WINTER 2021 • VOLUME 14 NUMBER 4

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THE YEAR IN REVIEW

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APIC 2021 Annual Conference coverage
Staffing shortages and viral surges

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2021 year in review

BY ANN MARIE PETTIS

HOW CAN YEAR two of a “once in a century” pandemic best be described? Words fail to express all we continued to endure in 2021. It is worthwhile and critical, however, to look back and honor what was worthwhile and recognize what is critical so that we can envision what is to come. When in the middle of a storm, it is difficult to envision the rainbow that will eventually follow. Challenges present opportunities that are hard to see when operating in the fog of uncertainty. During those times we must “hold the line” and stay the course so when the fog clears, which it will, we emerge stronger and better prepared for the next challenge, which is sure to come.

With 2021 almost in our rearview mirror, let’s take David Letterman’s “Top Ten List” approach to highlight some of the significant advances during 2021.

#10 IPC reach was expanded into new frontiers, such as public education, travel, athletics, and more.

#9 A new APIC membership structure was approved to include a corporate membership category to attract systems, facilities, and companies.

#8 APIC was designated as primary partner on Project Firstline through a CDC grant, which will solidify our role as the leading healthcare worker infection prevention training experts.

#7 Our new CEO, Devin Jopp, EdD, MS, who has done a stellar job leading us through these troubled waters, was successfully on-boarded.

#6 A robust DEI journey was embarked on with two complementary task forces launched.

#5 APIC’s visibility and influence were increased through numerous connections with other non-profit organizations and stakeholders such as ANA, ASCA, SHEA, IDSA, and CDC, just to name a few.

#4 The COVID-19 Task Force continued their work meeting members’ information and support needs through initiatives such as the Well Being Series and the Lessons Learned Project.

#3 APIC’s 2025 Strategic Plan was reimagined.

#2 APIC’s vision and mission statements were revised: Vision: A safer world through prevention of infection; Mission: To advance the science and practice of infection prevention and control.

#1 The IP Academic Pathway Task Force was launched to pave the way for replenishing, augmenting, and diversifying our future infection prevention and control workforce.

This is just a snapshot of progress made during the last year despite the challenges we faced. Each initiative listed represents an opportunity seized despite the fog. These, and others not listed, will place APIC and our members in a strategic position to create and implement scientific breakthroughs. These advances will save lives and improve the quality of health by preventing infections, whether they be healthcare-associated, SARS-CoV-2, or the next emerging pathogen. The rainbow is on the horizon.

Ann Marie Pettis, RN, BSN, CIC, FAIPC 2021 APIC President
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Finding hope in the undiscovered country

BY DEVIN JOPP

AS WE CONTINUE to watch the world struggle with emerging COVID-19 variants, it reminds me of Hamlet’s quote of “the undiscovered country.” Metaphorically speaking, this image of an undiscovered country conjures feelings and images of an unknown space, unsettled, perhaps even foreboding. We could perhaps compare the undiscovered country to our time during the pandemic or perhaps even the time yet to come as we inevitably emerge from the pandemic. Perhaps another way to think about our current environment is from the English theologian and historian Thomas Fuller, who once was quoted saying, “the darkest hour is just before the dawn.”

Indeed, you all know too well that these two years with COVID-19 have been incredibly difficult; filled with hardship, suffering, grief, and even hopelessness. However, as with all suffering, there is a process for us to emerge on the other side and find that light. In their seminal work on grief, Kulber Ross and Kessler (1969) outline five stages, including: denial, anger, bargaining, depression, and acceptance. These stages most certainly apply to those that have lost loved ones during the pandemic but also help provide a lens to understand our own grief. With that said, I believe it’s just not acceptance that we find at the end of the grief cycle, but an opportunity for personal growth, learning, and an entrance to the next journey of life.

I once had the opportunity to meet Jake Olson, who, at the age of 12, lost his vision from cancer and went on to become the first fully blind athlete to play as a long snapper for the University of Southern California. Jake was so inspirational because he had experienced so much suffering and pain in his life, having beat cancer seven times before finally having to lose his last eye on his eighth cancer diagnosis. When Jake spoke of his life story, I can tell you that there wasn’t a dry eye in the house, including myself. However, one thing that Jake said struck me, which was that we must “find the setup in your setback.” As Jake explained, you’re not guaranteed an instant setup (or positive situation) after your setback (an inherently negative situation). However, invariably, if you look hard enough and work hard enough, that next setup will happen.

What does all this have to do with infection prevention? IPs are frequent explorers of the undiscovered country. COVID-19 has been a perfect example of this, as our IPs have worked so hard to keep our work settings safe, responding quickly to outbreaks as they emerge, and developing new and innovative methods to contain the spread of the virus.

As we stare down the that undiscovered country ahead, we must work for our next “setup” and find ways to make meaning from our experience during this pandemic and convert our pain and challenges to fuel for action that will propel our profession into the future. Our IPs represent one of our world’s best line of offense and defense against the spread of infection.

Devin Jopp, EdD, MS
APIC CEO
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2021 WAS A rollercoaster filled with ups, downs, twists, and turns. There were highs when vaccinations were announced and administered to the public, followed by lows when variants of COVID-19 continued to appear. CBIC Board and staff want to praise the infection prevention community for another year of service and applaud your commitment to protecting the public’s health.

While you all have been working hard in the field, CBIC has been working to ensure the reliability and validity of the CIC® examination through ongoing test development. In 2020, CBIC performed a practice analysis to update the examination content, ensuring that it accurately reflects the responsibilities and required knowledge of those practicing in the field of infection prevention and control. CBIC used responses from the Practice Analysis survey to develop new test specifications, forming an updated exam blueprint. Test Committee volunteers worked diligently over the past year to create content for the newly updated exam. A huge thank you to all candidates that completed the beta test. For those in the field of infection control who are ready to test, we appreciate your patience while the exam is unavailable. Applications reopen for the examination in early 2022.

This year, CBIC announced we were exploring a certification for IPs working in long-term care settings. Since the previous Prevention Strategist article, our Long-Term Care Committee reviewed the results from the survey completed by IPs. The practice analysis is now complete and the next step in the process will be creating test questions for this new exam. Test development will continue through 2022 with the goal of the long-term care examination going live in 2023. The progress made thus far is exciting and we look forward to sharing more details as we move into the New Year.

I want to thank Linda Goss, CBIC Board member and past president, as well as Frank Nemec and James Marx, CBIC Board members, as they conclude their terms on the CBIC Board of Directors. Each of them has provided countless contributions to fulfill the mission and vision of CBIC; their time and energy is greatly appreciated.

My appreciation goes out to the entire CBIC Board of Directors and all infection prevention and control professionals for supporting my tenure as 2021 CBIC President. Taking on this role was extremely gratifying, and I am very pleased at the progress made. I look forward to the continued momentum under the leadership of incoming 2022 CBIC President, Sandra Callery.

With appreciation,

Janet Glowicz, MPH, PhD, RN, CIC, FAPIC
2021 CBIC President
ALWAYS INNOVATING
ALWAYS EVOLVING

Engineering Revolutionary Disinfectants for the War Against Pathogens
Infographics and factsheets now available in Spanish and Arabic

APIC is dedicated to serving all its members and welcomes the diversity of its growing membership. As a result, the association will be taking measures to translate factsheets, infographics, and other materials into several languages. You can now access a handful of infographics in Arabic and Spanish on our Infection Prevention and You website (www.infectionpreventionandyou.org).

APIC Board recognizes a second Champion

In October 2021, Kathleen McMullen, MPH, CIC, FAPIC, was recognized by the APIC Board of Directors as part of its Champion Recognition Program. This recognition is an expression of the board’s gratitude for the individual’s dedication and service to the infection prevention profession and to APIC. Kathleen has influenced key guidance changes vital to the field of infection prevention and control. She has served as a member and is currently Chair of the Practice Guidance Committee. During her tenure, Kathleen aptly served as representative to the Association for the Advancement of Medical Instrumentation (AAMI) workgroups related to ST91 (Guidelines on the processing of semi-rigid and flexible endoscopes) and S79 (Steam sterilization guidelines). Kathleen also took the lead to address the issue of disinfection of transcutaneous ultrasound transducers used for percutaneous procedures or for the purpose of monitoring other invasive procedures. These efforts resulted in APIC’s close collaboration with the American Institute of Ultrasound in Medicine (AIUM) and the publication of an Intersocietal Position Statement on the topic in March 2021. Kathleen serves on the COVID-19 Task Force to support the needs of infection preventionists during the pandemic. A key contribution from this work is the publication she co-authored which focused the attention of hospitals on healthcare-associated infections during the pandemic doi: https://doi.org/10.1016/j.jaic.2020.06.209). To learn more about APIC Champions, visit https://apic.org/apic-champions/.
Written, edited, and reviewed by more than 200 subject matter experts, the APIC Text is the most comprehensive reference for infection prevention and control.

The APIC Text was updated earlier this year with a new chapter on COVID-19 that addresses the unique challenges the disease poses to infection preventionists and emergency management planners.

**Updated chapters include:**

- Child Care Services and Dental Services
- Emergency and Other Pre-hospital Medical Services
- Cleaning, Disinfection, and Sterilization
- Travel Health
- Surveillance

Visit [text.apic.org/recently-updated](http://text.apic.org/recently-updated) to see the latest updates.

Subscribe or renew your subscription at [apic.org/TEXT](http://apic.org/TEXT).
COVID-19 and Flu Prevention Checklist for the 2021 Holiday Season

Though you may feel like a seasoned pro when it comes to hosting events during the pandemic, we could all use a few helpful reminders that can keep everyone healthy. Use this checklist to plan the safest events for you and your family during the 2021 Holiday Season!

