compounded as well. For example, an older building is more likely to be a double occupancy room setup and may also have less reliable air exchanges and ventilation systems. Many facilities have tried to move to single occupancy rooms, but with surges in COVID-19 admissions, hospitals are not able to always maintain that. Indoor air quality is a very interesting area and whether technological solutions or filtration systems can compensate for what we're experiencing with the need for better air exchanges can be valuable information.

Dr. Bell commented that older buildings have other challenges other than just air quality which may add complexity to the situation. It's unlikely that these buildings will be razed to start fresh. There is some benefit from other work in this area through the years. For example, doing temporary retrofits related to Ebola virus. Trying to systematize this useful information into flexible modular tools could be one way to tackle this issue. These modular tools could be temporary retrofits or something more long-lasting and these could be useful not only for patient care areas, but also for more public facing areas that have not been addressed actively during this call.

Dr. Lin inquired about elastomeric respirators that are being considered in many healthcare settings to try and save disposable N95 respirators. These elastomeric respirators have exhalation valves and therefore should not be used in sterile environments, but what about source control since the valves are not filtering out their exhalation? Dr. Bell responded that in contrast to using respirators with exhalation valves during surgery where a sterile field is required, the elastomeric respirator may not be as bad as we feared from a source control perspective for routine non-surgical settings. There may be a shift to more permissive use of respirators for source control. NIOSH colleagues have also looked at ways to reduce the negative side of exhalation valves and one option may be to cover the valve to reduce outflow without using a procedure or surgical mask, to reduce wastage. All of this also depends greatly on the model of the elastomeric respirator. Dr. Russi added that his facility is also using elastomeric respirators, but also power air-purifying respirators (PAPRs). Staff are actually wearing surgical masks underneath the PAPRs and covering the exhalation valves on elastomeric respirators. Dr. Bell commented that depending on the shroud and where the air outflow is, PAPRs could in fact be even more problematic for source control.

Dr. Kavanagh added that getting people to comply with masks is difficult and many are stating that they have a medical condition that prevents them from wearing a mask. His recommendation to these people is if you have a medical condition that is severe enough that you cannot wear a mask, you probably should be sheltering at home because your chances of getting severe COVID-19 infection are too great.

Long-term Care/Post-acute Care (LTC/PAC) Workgroup Update

Dr. Michael Lin, MD, MPH, HICPAC Member

Dr. JoAnne Reifsnnyder, PhD, MBA, MSN, HICPAC Member

Dr. Reifsnnyder stated the formation of the LTC/PAC workgroup predated the pandemic, but the impact in nursing homes has only made the work of the group more important. The goal of the workgroup is to inform the committee on strategies to prevent HAIs in long-term care and post-acute care settings. Initially, the workgroup was charged with providing recommendations on the care of nursing home populations and the implementation and scope of enhanced barrier precautions (EBP).

The overarching question the workgroup focused on, based on lessons learned from transmission of COVID-19 and emerging multi-drug resistant organisms (MDROs), was “How should nursing homes implement PPE use for resident care activities?” Three sub-questions were generated under the broader question. First, can PPE be effectively targeted for use during risk-associated activities? For example, gown and glove use for high touch or prolonged touch activities based on specific resident risk factors, which is also known as enhanced barrier precautions (EBP). Next, how should nursing homes approach the use of respiratory protection? And lastly, could nursing homes implement source control for purposes other than the currently recommended COVID-19 practices?

The workgroup will initially focus on the first question (Can PPE be effectively targeted for use during risk-associated activities?) which will be broken down into additional sub-questions (how could isolation gown use be adapted for routine care activities in nursing homes?; how could isolation gown use be implemented for COVID-19?; and how would that implementation approach change in the context of shortages?). The workgroup’s plan is to address these questions by producing a white paper with expert opinion with the subsequent opportunity to publish as a manuscript. The workgroup has begun working on the deliverables by breaking up into smaller groups to address each of the three sub-questions. Every member of the workgroup will have an opportunity to contribute to the synthesis of the information.

Dr. Lin continued the discussion by focusing on the first sub-question, how can isolation gown use be adopted for routine care activities in nursing homes. The workgroup has prioritized this particular question because it’s the biggest question and likely the most difficult to tackle. The current workgroup members are experts in this area and have presented some of the evidence behind the use of isolation gowns for routine activities; for example, the work of Mary-Claire Roghmann. She and her group published “Targeted gown and glove use to prevent *Staphylococcus aureus* acquisition in community-based nursing homes: a pilot study” in the Infection Control Hospital Epidemiology journal in October 2020. It is a CDC-funded study that involved the University of Maryland and Johns Hopkins University. This study included other workgroup members as co-authors as well.