Six Weeks Before the Event

- Determine the safest event for you and your family and friends by checking local transmission rates. Options include:
  - Video chat party
  - Outdoor events
  - Small, indoor gatherings among fully vaccinated persons:
    - If planning an in-person event, keep in mind how many guests you can safely accommodate in the space and maintain safe distancing.
  - The holidays are hard enough. Encourage invited guests to consider if they can be understanding of and honor your expectations for infection prevention during the event before they accept the invite.

- Visit your local pharmacy or healthcare provider to get up to date on your vaccines. Flu and COVID-19 vaccines are a great place to start!
  - It takes two weeks after receiving your flu vaccine and/or the complete series of the COVID-19 vaccine to be protected. Make sure you and your family plan your timing to ensure everyone is covered in time for the holiday get-together!
  - Have kids under vaccination age? Keep them safe by having them wear masks indoors and at crowded places, frequently and adequately washing/sanitizing their hands, and enforce “cocooning” (having only vaccinated adults around unvaccinated children).
Two Weeks Before the Event

☐ If you or a guest haven’t received your flu or COVID-19 vaccines yet, it isn’t too late! The J&J/Janssen single-dose COVID-19 vaccine can be received up to two weeks before the event and offer protection in time to celebrate!

☐ Encourage everyone to limit their exposures to others not attending the event. This includes physical distancing and wearing masks in public spaces outside the home, regardless of local mandates.

One Week Before the Event

☐ Check in with all guests and see how everyone is feeling. If anyone has symptoms or high-risk exposures, refer to public health or healthcare in your area for finding a testing site to ensure results can be known before the get-together.

Day of the Event

☐ Make sure no one arrives with symptoms by sending a text/email before they arrive (see additional resources). Be specific in the type of symptoms they should screen for prior to arrival and direct them to the CDC’s Self-Checker.

☐ Ask everyone to show their vaccination card or proof of vaccine upon arrival.

☐ Help make those who choose to wear a mask feel comfortable. Lead by example and wear one yourself!

Invited to an In-person Holiday Gathering?

☐ Share this checklist with your host/hostess and work together to make the gathering a safe experience for all!

☐ Decline the invitation if you have COVID-19 or flu symptoms, have had a high-risk exposure, or feel uncomfortable attending.

• Don’t wait. Let the host/hostess know of your decision to not attend as soon as you have decided.

• Be thankful. Be sure to express appreciation for the invitation.

• Be honest. Explain your concerns. Let the host/hostess know that you would still like to see them, either virtually, outdoors, or in a smaller group.

Additional Resources


From online shopping to masking indoors, the pandemic has changed our day-to-day lives. In fact, prior to the pandemic, videoconferencing was not nearly as commonplace as it is today. Now it is one of the only ways some people see family and is used extensively to conduct business. This change in communication has also affected advocacy. With many state legislatures and Congress limiting access to their buildings, contacting policymakers is now largely done remotely. While some of these restrictions on visiting capitols may change in the future, it has become clear that virtual meetings are here to stay. This new way of advocating provides APIC members with some great opportunities, and challenges, as they seek to inform policymakers.
Opportunities provided by virtual advocacy

Less travel

For legislators, travel further congests their already tight schedules. Regardless of the size of their district, legislators spend a lot of time traveling from meetings or going back to their districts from the Capitol. Even the most ardent public servants struggle with their schedules and their desire to learn more about their constituents.

With the increased acceptance of videoconferencing as standard practice by policymakers and constituents, lawmakers can more efficiently use their time. By traveling less, they meet with more of their constituents “face-to-face,” and instead of driving to the next county, they simply hop onto the next call. While in-person meetings will most likely return in a postpandemic world, it appears most offices will use virtual platforms as part of their future constituent outreach programs. This new efficiency will give constituents, including infection preventionists, more opportunities to interact with their policymakers.

Different types of interactions

Getting a legislator to a chapter meeting has always been challenging. The policymaker may have to cast votes or have conflicting events. Videoconferences have made staff interactions more accessible and more likely. However, sometimes legislators will drop into a call briefly to greet their constituents before heading off to a vote or a committee meeting. Several APIC chapters have received pre-recorded messages from legislators thanking them for their work and giving them some insight into the coming session. While time with your policymaker is always great, these interactions are significant touchpoints with legislators and their staff.

Chapter lobby days

Coordinating a Lobby Day for a chapter can be time consuming and difficult. Prior to the pandemic, some legislative offices would use conference calls to connect with constituents. However, common practice was holding in-person meetings either at the Capitol or somewhere in their district. While meeting at the Capitol is a great experience, it is not always feasible due to the amount of travel required. Individuals traveling long distances will also likely need to take time off work and away from family. Videoconferencing can help with some of these logistical issues and make it easier to pick one day to coordinate a lobbying event. It will also prevent the need for booking hotels, food, or onsite travel.

Virtual advocacy challenges

Fuller schedules

The ease of virtual advocacy gives anyone with internet access the ability to talk to legislators and their staff. While it makes policymakers’ schedules more efficient, it does not necessarily make them less full. During this pandemic, every legislator wants to know the thoughts of healthcare professionals, especially infection preventionists. However, in the future, as priorities change, access may become more challenging. Making contact will be key to getting meetings in the future.

Keeping staff engaged

Virtual meetings are a little different from in-person meetings. Individuals don’t always turn on their cameras, incoming emails pop-up as you are talking, and sometimes people working from home may have children, pets, or the TV vying for their attention. Keeping people engaged during these conversations can be hard and at times frustrating. Asking questions and referencing places in the district can help with this issue; however, it will not entirely solve the problem.

Technology issues

Everyone has experienced a bad internet connection or an unmuted participant at some point. Unfortunately, depending on how long the issue lasts, this could severely restrict the ability of individuals to communicate or lead to a canceled meeting. As virtual lobby days become more prevalent, it will be important to have individuals available who are proficient with videoconferencing technology that can act as support during meetings.

Virtual advocacy is going to be a major part of APIC’s efforts in the future. In fact, the APIC Board of Directors recently held a Lobby Day with Congressional staff while APIC members themselves were in Ohio, California, and Washington, D.C. Over 30 meetings took place, all of which were hosted via Zoom. Prior to this Lobby Day, APIC held a virtual briefing for Members of Congress to learn about infection prevention and control in nursing homes. These types of events will likely take on increasing importance and occur more regularly.

While videoconferencing technology can be challenging, it also opens many doors and opportunities for advocacy. The APIC Government Affairs team looks forward to working with APIC members to make this transition successful and an exciting new way to interact with policymakers. If you are interested in learning more about this type of advocacy email legislation@apic.org or visit our website at https://cgrecengage.com/apic/home.

Lisa Tomlinson, MA, CAE, is APIC vice president, Government Affairs and Practice Guidance; Nancy Hailpern is APIC director, Regulatory Affairs; and Richard Capparell is APIC associate director, Legislative Affairs.

Clarification

In the fall 2021 Prevention Strategist issue, Irene Khan was introduced as APIC’s first fellow. The official title for Khan is Research Fellow and her position is not associated with APIC’s Fellowship Program.
Since March 2020, when the global pandemic was declared, what type of work has APIC Consulting been hired to do most frequently?

Leslie: Since March 2020, APIC Consulting’s client base has increased significantly, and we’ve expanded the types of work we do to meet the growing need. We provided interim IPs to state health departments, created re-opening plans for non-healthcare businesses, led senior living communities with new COVID-19 protocols, conducted outbreak investigations, delivered assessments and training to healthcare facilities, municipalities, and corporations, and so much more. We’ve assisted international corporations, television studios, news agencies, colleges, associations, and Chambers of Commerce. We’ve focused heavily on facilitating the CDC’s Infection Control Assessment and Response (ICAR) assessments on behalf of facilities and state health departments. It’s fulfilling for our team to be able to serve so many clients in true need of IPC expertise.

Are there any projects that stand out?

Kathryn: Yes! We were asked to perform a comprehensive evaluation and assessment of a state department of health with a focus on the healthcare-associated infection (HAI) program, staffing, roles and responsibilities, along with an evaluation of the current state epidemiological lab program and its integration and coordination among state-based healthcare providers (e.g., acute care network, long-term care facilities, outpatient surgery centers, etc.) including post-acute healthcare facilities such as dialysis, dental, and rehabilitation.

Leslie: We are also doing a year-long project in collaboration with the Pennsylvania Department of Health where we are visiting their 641 long-term care facilities (LTCFs) to conduct an onsite ICAR assessment and provide a full day of training to healthcare workers on topics like isolation precautions, PPE donning/doffing, and hand hygiene. Following the assessment, each facility receives an action plan with areas for continued improvement. The work has been incredibly valuable for LTCFs, as these services are offered at no cost to the facilities, and they’ve greatly benefited from the expertise of our consultants.

There’s a lot of talk about state health departments, but do you ever work with local health departments?

Kathryn: Yes, starting in 2020, APIC Consulting partnered with the National Association of County and City Health Officials (NACCHO), a national non-profit representing the nation’s nearly 3,000 local governmental health departments on a Centers for Disease Control and Prevention (CDC)-funded grant project. The Infection Prevention and Control Assessment Training project aims to build and strengthen capacity for local health departments during the COVID-19 global pandemic by securing local consultants to assist health departments and training all stakeholders on the proper processes for facilitating assessments using the ICAR tool for LTCFs.

Has anything surprised you over the last year?

Leslie: Our consultants have reported back that the COVID-19 vaccination rate among healthcare workers is at 50% to 55% at many LTCFs. We’ve brought in experts over Zoom to hold webinars on debunking myths and help drive up the vaccination rates among healthcare workers.

Kathryn: There are immense challenges LTCFs are facing today, from constant staffing shortages, leadership vacancies, and competing responsibilities for the designated IP, all among the most vulnerable patient populations. COVID-19 has brought the importance of IPC to the forefront in these healthcare facilities and our IP consultants are here to provide that much needed help.