The objective of this study was to test the feasibility of targeted gown and glove use by healthcare personnel caring for high-risk nursing home residents to prevent *S. aureus* acquisition in short-stay residents. The study design was an uncontrolled clinical trial. It was essentially a quasi-experimental, before and after type of study where there were two months of baseline period and two months of an intervention period. To reiterate, this study was designed to look at feasibility rather than effectiveness, and the setting was two community-based nursing homes in Maryland, a 60-bed and 45-bed nursing home, for a total of 322 residents on mixed short- and long-stay regions of units of the nursing home who participated in the study. The methods included initial evaluation of nursing home work systems, designing the feedback sessions, face-to-face interviews to get the feedback, and then extensive training of the designed interventions. A strength of this particular study was the use of human factor engineering strategies to ensure that the intervention was accepted and had input from frontline providers actually performing the intervention to maximize adherence. For example, frontline staff had an opportunity to choose the type of gown and signage that would be most beneficial to their particular nursing home. The specific intervention was to target high-risk residents and to use gown and gloves during high-risk care. High-risk residents were defined as any resident with a wound requiring a dressing or any resident with a medical device such as a urinary catheter, vascular catheter, or feeding tube. High-risk care activities included dressing the residents, bathing the residents, transferring, providing hygiene, changing linens, changing resident’s brief or diapers, medical device care or use, and dressing wounds. Adherence to the intervention was measured by an increase in gown use during the high-risk activities for high-risk residents. At baseline, gown use was at 0% during the baseline; during the intervention period, gown use was at 78%. Ninety-seven percent of high-risk residents were correctly

identified for targeted gown and glove use. Dr. Roghmann's team also informed the workgroup that glove use was already very common and adherence was high as well. These results were not presented in the data.

The main outcome was acquisition of *S. aureus* among short-stay residents using a culture-based test. The group looked at cultures, which were performed at the nasal and inguinal fold area, at the time of admission and discharge. Testing was performed during the baseline period and intervention period for residents. In addition to culture-based testing, the investigators added whole-genome sequencing (WGS) to identify resident-to-resident *S. aureus* transmission events. The investigators surveyed the entire facility and therefore had a large array of isolates. The isolates were defined as closely related if they had fewer than 30 nucleotide differences and acquisition was defined if there was an epidemiologically linked case of an isolate that was closely related. A secondary outcome that was evaluated was the proportion of enrolled short-stay admissions that acquired methicillin-resistant *Staphylococcus aureus* (MRSA) versus methicillin-susceptible *Staphylococcus aureus* (MSSA). There was a decrease in overall *S. aureus* infections from baseline to intervention period. Specifically, *S. aureus* percent acquisition was 16.8% during the baseline period and 6.7% in the intervention period. At least one resident had both MRSA and MSSA colonization. Breaking it down further by MRSA and MSSA, MRSA acquisition rate was 11.9% at baseline and 3.6% in the intervention period. This was statistically significant with a p-value of 0.026. MSSA also showed a decline for acquisition rates, 9.1% to 4.0%, but was not statistically significant. In terms of *S. aureus* transmission defined by WGS, the investigators found that of the residents that had eligible information for acquisition during the baseline period, 5.9% are residents that had some type of acquisition event during baseline and 0.8% during the intervention period. The investigators saw a decline in resident-to-resident transmission, but the p-value was 0.06.

In conclusion, this study demonstrated the feasibility of incorporating targeted gown and glove use into resident care activities. The rate of acquisition for *S. aureus* decreased for both MRSA and MSSA. WGS of *S. aureus* suggests that the decrease was, and in part, due to decrease in resident-to-resident transmission of *S. aureus* and the investigators emphasized that the participatory ergonomics approach really contributed to the high adherence of gown and glove use. In the future, these investigators plan on expanding this pilot study involving more nursing homes.

Dr. Lin stated that this is still a burgeoning field in terms of evidence. Therefore, the white paper will be a mix of evidence-based information and expert. He believes the time is right to be able to move the field forward in terms of looking at different strategies for infection control in nursing home settings. The field is in the process of moving away from culture-based approaches for infection control and really adopting more of a holistic approach where professionals are looking at specifically targeting those residents for activities that have high risk and apply a more "horizontal" measure of infection control so that these measures could also impact other MDROs of interest.

Long-term Care/Post-acute Care (LTC/PAC) Workgroup Update Discussion

Dr. Kavanagh commented on the methodology of determining high- vs. low-risk procedures. Low risk procedures, such as passing of medication was deemed to be low-risk, but an average resident receives medication three times a day and, cumulatively, this could increase the risk of transmission if the healthcare worker is a carrier.