It seems that many IPs have retired this year. What’s the benefit for IPs to work with APIC Consulting rather than on their own?

Leslie: One of the benefits that our consultants enjoy is that they do not need to do their own business development and sales in order to find work. APIC Consulting handles the administrative work, business development, project management, reviews of written reports,
and invoicing, so that the consultant can simply show up for the assignment and do the work they are best at—delivering IPC expertise to clients.

Kathryn: APIC Consulting is a great way for IPs to get started if they have been thinking about consulting. APIC handles client recruitment, marketing, and the administrative work such as scheduling and contracting, so the IP consultant can focus on providing subject matter expertise.

What do you see on the horizon for IPC consulting?

Kathryn: Continued IPC education and training needs of LTCFs and their staff. I ask all interested IPs if they have LTCF experience. If they don’t, I suggest partnering with their local health departments on LTC outreach. I also see growth of the interim IP as an opportunity for those at the beginning or end of their IPC careers. Interim work allows IPs to gain critical experience for future consulting projects—learning how to navigate different health systems, IPC programs, and patient populations. It’s a great way for IPs to gain experience, demonstrate expertise, and earn income.

Leslie: It’s true that we’ve seen many IPs retire this year. We’re seeing a great push for increased services in LTCFs including state-mandated assistance for LTCFs. There are also more federal and state dollars available for these facilities, which is good because they need it. At the same time, acute care facilities are struggling to bring down their HAi rates. I agree, we’re seeing a great need for interim IPs who can be onsite at a facility for at least 3 months. The good news for us is that more IPs have joined our roster so we are able to service more clients. We’re up to roughly 300 consultants, and still looking for more, especially those who can do full-time work.

If you’re interested in becoming a consultant or would like more information about services, contact APIC Consulting at info@apicconsulting.com.

Leslie Kretzu, MA, MIPP, CAE, is executive director of APIC Consulting Services; Kathryn Hitchcock, MBA, is deputy director of APIC Consulting Services.
WE KNOW THAT IPs make their intention infection prevention every day, but this year we wanted to challenge EVERYONE to reset their intention. We hope IIPW gave you a chance to reset your intentions on infection prevention and celebrate with colleagues and fellow IPs from around the world!

Instagram takeovers

For the second year in a row, APIC shared the stories of IPs on Instagram during IIPW. This year Ben Galvan and Tim Bowers took over our Instagram and showed us what goes on behind the scenes at their facilities’ IIPW celebrations, clips of their coworkers, and more. If you missed our Instagram stories takeovers, you can still watch them in the highlights section of our Instagram profile at [https://www.instagram.com/stories/highlights/1826208263047455/](https://www.instagram.com/stories/highlights/1826208263047455/).

Keep making your intention infection prevention

While educating the public is always at the core of IIPW, this year it was especially important to share correct COVID-19 vaccination and mask-wearing messages, public health information about flu shots, and information about celebrating together safely. This year, APIC also created two fun quizzes to keep your infection prevention knowledge sharp: “Are YOU an Infection Preventionist?” and “Infection Prevention 101.” APIC developed numerous factsheets, with the help of our COVID-19 Task Force and Communications Committee, including “10 Ways to Prevent Infection” in English, Spanish, and Arabic, and “Back to School Safety” for families and for school administrators.
Thank you
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apic.org/infectionpreventionandyou
Conversation with an IP

GIANNA PERALTA, MPH, CIC, is the current Infection Prevention Manager at Providence Queen of the Valley Hospital, a 200-bed acute care facility in the heart of Napa Valley. She received both her BA in Anthropology and MPH in Epidemiology and Biostatistics from the University of California, Berkeley. As a post-graduate, Peralta served as an applied epidemiology and infectious disease fellow with the CDC and Council of State and Territorial Epidemiologists (CSTE) in Atlanta, Georgia. There she worked on a variety of projects, including Ebola, Zika, fentanyl overdoses, dialysis event reporting, and served as the lead investigator of a novel outbreak at a pediatric dental clinic which was later published in CDC’s MMWR. She is board Certified in Infection Control (CIC) and also holds a certificate in dental infection prevention and control from OSAP and the DALE Foundation. Born and raised in Napa, she enjoys being able to work and serve in her home community. Outside of work, Peralta can usually be found practicing at the local aerial acrobatics studio or listening to a true crime podcast.

What inspired you to become an infection preventionist?

Peralta: When I was in graduate school, I met an alumna who was an Infection Prevention Director in San Francisco. This was the first time I had heard of infection prevention and I thought her work sounded fascinating. I asked if I could shadow, which turned into a year-long internship. After graduate school, as a CSTE fellow, I continued to gain experience in the field of infection prevention through ICAR assessments and facility visits. Upon completion of my fellowship two things were clear: 1) I did not like sitting at a computer all day, and 2) I loved working with frontline staff. I started looking for positions and, as if meant to be, there was an open position for the IP Specialist at my home community hospital. As soon as I found out I was hired I packed up and moved from GA back to CA. I love that the field of infection prevention provides me with a wide variety of experiences and challenges and allows me to apply my background in epidemiology and biostatistics.

What were some of your challenges when you first entered the field?

Peralta: Being a non-RN! It was very intimidating at first to meet with nurse managers and not have a clinical background. Since then, I have learned a lot about the clinical side of infection prevention, such as how Foleys and central lines are inserted and maintained. I was fortunate to have many nurses and clinical educators who would partner with me in areas I wasn’t familiar with and help me understand nursing processes. Time management skills were also one of the first challenges I encountered. As an IP, there are always more things to do than you can ever hope to accomplish in a day. Learning strategies on how to prioritize tasks, as well as manage my time and staff, have helped me to keep a healthy work-life balance.

What has helped you most as you have progressed in your role as an IP?

Peralta: 1. Ongoing education, which is supported by my CIC certification renewal. 2. An amazing and supportive director. She always makes time to meet with me and takes my concerns seriously. I am able to succeed in my position largely because of her and our executive leadership’s support. 3. Mentors! From my first IP mentor to current coworkers, I’ve been fortunate to work with a number of highly intelligent, experienced, and compassionate individuals who have served as mentors for me throughout my career as a student to my current position.

What is the best advice you ever received?

Peralta: When my grandmother was placed on comfort care she told me, “Whatever happens, everything will work out.” In times of uncertainty, I find myself reflecting on this advice, reassured that no matter the outcome there will always be another tomorrow. While life often does not pan out as planned, these experiences serve as an opportunity to embrace change and seek positivity, even in the unexpected.

What advice do you have for others who are new to the field or considering the field of infection prevention and control?

Peralta: For the past few years I have served as a guest lecturer for an undergraduate public health course, where I am always asked this question. My answers are:

1. Find a mentor. A great mentor is often life changing.
2. Network, network, network. You never know who you will meet!
3. Seek out a variety of experiences. Learn what you enjoy (or don’t) and expand your knowledge and skillsets.
5. It never hurts to ask. Many IP positions are willing to consider individuals with a non-RN background, such as MPH or other healthcare degrees.
6. Don’t just say it, show it! Demonstrate your passion and commitment to the field of infection prevention by obtaining your a-IPC certification.
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AJIC Authors Interview

PATRICIA STONE, PhD, RN, FAAN, AJIC editor in chief, interviewed one of the authors of the AJIC article, “PPE training and the effectiveness of universal masking in preventing exposures: The importance of the relationship between anesthesia and infection prevention.” doi: 10.1016/j.ajic.2021.05.003

Jill Holdsworth, MS, CIC, FAPIC, NREMT, CRCST, Manager, Infection Prevention Department, Emory University Hospital Midtown, Atlanta, Georgia.

Jay Sanford, DO, Assistant Professor of Anesthesiology, and Chief, Division of Pre-Operative Medicine, Department of Anesthesiology, Emory University School of Medicine, Atlanta, Georgia.

What are the circumstances that have led up to your current work?

Holdsworth: The IP and Anesthesia Department didn’t have a strong relationship prior to the COVID-19 pandemic and had not found the “groove” they needed to see the benefit of working together. When the pandemic began, the Anesthesia Department quickly became a focus of PPE training and education, being one of the high-risk departments for potential exposure from aerosolizing procedures.

Sanford: Jill [Holdsworth] and I have been collaborating since the beginning of the pandemic as we have been using our Anesthesia Preoperative Clinic for all pre-procedural testing. She has been extremely helpful in making sure my staff know who needs to be tested for COVID-19, when they need to be tested, and what type of test is appropriate for their situation. Likewise, whenever there is a delay and/or a problem, Jill has been and continues to be extremely helpful in tracking down results, tests, etc… Had it not been for her involvement, we wouldn't have been able to handle the full-scale testing that took place second to this exposure.

What spurred this focus? Why is your role important?

Holdsworth: Early in the pandemic, I was asked to attend one of the Anesthesia morning huddles to discuss guidelines for PPE and COVID exposure prevention. Honestly, I was nervous about it. I wasn’t sure what questions they would ask me or if they would listen to me. I feel like this huddle was a turning point in the relationship between Infection Prevention and Anesthesia at our facility—the team listened intently to every word, they stayed afterward to ask questions, offered their support, and my personal phone number was put on their department website (which they used very frequently)! We developed a strong level of trust very quickly, as we became a team who cared about each other, and they saw that Infection Prevention was always going to have their back and be available for them. At our facility, the IP was on site every day during the pandemic, which I believe led to our teams feeling more comfortable with the evolving protocols and situations. The IP team rounding through the departments on a daily basis and interacted with the teams in person, which made a positive impact on the nervous team members.

Sanford: We had a significant exposure event early in the pandemic, and Jill turned to me asking if we could help facilitate the testing of the majority of our department. My role was to offer the space and personnel to handle this, and to also act as a liaison between our department, nursing, and the infection prevention department during this process.

What challenge were you setting out to address when you started this type of work?

Holdsworth: First, we developed a strong level of trust and partnership between Infection Prevention and Anesthesia, and trained everyone in the PPE protocols. When the department experienced an exposure, the IPC Department reacted immediately and performed a contact tracing and partnered with our APC Medical Director (Dr. Sanford) to set up a temporary screening clinic to test those who may have been exposed. In my opinion, the process could have been much more difficult had we not formed a strong relationship between both departments. However, the Anesthesia team knew who to go to if they had questions, and they did call us to ask their personal questions about being exposed. We were able to easily get the team members tested quickly on site instead of asking everyone to be tested at an off-site testing center.

Has the pandemic increased the need for IPs moving forward?

Holdsworth: The pandemic has put IPs in the spotlight and allowed more departments and people around the world to see how beneficial we can be and how a strong partnership with IPs can be so vital.
Sanford: Absolutely. I think before the pandemic, we had no idea what IPs did and what their role was in the hospital. Having lived through the better part of 2 years in this pandemic, it wouldn’t have been possible without their assistance and guidance. They have really done their absolute best to make sure we as healthcare workers are protected to the current standard and beyond!

Describe the day when you discovered a major impediment to infection prevention.

Sanford: The impediment to good infection prevention, I think, has always been people’s understanding or willingness to admit that a pandemic like this was possible. Infection related mortality and morbidity continue to be major issues in our hospitals and have a profound impact (COVID-19 aside) on a patient’s clinical course. I think the pandemic has helped me to realize the importance that infection prevention plays in this process and how integral IPs are to preventing unnecessary infection amongst our patients and providers.

What is the coolest thing about your work?

Holdsworth: The coolest thing about being an IP Manager is working with other IPs and helping them learn and grow as professionals. I love working with my own team and also traveling around the country talking to other groups.

Sanford: Well, being an anesthesiologist is an awesome profession, and one that I enjoy each and every day. Caring for patients at their most vulnerable and oftentimes “out of control” times in their lives, is an honor, and one I take very seriously. Knowing patients rely on my team and I, and our expertise, is very rewarding and also, quite frankly, the art of administering anesthesia is a fascinating endeavor. As well, the fact that we are so intimately intertwined in the infrastructure of the OR and hospital system gives me a unique pulpit to make change and/or urge others to do so.

What is a problem that you solved during your most recent project?

Sanford: I think this collaboration made it clear that the IP was available and willing to help the anesthesia department, and that they would provide us the necessary training and equipment to help us do our jobs safely and effectively, even in the face of the pandemic. This is a major win, because early on in the pandemic, the amount of angst and trepidation surrounding providing anesthesia during a respiratory disease pandemic was extremely high!

What’s next?

Holdsworth: I hope to work with the Anesthesia Department more in the future, perhaps once things calm down a bit, and develop some performance improvement projects to collaborate on with Infection Prevention. This group is highly motivated and a pleasure to work with and I can’t wait to see what the future holds with our partnership.

Patricia Stone, PhD, RN, FAAN, is AJIC editor in chief.
Supporting DIVERSITY AND INCLUSION within the APIC Competency Model’s leadership domain

BY LAURA BUFORD, SHARON E. FAWCETT, AND MELISSA GALLANT
ever, many organizations are focused on increasing diversity and ensuring inclusion in their workforce. Diversity can be defined as “the full spectrum of human differences.”

Dimensions of diversity might include visible traits like age, gender, disability, and ethnic background, or invisible traits like socioeconomic status, marital status, and sexual orientation. Author’s Sherbin and Rashid further explain that diversity “equals representation,” yet too often diversity and inclusion are “lumped together and they’re assumed to be the same thing.” A diverse workforce does not translate automatically to an inclusive environment. Inclusion refers to a cultural and environmental feeling of belonging, where everyone is “valued, respected, accepted, and encouraged to participate.”

Sherbin and Rashid have identified six behaviors of inclusive leaders. Inclusive leaders will “ensure that team members speak up and are heard; have a safe space to propose new ideas; empower team members to make decisions; take advice and implement feedback; give actionable feedback; and share credit for team success.” In this article, the APIC Professional Development Committee explores how Infection preventionists (IPs) can support diversity and inclusion through the lens of the APIC Competency Model’s leadership domain and its subdomains of communication, critical thinking, collaboration, and mentorship. IPs are leaders regardless of a formal title or position. Therefore, committing to diversity and inclusion is an important leadership tenant for all IPs.

## Backgrounds and gender

Backgrounds of professionals in the IPC industry are slowly becoming more diversified. Historically, nursing was the predominant role to come into the profession. According to the APIC MegaSurveys, the percentage of nurses in infection prevention has decreased from 82% in 2015 to 78% in 2020. As of 2020, public health professionals now make up 8% of the IP workforce. Patient safety and quality professionals are also making their way into the world of infection prevention, making up 4%, and medical technologists/microbiologists make up 9%.

Healthcare has gained some ground in welcoming a more diverse workforce. In the 1970 census, only 2.7% of registered nurses, including advanced practice nurses, identified as men. By 2011, the percentage had increased to 9.6%. In both the 2015 and 2020 APIC MegaSurveys, 7% of IPs were men and 1% did not wish to specify a gender. Twenty-five percent of healthcare workers are non-white, and per the two APIC MegaSurveys, between 14% to 17% of IPs are non-Caucasian.

## Communication

IPs collaborate with internal and external stakeholders to “align the infection prevention program goals with the strategy goals of the organization.” Often, competing priorities can interfere with effective communication as different stakeholders lobby for their interests. A critical aspect of successful communication for all IPs is the creation of an inclusive environment that fosters openness to everyone’s ideas, allows different perspectives to be appreciated, and acknowledges competing priorities.

Key components of effective communication include emotional intelligence, active listening, empathy, and mindful reflection. Billings defines emotional intelligence as “the ability to identify and manage one’s own emotions, as well as the emotions of others.” Active listening is achieved through slowing down, not responding too quickly, and avoiding interrupting. Bias, both conscious and unconscious, is a belief, perception, or prejudice, often negative about others and can create barriers to listening. Mindful reflection is the process of actively “monitoring ones thought processes and emotions” and “embracing curiosity” to gain a deeper understanding of others. Practicing mindful reflection is a powerful tool to promote communication in an inclusive environment.

## Critical thinking

Critical thinkers seek out and use “all information at their disposal to examine a problem.” IPs are by nature critical thinkers. They follow science, evidence-based practice, and guidelines from the experts. They also use past experiences, creativity, and determination to help to guide their decision-making process. Hearing from IPs who have different backgrounds adds to the decision-making process and is helpful to spur out-of-the-box thinking to arrive at workable solutions.

When investigating an infection or an outbreak, IPs rely on their backgrounds and use their knowledge and experience. For example, those with a clinical background may approach from a practice direction whereas those from public health may focus on the epidemiology side of the situation. Taking all the knowledge and experiences into consideration, IPs allow the problem to drive their critical thinking and direct finding solutions. Currently, IPs’ critical-thinking skills have been put to the test as the world has tackled the largest outbreak of a communicable disease in over 100 years—the SARS-CoV-2 pandemic. The infection prevention profession has been challenged to an unprecedented extent. Global shortages of personal protective equipment (PPE) forced IPs to revise practices they have promoted and reinforced for years. Using the guidance from the Centers for Disease Control and Prevention (CDC) and the World Health Organization, IPs’ knowledge and critical-thinking skills were essential to evaluate resources and creative methods to extend PPE use.

## Collaboration

IPs collaborate with diverse stakeholders within healthcare and non-healthcare settings. At times, others may not know the scope of the IP’s work or the value they can bring to the table, highlighting the importance of collaboration. A new construction project is an example of where the IP may be perceived as an outsider. Yet, having the IP involved in the initial planning phase along with the design, facilities, and construction team can prevent future problems, such as ensuring the project costs include materials for barriers and air scrubbers needed for dust mitigation, that structural plans have proper traffic flow in sensitive areas.
DIVERSITY AND INCLUSION

like sterile processing, or that exam rooms have sinks to meet licensing requirements. Good collaboration includes an appreciation for the competing interests of all parties in order to achieve mutual goals. This is when the leadership quality of followship can be deployed. Followship allows the IP to “provide expertise in a supporting role while not officially being the team leader.” Followship promotes collaboration as well as inclusiveness because at its core are “listening to and respecting others’ opinions.”

The diversity of people who work in infection prevention is expanding beyond nursing to include lab sciences and public health professionals. This diversity of backgrounds strengthens collaboration when the IP can “speak the same language” of a particular group or department. For example, nurse IPs can find a common ground on nursing and/or patient safety/quality committees, while those with epidemiology or laboratory backgrounds can find kindred spirits with antimicrobial stewardship teams.

**Mentorship**

Transitioning to a new professional role is a challenge. A new IP may struggle with confidence and lack of knowledge. A professional mentor can offer support and guidance to ease this transition by creating an environment where the new IP feels a sense of belonging and value. Austin and Halpin describe the first full year of a first job as a complex traumatic change for a newly qualified nurse. The IP feels a sense of belonging and value. This diversity presents an opportunity for inclusion and an openness to new ideas and perspectives. IPs with clinical backgrounds can relate to process improvement close to the patient. The IP with a background as a medical technologist will understand the organism and how its transmitted to better address initiatives to stop the chain of transmission. Another example is an IP with a master’s in public health who can bring the analytical perspective to data and quality improvement.

Mentorship is vital for the retention of IPs, especially when trends show experienced IPs are readying for retirement and the need for IPs is growing. Connecting with local APIC chapters or participating in national APIC events offers an excellent way network to meet others and opportunities for mentoring partnerships.

**Conclusion**

The COVID-19 pandemic has highlighted the importance of infection prevention and the critical need for robust infection prevention programs in healthcare and other industries. As more resources are channeled into infection prevention efforts, a unique opportunity exists for all IP leaders to commit to continuing to build diversity within the profession and to ensure inclusivity for all.