Healthcare Personnel Guideline Workgroup Update

Dr. Hilary Babcock, MD, MPH, HICPAC Co-Chair

Dr. Babcock reminded the committee from the last call that several pathogen sections that had been completed and approved by the committee were posted to the Federal Register for public comment. However, due to the pandemic, no comments were submitted. Therefore, the pathogen sections will be resubmitted for public comment. However, Dr. Babcock did stress that this is not a new model and there will not be multiple rounds of public comment in the future, but the committee recognized the reality of what was going on when the sections were first posted for public comment.

Neonatal Intensive Care Unit (NICU) Guideline Workgroup Update

Dr. Kristina Bryant, MD, HICPAC Member

Dr. Bryant informed the committee that the NICU *S. aureus* section of the guideline was posted September 15, 2020. The central line-associated blood stream infection (CLABSI) section is also complete, and the workgroup will have an opportunity for final review before being posted to the Federal Register for public comment. The last section of the guideline was respiratory infections. However, the workgroup did not find enough evidence to produce guidelines similar to *S. aureus* and CLABSI. Dr. Guzman-Cottrill will be reviewing and taking lead moving forward.

Federal Entity and Public Comment

No comments were received.

Summary and Work Plan

Dr. Hilary Babcock, MD, MPH, HICPAC Co-Chair

Dr. Babcock provided an overview summary of the call, included presentations from Dr. Cardo and Dr. Bell about Coronavirus response efforts and lessons learned and insights into gaps in healthcare delivery and public health that have been highlighted during the pandemic and also the potential interventions that may be helpful moving forward. Also, the LTC/PAC workgroup provided initial direction around the work that is ongoing regarding targeted use of gowns and gloves to prevent transmission of infection in nursing homes.

Upon last requests for public comment, the call adjourned at 2:43pm ET.

Certification

I hereby certify that, to the best of my knowledge and ability, the foregoing transcripts of the November 5, 2020, meeting of the Healthcare Infection Control Practices Advisory Committee, CDC are accurate and complete.

Date

Lisa Maragakis, MD, MPH
Co-Chair, Healthcare Infection Control Practices
Advisory Committee, CDC

Date

Hilary Babcock, MD, MPH
Co-Chair, Healthcare Infection Control Practices
Advisory Committee, CDC

Attachment #1: Abbreviations and Acronyms

Abbreviation/ Acronym	Expansion
AAKP	American Association of Kidney Patients
ACOEM	American College of Occupational and Environmental Medicine
AEH	America's Essential Hospitals
AHCA	American Health Care Association
AHRQ	Agency for Healthcare Research and Quality
ANA	American Nurses Association
AORN	Association of periOperative Registered Nurses
APIC	Association of Professionals of Infection Control and Epidemiology
AR	Antibiotic resistance
ASN	American Society of Nephrology
ASTHO	Association of State and Territorial Health Officials
CDC	Centers for Disease Control and Prevention
CLABSI	Central line-associated blood stream infection
COVID-19	Coronavirus Disease 2019
CSTE	Council of State and Territorial Epidemiologists
CMS	Centers for Medicare and Medicaid Services
DFO	Designated Federal Official
DHQP	Division of Healthcare Quality Promotion
EBP	Enhanced barrier precautions
FDA	(United States) Food and Drug Administration
HAI	Healthcare-associated Infection
HHS	(United States Department of) Health and Human Services
HICPAC	Healthcare Infection Control Practices Advisory Committee
HRSA	Health Resources and Services Administration
ICU	Intensive Care Unit
IDSA	Infectious Disease Society of America
LTC/PAC	Long-term care/post-acute care
MDROs	Multi-drug resistant organisms
MRSA	Methicillin-resistant <i>Staphylococcus aureus</i>
MSSA	Methicillin-susceptible <i>Staphylococcus aureus</i>
NACCHO	National Association of County and City Health Officials
NCEZID	National Center for Emerging and Zoonotic Infectious Diseases
NHSN	National Healthcare Safety Network
NICU	Neonatal Intensive Care Unit
NIH	National Institutes of Health
NIOSH	National Institute for Occupational Safety and Health
NRHA	National Rural Health Association
OSAP	Organization for Safety, Asepsis, and Prevention
PAPRs	power air-purifying respirators
PHAC	Public Health Agency of Canada
PIDS	Pediatric Infectious Disease Society
PPE	Personal Protective Equipment

Abbreviation/ Acronym	Expansion
PSAN	Patient Safety Action Network
<i>S. aureus</i>	<i>Staphylococcus aureus</i>
SCCM	Society for Critical Care Medicine
SHEA	Society for Healthcare Epidemiology of America
SHM	Society for Hospital Medicine
SIS	Surgical Infection Society
TJC	The Joint Commission
WGS	Whole genome sequencing