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**References**


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Focus on long-term care and behavioral health outbreaks

Identify the pathogen!

BY STEVEN J. SCHWEON AND AMBER R. GENSHEIMER

Hospital outbreaks are reported more often in the medical literature than occurrences in the long-term care (LTC) or behavioral health setting. By studying and learning from outbreaks in the LTC/behavioral health setting, infection preventionists (IPs) can glean additional knowledge and apply this information to hopefully prevent future infections and infection clusters in their facilities. This quarterly column helps the IP heighten awareness of appropriate interventions to prevent outbreaks.

In February 2018, Smith et al \(^1\) described how The Utah Department of Health initially identified, with confirmation from the Centers for Disease Control and Prevention (CDC), a patient residing in a long-term care (LTC) facility with a ventilator unit who had two highly resistant bacterial infections, one of which was \textit{Klebsiella pneumoniae}, with a \textit{Klebsiella pneumoniae} carbapenemase gene. Nine patients were screened for carbapenemase-producing, carbapenem-resistant Enterobacteriaceae (CP-CRE), and all were negative. Based upon your clinical acumen, you suspect the second organism to be:

- \textit{Staphylococcus aureus}, resistant to carbapenem
- \textit{Enterococcus faecium}, resistant to Vancomycin
- Norovirus, resistant to carbapenem
- \textit{Acinetobacter baumannii}, resistant to carbapenem

Carbapenemase-resistant \textit{Acinetobacter baumannii} (CRAB) was also identified. CRAB colonization was not assessed at this time. By July 2018, four additional patients were identified with CRAB through routine surveillance, raising concern for an outbreak.

**Pathogen history and characteristics**

\textit{Acinetobacter}, derived from the Greek word \textit{akinetos}, meaning immobile, is a genus of gram-negative paired \textit{coccobacilli}, which is widely distributed in nature, soil, and water. The species \textit{baumannii} is named in honor of the American bacteriologists Paul and Linda Baumann. Though the Dutch microbiologist Beijerinck first isolated the organism in 1922, \textit{Acinetobacter} was proposed as the genus in 1954, to indicate that the bacteria were nonmotile, due to lacking flagella. \textit{Acinetobacter} is still described as nonmotile, but most isolates demonstrate a twitching motility. \(^2\)

In 2003, the organism gained notoriety when the United States military surgeons in Iraq began reporting on what they called “Iraqibacter,” which was a reference to antibiotic-resistant \textit{Acinetobacter baumannii}. \(^3\) This bacterium was causing serious infections among wounded U.S. military personnel.

Multidrug-resistant pathogens have become a cause for serious concern due to the risk of therapeutic failure. Carbapenem-resistant \textit{A. baumannii}, or CRAB, are highly antibiotic-resistant bacteria for which few treatment options exist. \(^3\) Antibiotics such as polymyxins, subactam, rifampicin, and tigecycline are used to treat CRAB infections, and, although there are antibiotic combinations used, it is evident that there is increasing resistance to available antibiotics. \(^4\)

CRAB infection specifically targets moist tissues such as mucous membranes or wounds but is also commonly linked to pneumonia, bloodstream infections, urinary tract infections, and meningitis. Signs and symptoms of CRAB would be associated to the type of infection, and may include fever, red, warm, or painful wounds, cough, chest pain or dyspnea, dysuria, cephalgia, or a stiff neck. \textit{Acinetobacter} species can survive from...
Recommendations

- Review antibiotic prescription recommendations with a specialist
- Follow current guidelines for the disposal of biohazard waste
- Ensure containment of MDRO during transport process;
- Clean shared equipment (e.g., physical therapy) before and after

Table 1. Infection control gaps identified and remediation recommendations during a carbapenem-resistant Acinetobacter baumannii (CRAB) outbreak at a long-term care facility, Utah—2018.

<table>
<thead>
<tr>
<th>Infection Control Gaps</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of communication</td>
<td></td>
</tr>
<tr>
<td>MDRO status not communicated upon transfer across facilities</td>
<td>Communicate MDRO status to receiving facility both verbally and by paper documentation</td>
</tr>
<tr>
<td>MDRO status not communicated to all staff within the facility</td>
<td>Create a multi-disciplinary committee to address infection control and communication gaps within the facility</td>
</tr>
<tr>
<td>Patients admitted with unknown MDRO status</td>
<td>Consider admission colonization screening and placing incoming patients with unknown MDRO status in isolation precautions</td>
</tr>
<tr>
<td>Laboratory test results not communicated from other facilities</td>
<td>Consider placing incoming patients with pending lab culture results in isolation precautions until final results are received</td>
</tr>
<tr>
<td>Low adherence to hand hygiene and PPE use</td>
<td></td>
</tr>
<tr>
<td>Lack of monitoring</td>
<td>Adopt the use of a quantitative metric to measure hand hygiene and PPE use, as recommended by the CDC, and display adherence rates to provide feedback to staff</td>
</tr>
<tr>
<td>Low staff adherence to isolation signage, hand hygiene and PPE use</td>
<td>Work toward a shared responsibility for hand hygiene and PPE use when providing care, through frequent in-service trainings and post-training observation of staff to demonstrate compliance</td>
</tr>
<tr>
<td>Visitors not advised to clean hands and wear PPE</td>
<td>Improve signage and provide formal instruction to visitors on hand hygiene and PPE use</td>
</tr>
<tr>
<td>Inadequate equipment cleaning</td>
<td></td>
</tr>
<tr>
<td>No clear delineation of cleaning responsibilities</td>
<td>Establish clear responsibilities for cleaning between housekeeping and staff responsible for specialized medical equipment</td>
</tr>
<tr>
<td>Lack of documentation of cleaning</td>
<td>Keep records documenting periodic cleaning of equipment (e.g., nursing carts carrying wound care equipment, mechanical ventilators, physical therapy equipment) and terminal cleaning of rooms</td>
</tr>
<tr>
<td>Shared equipment</td>
<td>Clean shared equipment (e.g., physical therapy) before and after each use; and clean lower-risk items (e.g., nursing carts) at the end of each shift</td>
</tr>
<tr>
<td>Use of difficult to clean furnishings (e.g., fabric couches, carpeting)</td>
<td>Implement protocols such as steam cleaning, to properly disinfect difficult-to-clean surfaces e.g., carpet and fabric furniture, or consider removal and replacement</td>
</tr>
<tr>
<td>Improper disposal of biohazard waste</td>
<td>Follow current guidelines for the disposal of biohazard waste</td>
</tr>
<tr>
<td>Use of multiple cleaning products with different drying times</td>
<td>Consolidate cleaning products and use Environmental Protection Agency (EPA)-approved products containing bleach for routine cleaning</td>
</tr>
<tr>
<td>Lack of maintenance of individual air conditioner units</td>
<td>Replace individual air system filters according to manufacturer recommendations and before new room occupancy; implement tracking system</td>
</tr>
<tr>
<td>Lack of antibiotic stewardship</td>
<td></td>
</tr>
<tr>
<td>Non-specific antibiotic stewardship plan</td>
<td>Update antibiotic stewardship plan according to CDC 7 core elements</td>
</tr>
<tr>
<td>Lack of standardized charting of prescription use</td>
<td>Improve and standardize charting of indications for antibiotic use, dosage, and start and stop</td>
</tr>
<tr>
<td>Overuse of last resort antibiotics</td>
<td>Review antibiotic prescription recommendations with a specialist</td>
</tr>
<tr>
<td>Movement of equipment and patients</td>
<td></td>
</tr>
<tr>
<td>Free movement of staff, patients and visitors between low and high acuity units</td>
<td>Limit access to high acuity unit to individuals providing patient care or family members</td>
</tr>
<tr>
<td>Transport to external patient services</td>
<td>Ensure containment of MDRO during transport process; communicate MDRO status to transport personnel</td>
</tr>
<tr>
<td>Lack of dedicated equipment</td>
<td>Use dedicated equipment (e.g., blood pressure cuffs, slings for patient lifts etc.) when possible for all patients on the high acuity unit</td>
</tr>
<tr>
<td>Plan for carbapenemase-producing organism colonization</td>
<td></td>
</tr>
<tr>
<td>No long-term plan to address patient colonization</td>
<td>Consider instituting chlorhexidine bathing and oral care for all patients with skin, wound, or oropharyngeal colonization</td>
</tr>
<tr>
<td>Colonized patients not placed in isolation or isolation precautions lifted too soon</td>
<td>Patients should have three negative cultures at least one week apart from previously positive sites before lifting isolation precautions</td>
</tr>
</tbody>
</table>

Utah LTC facility: Investigation and intervention

In August 2018, an investigation was initiated, following the CDC-recommended surveillance approach, to identify suspect and confirmed cases. A confirmed case was defined as any patient admitted to the facility with any infection or colonization with CRAB, who carried the OXA-23 carbapenemase gene. A suspect case was defined as any patient admitted to the facility with an Acinetobacter spp. infection or colonization not tested for the presence of the OXA-23 carbapenemase gene. In addition, as part of the colonization screening investigation, high-risk patients were identified by the following criteria:

- Residing in the unit for patients with complex medical needs
- Receiving respiratory care or mechanical ventilation
- Receiving wound care
- Transferred from an out-of-state facility to the primary facility of interest
- Colonization screening focused on oropharyngeal, sputum, wound, and intact skin samples from the axilla and groin

Patients who tested positive for CRAB were more likely to have prior antimicrobial use, wound care, invasive device use, and ventilator care. Forty-seven patients were identified by the following criteria:

- Ten of the 47 had at least one positive CRAB sample, with three having multiple positive sites. All 10 patients had the OXA-23-producing CRAB isolate detected. Seven of the 10 patients were transferred from out-of-state facilities.
- A protocol was initiated for obtaining environmental samples. The environmental investigation focused on shared equipment and high touch surfaces, including physical and respiratory therapies equipment, vital signs monitoring equipment, and wound
**TAKE-HOME MESSAGES**

- Adhere to your federal, state, and local regulations, in addition to facility policy, when an outbreak is suspected. Consider developing an outbreak policy, which includes key contacts, including the daily and after-hours phone numbers of the appropriate health department. It might be helpful to keep a copy of your facility’s outbreak policy on your personal computer/phone.
- Have a heightened multidrug-resistant organism (MDRO) awareness for patients who are transferred from all facilities, at the time of admission. The CDC offers a detailed transfer form to improve inter-facility communications at: [https://www.cdc.gov/hai/pdfs/toolkits/Interfacility-IC-Transfer-Form-508.pdf](https://www.cdc.gov/hai/pdfs/toolkits/Interfacility-IC-Transfer-Form-508.pdf).
- The CDC’s National Notifiable Diseases Surveillance System ([https://ndc.services.cdc.gov](https://ndc.services.cdc.gov)) lists Carbapenemase producing CP-CRE as a reportable condition. The CDC notes *Enterobacteriaceae*, is now known as *Enterobacteriales* ([https://www.cdc.gov/hai/organisms/cre/index.html](https://www.cdc.gov/hai/organisms/cre/index.html)). From a state perspective, determine if a resident with CRAB is a reportable condition ([https://www.health.state.mn.us/diseases/crab/hcp/index.html](https://www.health.state.mn.us/diseases/crab/hcp/index.html)).
- Contact precautions are implemented when the resident has CRAB colonization or infection ([https://www.health.state.mn.us/diseases/crab/hcp/index.html](https://www.health.state.mn.us/diseases/crab/hcp/index.html)). Discontinuing precautions is generally not recommended. Check with your department of health for additional guidance.
- Quantitatively measuring hand hygiene and PPE adherence, with just-in-time education, will augment efforts with preventing MDRO transmission. COVID-19 audit tools can be modified for non-COVID-19 clinical areas. The Minnesota Department of Health’s COVID-19 Toolkit provides a credible resource for additional information: ([https://www.health.state.mn.us/diseases/coronavirus/hcp/fliptoolkit.pdf](https://www.health.state.mn.us/diseases/coronavirus/hcp/fliptoolkit.pdf)).
- Additional information regarding Carbapenem-Resistant *Acinetobacter baumannii*, including the OXA-23 carbapenemase gene, is available at: [https://arpsp.cdc.gov/profile/arln/cra](https://arpsp.cdc.gov/profile/arln/cra).

**References**


Steven J. Schweon, RN, MPH, MSN, CIC, CPHQ, FSHEA, FAPIC, is an infection prevention consultant with a specialized interest in acute care/long-term care/behavioral health/ambulatory care infection prevention challenges, including outbreaks.

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It’s time to take proven infection prevention further

Figures released from the CDC make stark reading for Infection Preventionists. An estimated 722,000 healthcare-associated infections occur annually, resulting in 75,000 deaths and billions in additional costs. More than half of these occurred outside of the intensive care unit.

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As more and more procedures move into an ambulatory setting, regulatory attention and infection prevention and control are following.

But creating an ambulatory IPC program isn’t just adapting what was available in the hospital setting. That’s what three ambulatory infection prevention and control specialists from Henry Ford Health System discussed in the session “Developing an Ambulatory Infection Prevention & Control Program” presented during APIC’s Virtual Conference.

“Historically, infection prevention and control has been a very hospital- or inpatient-focused field,” said Jenny Gubler, MS, CIC, manager of ambulatory infection prevention and control for Henry Ford. “Ambulatory is becoming the wave of the future of healthcare. A lot of surgeries are moving to ambulatory surgery centers and procedures that were happening at ambulatory surgery centers are being displaced into procedure rooms at clinics. There is a lot of regulatory oversight suddenly for ambulatory, so a lot of healthcare systems are realizing they need dedicated resources with infection control, regulatory and quality.”

Gubler was joined by two of her infection prevention specialists, Cincy Dover, MSA, MLS(ASCP)CMQLS, CIC, and Jason Weaver, MPH, to outline the keys to success.

“If you’re transferring from working inpatient to outpatient, you just need to know that it’s going to be different,” Gubler said.

With so many facilities located throughout the broader Detroit area, Henry Ford’s ambulatory infection prevention specialists will be used to being in the car on the way to a site inspection or emergency. Pro tip from Gubler: When hiring, make sure that the new hire has reliable transportation and is comfortable with commuting.

Speaking of hiring, “Whatever number of positions they give you is probably not going to be enough,” Gubler said. She suggests tweaking any hospital job description for an infection prevention specialist to ensure that it covers the different aspects of working in the ambulatory setting.

Different areas of focus are important, too. While a hospital-based infection prevention specialist may focus on healthcare-associated infections and surgery site infections, “that’s not typically our focus,” Gubler said. Instead, look for IPs who are experienced in high-level disinfection, sterilization techniques, and education.

“High-level disinfection is going to be the key thing that you’ll want to focus on right away,” Gubler said. “You want to make sure it’s all being done consistently and correctly. They’re probably doing archaic things, like using tabletop sterilizers. Your goal is to move them to automation or single use.”

The top high-level disinfection areas to focus on include endoscopy, urology, ENT, bronchoscopy, ophthalmology, radiology, and ultrasound. Other departments may need to sterilize, but may not be aware of it, Gubler said.

Because of the vast number of sites an ambulatory infection preventionist is overseeing, reliance on frontline staff is critical. This also comes into play during a construction project, which triggers an infection control risk assessment.

“This may be a new concept for ambulatory,” Dover said. “We need to make sure staff knows why this is important. With inpatient, you can walk in there on a daily basis. With ambulatory, you’re spread out. Have frontline workers audit and have tools for them to do so.”
Antibiotic stewardship programs aim to reduce antibiotic resistance

By Melanie Padgett Powers

A few years ago, Fozia I. Steinkuller, MPH, CIC, a certified infection preventionist at UT Physicians, Houston, Texas, watched a Centers for Disease Control and Prevention (CDC) presentation by medical epidemiologist Lauri Hicks, DO. Hicks was outlining solutions to antibiotic resistance, and that talk motivated Steinkuller to launch an antibiotic stewardship program that included patient and provider surveys and a provider intervention at her own medical center.

Overprescribing of antibiotics leads to antibiotic resistance, which increases the risk of infections. Plus, antibiotics can cause adverse events, from diarrhea and rash to anaphylactic shock.

“We know we’re overprescribing…. This is a serious, serious patient safety issue,” Steinkuller said during the APIC 2021 Annual Conference session “Initial Steps for Antibiotic Stewardship in the Outpatient Setting.”

For example, in 2018, approximately 250 million antibiotic prescriptions were dispensed in the U.S. from outpatient pharmacies, according to CDC. It’s estimated that at least 30% of these prescriptions, or 75 million, were unnecessary.

This has led to 2.8 million antibiotic resistance infections in the U.S. each year, causing 35,000 deaths. In addition, 200,000 people head to the emergency room every year for antibiotic adverse events.

Who is prescribing all these antibiotics? According to a 2018 CDC study, dermatologists ranked first in prescribing them, measured as prescriptions issued per 1,000 patients. They were followed by mid-level providers such as nurse practitioners and physician assistants. Primary care physicians and emergency medicine clinicians were next.

“So, if you are looking for a place to start your antibiotic stewardship program and you don’t know where to go….start with these high-prescribing specialties,” Steinkuller said.

In 2015, the White House released a U.S. National Action Plan for Combating Antibiotic-Resistant Bacteria. The plan calls for antibiotic stewardship programs in all acute care hospitals and improved stewardship across all healthcare settings.

The plan set a goal to reduce inappropriate antibiotic use by 50% in outpatient settings and by 20% in inpatient settings.

The goal should be to prescribe and take the right drug at the right dose for the right duration, Steinkuller said.

But there has been slight progress this century. Antibiotic prescribing decreased 5% from 2011 to 2016, according to CDC. There has also been a small decline in C. difficile and MRSA infections, Steinkuller said.

In addition, preliminary data from the COVID-19 pandemic show a reduction in outpatient antibiotic use, as people stopped going to the doctor for the common cold or a minor illness. “They were
more afraid of getting COVID than that cold or cough, so they stayed home and it resolved on its own,” Steinkuller said. Social distancing and wearing masks also led to fewer infections.

Steinkuller recommended following the CDC Core Elements of Antibiotic Stewardship at www.cdc.gov/antibiotic-use/core-elements/index.html, which include identifying high-priority conditions for intervention and the barriers that lead to deviation from best practices, as well as establishing standards for antibiotic prescribing.

She advised creating a one-sheet project charter for any quality improvement project. This will list your overview/problem statement, customers, aim statement, project scope, Institute of Medicine aims, and business case. The business case is what you’re going to tell the C-suite to explain the necessity of the project.

In their needs assessment, Steinkuller and colleagues surveyed 85 patients and 64 providers about their attitudes, beliefs, and knowledge about antibiotics. They also asked the providers how they would diagnose and treat urinary tract infections and compared their responses to the 2010 Infectious Diseases Society of America (IDSA) guidelines. In addition, they did a chart review of 37 patients.

Among the patients, 55% were women and 61% were non-Hispanic white. Their survey results showed 79% of patients recognized that anyone can contract an antibiotic-resistant infection. However, fewer than half of the patients recognized the connection between their overuse of antibiotics and resistance. “That’s a huge, huge chunk of the population who need education.”

In addition, 17% of patients felt they were wasting their time visiting a doctor if they weren’t given antibiotics, and 33% would prefer not to delay starting antibiotics while waiting for test results. “These are the people who are likely to pressure the physicians.”

In the provider survey, 61% were trainees. The majority, at 89%, said they review antibiotic guidelines online. However, Steinkuller cautioned that the subscription-based resource UpToDate was well, not always up to date on the most recent IDSA guidelines.

Among provider respondents, 37% said antibiotic resistance is a problem; 89% would like to learn more and 92% said they educate their patients on antibiotic usage. However, 18% thought a stewardship program would only add to their paperwork, while 41% were undecided on this issue.

“This is something we want to be conscious of,” Steinkuller said. “We don’t want to increase their burden when we do interventions, so we’re going to keep that in mind.”

Preparing an LTCF for a CMS Survey

BY SANDY SMITH

As an IP, you play quite a significant role in preparing a long-term care facility for that all-important Centers for Medicare & Medicaid (CMS) survey, said Steven Schweon, RN, MPH, MSN, CIC, FSHEA, FAPIC, an infection preventionist and consultant, and Jeannie Fissinger, BS, MS, MBA, PHR, JD, Esq., CFM, senior vice president, policy and training development, for Healthcare Services Group. The two expert IPs provided plenty of detailed tips for preparation in the session, “Strategic Approaches for a Successful CMS LTC Survey” during APIC’s 2021 Annual Conference.

First, Fissinger recommended understanding exactly what the surveyors will look for, which means knowing the state and federal regulations. “More often than not, there are no differences between the two,” she said.

Fissinger suggested codes can and should augment an existing infection prevention program. “I look at it as a web, catching all the regulations at the top and whatever drops through is the minimum that you have to meet. While CMS promulgates the long-term care regulations, it’s often the state and federal agencies that define portions of the required content. You need to keep in mind guidance from the CDC, OSHA, Department of Labor, and Food and Drug Administration.”

State regulations, if more stringent than federal, will take precedence. “Where the state regulation is less stringent, you have to follow the federal regulation. If the state is silent on a particular matter, it doesn’t
mean that you don’t have to worry about it,” Fissinger said. She suggested looking into the Code of Federal Regulations (CFR) and accessing the state operations manual appendix to find all the regulations and details that an IP would need to follow.

CFR 483.40 is devoted to infection control topics. That section will include a list of Ftags or deficiencies. Failure to meet them could include monetary penalties. “How expensive depends on how severe the deficiency,” Fissinger said. Also look at revision dates to confirm you have the most up-to-date information. When those deficiencies are found during a survey, she suggests talking to the surveyor before they leave the facility.

Of course, the hope is that few or no deficiencies are found. Schweon conducts regular “gap” analyses to find where a facility is failing to meet requirements. “A gap analysis compares the actual practices with desired practices,” he said. “It helps to guide quality improvement and performance improvement practices.”

Take the results of a gap analysis to managers. “Go through it one by one. You want to keep your boss in the loop at all times,” he said. It may also help to discuss findings at quality or infection prevention committee meetings. “I’m a firm believer that you need to claim your seat. Be sure that your work makes the committee’s minutes.”

An action plan may need to be developed to outline remedies to any important deficiencies. Schweon conducts regular “gap” analyses to find where a facility is failing to meet requirements. “A gap analysis compares the actual practices with desired practices,” he said. “It helps to guide quality improvement and performance improvement practices.”

When correction is needed, he suggests doing so in a calm manner, sharing why the correction is needed. “Help them understand in a simple way how things can be done better.” Having the staff person make the correction “reinforces good technique.”

Remembering everything that happened in the last year is hard enough, even with notes and comments: [table]

<table>
<thead>
<tr>
<th>Provision of Supplies</th>
<th>Room 1</th>
<th>Room 2</th>
<th>Room 3</th>
<th>Room 4</th>
<th>Room 5</th>
<th>Summary of Observations</th>
</tr>
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<tbody>
<tr>
<td>Are functioning sinks readily accessible in the patient care area?</td>
<td>✗ Yes</td>
<td>✗ Yes</td>
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<td>✗ Yes</td>
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<tr>
<td>Are all handwashing supplies, such as soap and paper towels, available?</td>
<td>✗ Yes</td>
<td>✗ No</td>
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<tr>
<td>Is the sink area clean and dry?</td>
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<tr>
<td>Are any clean patient care supplies on the counter within a splash zone of the sink?</td>
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<tr>
<td>Are signs promoting hand hygiene displayed in the area?</td>
<td>✗ Yes</td>
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<tr>
<td>Are alcohol dispensers readily accessible?</td>
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<tr>
<td>Are alcohol dispensers filled and working properly?</td>
<td>✗ Yes</td>
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</tbody>
</table>

Total YES and TOTAL OBSERVED

Walking rounds provide another way of “spot checking” and can pay off in multiple ways, Schweon said. “With a greater presence, the staff will start to engage you more and hopefully see you as a colleague and educator. It gives a heightened awareness of what is going on at the bedside. It is a potential morale booster to the staff and may foster productivity.”

The binder can “help keep me centered and is a great reminder of everything that I do. When the surveyors come that morning, I get my book ready and go through it. If they want to meet with me, I’m ready. Game on. I may have things from four or six months ago that I’ve completely forgotten, but by having it in my book, I can refresh and I’m ready.”

For more information, visit the website: www.apic.org.
Overcoming COVID-19 testing challenges in an LTC facility

BY SANDY SMITH

The impact of COVID-19 on long-term care (LTC) facilities grabbed headlines around the country. In Kentucky, the commonwealth took rapid action to protect patients and LTC healthcare workers. Just four days after the first confirmed COVID-19 case was identified in early March 2020, the state limited exposure risks in congregate care facilities by restricting outside visitors, ending communal dining and activities, and requiring masks for healthcare personnel.

But that was not enough. By the beginning of May 2020, the governor announced a mandate to test all skilled nursing facility residents and staff and set a three-month deadline for completion.

The Kentucky Department for Public Health (KDPH) sprang into action. Chad C. Eldridge, RN, an infection prevention nurse for the department’s healthcare-associated infections and antimicrobial resistance program, detailed how the department assisted the state’s 300 LTC facilities during the APIC 2021 Annual Conference session “State-wide LTCF COVID-19 Testing: Action Planning and Implementation.”

“As you might imagine, the request to test this population, with over 300 facilities and 60,000 people to be tested, was a large undertaking with many challenges, including resource management, communications, logistics, process development, and personnel concerns,” Eldridge said.

With many challenges presented and limited resources, the KDPH partnered with key leaders in healthcare across the state, most notably Norton Healthcare. “Norton Healthcare assisted us in overcoming many challenges related to staff development, logistics, and process development.”

Eldridge pointed to Norton’s expertise in infection prevention, case management, network development, and clinical effectiveness teams as a key to success. They formed a team led by the Inspector General, consisting of the healthcare-associated infections/antibiotic resistance program manager, infection prevention nurses, Kentucky’s medical officer from the Centers for Disease Control and Prevention (CDC), epidemiologists, and administrative personnel.

KDPH urged facilities to undertake action planning, so the team developed a risk stratification tool to assist facilities in developing their action plans and conducting the testing.

 “[The tool] would allow facilities to actively and purposely prepare for the unexpected, to strategically manage their residents in-house when appropriate, and safely receive residents back from acute care facilities. We felt helping long-term care facilities would help prevent overburdening acute care facilities,” Eldridge said.

The process was fairly straightforward. Each facility was asked to schedule an intake call with the team. Facilities developed their action plans prior to the intake call so it could be evaluated on the call.

Facilities also were to provide basic demographic information about the number of beds, current census, and number of staff. Details about personal protective equipment (PPE) usage and burn rates, infection prevention practices, and cleaning routines were provided. The facility also included a copy of the floor plan “so that we could visualize plans for cohorting and make recommendations.”

The intake call also explored the facility’s ability to complete the testing within the tight timeframe. Some 22 facilities said they did not have the staffing or expertise to do so, so the team developed a number of teams to complete the testing and handle shipping specimens to the lab.

One week after testing was completed, the team conducted a follow-up call. “We scheduled it one week later to allow them time to implement the plan,” Eldridge said.

Still, “occasionally, we would see the facilities have a very nice, robust action plan but would fail to implement it,” Eldridge said. “Other times, they would fail to re-implement it when COVID-19 positives were discovered at a later time. This resulted in higher positive rates or calls to the state for assistance.”

The goal was to treat stable COVID-19-positive cases in-house and to coordinate transfers with EMS and local hospitals when a higher level of care was required.

The key in doing so was to play zone defense, to segregate patients based on their current COVID-19 status. Each zone was color-coded: red meant the patient had tested positive for COVID-19; orange was for those who had symptoms but had tested negative. Yellow meant the person was negative and asymptomatic but had a known or potential exposure. Green meant the patient was negative, asymptomatic, and had no known exposure.

Each zone had specific requirements for location within the facility, staffing, and what PPE was required. It also included details about when the patient could be released from the zone, based on the then-current CDC and state guidance for congregate care facilities.

“We recommended that they have dedicated equipment that was not shared with other zones,” Eldridge said.

The red zone was to be located in an area with a separate entrance and exit and to have its own staffing and supplies. “We wanted this to have clearly defined unit borders like fire doors or plastic barriers. We found physical barriers to be the best deterrent for residents wandering to other zones and the best reminders to staff. The red zone also should have its own staff break area and restroom as well as dedicated space for daily needs, soiled utility, and clean supply and linens.”
The orange zone was similar, but did not require a separate entrance/exit or staff break area/restroom.

The yellow zone was to be placed near an entrance or exit without having to pass through another zone.

The green zone was to follow normal operations consistent with current long-term care guidelines.

Clinical and environmental staff in the red and green zones were not allowed to have contact with any other zone. The orange and yellow zones were allowed to have contact with each other.

Staff in red, orange, and yellow zones were to wear full PPE, including eye protection, face shield, goggles, gowns, gloves, and masks. The N95 respirator was recommended if available and if staff had been fit tested.

Those in the green area would use standard precautions, but implement eye protection if there had been a positive case among residents or staff. Eye protection would be discontinued once the facility had been COVID-free for two weeks.

As part of the action plan, facilities were urged to develop conservation strategies for PPE, which was hard to come by at the time. N95 respirators brought their own challenges. “Many long-term care facilities did not have the resources to get staff fit tested for N95 respirators,” Eldridge said. The state helped make connections with those in the area who might be able to perform the fit testing.

Staffing levels were a concern as well, and facilities were urged to “brace to lose a large number of staff due to illness or fear.” It meant lining up staffing agency resources or, for corporate-owned facilities, to determine staff sharing options.

Once the testing began, some facilities had a large number of staff positives and could not meet contingency and crisis staffing models outlined by the CDC. The state sent in “strike teams” of nurses and nurse aides that could deploy to the facility for a limited time.

Implementation science pushes for faster effective healthcare changes

BY MELANIE PADGETT POWERS

In medicine, it takes an average of 17 years for research to make it to the bedside, said Tara Millson, DNP, RN, CIC, FAPIC, director of infection prevention, George Washington University Hospital, Washington, D.C., at the APIC 2021 Annual Conference session “Bridging the Gap Between Research and Practice.”

Changes are not made faster for a variety of reasons, including inadequate practitioner training on how to implement change, organizational structures, inadequate administrative support to make changes, and resistance to change from bedside practitioners.

However, infection preventionists (IPs) can use what is known as “implementation science” to bridge that gap. NIH defines implementation science as “the study of methods to promote the adoption and integration of evidence-based practices, interventions, and policies into routine healthcare and public health settings to improve our impact on population health.”

Implementation as a science has existed since about 2010, Millson said, but IPs have been doing this work for many years without calling it that. The driver has been to decrease the 17-year gap and “push for safer, more efficient, and more effective healthcare.”

Millson emphasized that IPs are already researchers, even if they don’t think of themselves that way. “You’re studying effectiveness and feasibility every time you have an implementation project or you implement a new procedure or a new tool,” she said.

Millson recommended using a tool from the U.S. Agency for Healthcare Research and Quality (AHRQ) called the AHRQ Action Plan for Translating Research into Practice. She outlined the tool’s four steps:

1. Step one: Summarize the evidence. This is where you identify and prioritize the interventions that would have the largest benefits and lowest barriers. Then, you implement the interventions.
2. Start this step with a literature search. Don’t skip this step, Millson cautioned. “This helps you to determine the current understanding of the problem, identify rationale and also give you words to explain the scope of the problem,” she said.
3. A literature review can also tell you whether others have already implemented such a change and can help you focus and refine your topic.

Finding evidence requires knowing how to search literature, being familiar with
Planning for a pandemic

BY SANDY SMITH

The U.S. military faced its own unique challenges during the pandemic—but it also had a distinct advantage.

“The military loves to plan, plan, plan,” said Teresa Turbyfill, MSN, RN, CIC, an infection preventionist at the Navy Medicine Readiness and Training Command at Twenty-nine Palms in Southern California. “That’s what they’ve trained to do in any emergency situation.”

Turbyfill was among the presenters who addressed the impact of the pandemic in military infection prevention with “Military: Mission and Readiness in a Pandemic” during APIC’s 2021 Annual Conference.

Turbyfill was joined by Pamela A. Charron Burnap, RN, BSN, CIC, CSPM, infection prevention coordinator at the Navy Medical Readiness and Training Command New England in Newport, Massachusetts, and Elizabeth A. Campbell,
BS, RN, CIC, FAPIC, infection prevention and control manager at the Naval Health Clinic in Annapolis, Maryland.

The unique settings at each military installation brought individual responses. At the United States Naval Academy in Annapolis, Campbell and her team were responsible for caring for 4,500 midshipmen—all of whom were housed in the same massive dormitory. There were important milestones to account for, such as graduation and induction days.

For Charron Burnap, it meant vast oversight of 55 full-service hospitals and 370 clinics on military installations around the world. But infection prevention and control are not contained within those walls. “We support the warfighter, so our boundaries don’t stop at clinic doors,” Charron Burnap said. “We have to go out to the communities of the commands and bases, to support them.

We have to get to the ‘yes’ in the safest manners. I have a responsibility to help the base leadership get to [open] places that might have been closed in the civilian sector, such as dental clinics and gyms.”

Closing was hardly an option in any of the settings.

“We are not allowed to stop services, because it would delay the readiness for this military if they’re called up for duty,” Turbyfill said.

The military is somewhat of a microcosm of the broader U.S. framework. It has its own experts, who might have differing opinions. “What we look at in regards to preventing disease spread, other SMEs may look at other issues,” Charron Burnap said. “Safety looks at staff safety, much like what OSHA looks at. We have SMEs in emergency management, similar to what civilian sectors have. What’s unique to us is that they work not only in the clinic, but also on the base.”

Those intersecting, overlapping, and sometimes competing interests meant lots of meetings to find common ground. The pandemic wasn’t the first time these sorts of challenges arose, and the command had procedures for dealing with them, Charron Burnap said.

“We do literature research, explore best practices, look to the Centers for Disease Control and Prevention, a lot of things that civilian sectors look at,” she said. “But we have military-specific practices that come into play. We come to the table and look at what we’re going to do. We let leadership make the best decision that best fits their needs based on the evidence and what we’re giving them. It wasn’t about who was right, but about what was right for that specific individual or case.”

At the Naval Academy, Campbell faced challenges that might have been shared on any college campus, but with the additional factor of military. The academy is on a facility so vast it has its own ZIP code. With all midshipmen living in the same hall—with 1,700 rooms and five miles of corridors—social distancing just wasn’t possible.

Thankfully, it is a “very healthy student population,” she said. The faculty wasn’t the same; though some are active military, others are those “more senior in age.”

Then there were the storied athletic and academic programs, which continued. “We had to figure out how to conduct academic classes across the spectrum and to safely put a number of people onto a vessel,” she said. The annual Army-Navy football game meant careful screening on both campuses to make sure that no students attending had active COVID-19 cases.

Graduation Day is a “huge event” for midshipmen, “when they take the leap to become a leader in the U.S. Navy.” With 1,000 to 1,200 students graduating any given year, five separate ceremonies had to be held to allow for social distancing. The same was true of Induction Day, when the next class of 1,000-plus midshipmen arrived on the Academy grounds. As with Graduation Day, Induction Day was held over a five-day period, with all incoming midshipmen screened before they came onto the grounds.

Campbell said there were daily meetings between the support station, readiness command, and the Academy to “cross-pollinate our notes to make sure everyone knew our guidance.”

The Defense Health Agency’s Crisis Management Tiger Team answered questions in near real-time, she said. Regular cleaning and disinfection of the environment occurred. An active surveillance system and regular COVID-19 screening helped to identify those exposed early. Despite all these proactive steps, the Academy had two significant COVID-19 outbreaks.

“One followed a football game in November, and we had to go into a restriction of movement for those who were identified.” The other outbreak came in February, after midshipmen had liberty. “When they came back to campus, COVID-19 came with them.”

That outbreak helped the Academy gain early access to the COVID-19 vaccine a couple of months ahead of schedule. “We were scheduled for April or May but because of the large outbreak, we were able to move that earlier,” she said. By June, the Academy had a 98.6% compliance rate.

The Twentynine Palms facility could have as many as 10,000 Marines at the base at any given time, for combat readiness and training. The base covers 950 square miles in the Mojave Desert. The healthcare clinics care for active and retired military and their families, as well as provide emergency services for civilians, contractors, and first responders who work on the base.

But it was the barracks that presented the biggest challenge. “You can imagine, when we get a positive COVID-19 patient or suspected COVID-19 patient, we cannot send them back to the barracks or back home,” Turbyfill said. “We had to convert one of the barracks into a special facility where they could be isolated.”

The pandemic meant juggling a variety of tasks for the infection preventionists. “On any given day, I could have made sure that staff were staying safe using personal protective equipment, conducted risk assessments, and provided education and training to staff and active duty. But we cannot use our classrooms to provide education, so we built PowerPoints. We did consulting to our command leaders and provided information to our health care providers, emergency management, and safety management.”

One bright spot: the networking among all the IPs throughout the military, Turbyfill said. “We have a great networking within the military medical facilities, a lot of testing and emailing and conversation in sharing information in how we were able to overcome some of our challenges in keeping our staff and active duty safe during the pandemic.”

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Infection prevention team creates apparent cause analysis tool to better address infections

BY MELANIE PADGETT POWERS

Catheter-associated urinary tract infections (CAUTIs) are one of the most common healthcare-associated infections (HAIs), and the team at Emory University Hospital Midtown in Atlanta recognized in February 2018 that root-cause analyses were not sufficient to identify the defects surrounding CAUTIs. In response, the team developed an apparent cause analysis (ACA) tool.

An ACA is a straightforward approach of collecting and analyzing information about a mistake, failure, or problem that explains why the event happened, said presenter Paul M. Gentile, MPH, CIC, senior infection preventionist at Emory University Hospital Midtown, during the APIC 2021 Annual Conference session “A Urine-credible CAUTI ACA Review Process.”

“This is a great approach to use on device-associated infections because it’s used to identify causes and breakdowns of care,” he said.

The infection prevention team also uses this ACA tool for other infections, including a central line-associated bloodstream infection (CLABSI) and C. difficile. The ACA tool was developed by the infection prevention team and the hospital’s Office of Quality.

Gentile outlined the five steps of the ACA tool. Step one is to assemble a team and start with a 30-minute facilitated meeting. At Gentile’s hospital, the ACA is initiated by an IP, who also leads the meeting. It’s important that frontline staff take part, he said.

“We highly recommend to the nursing staff that if we get frontline participation then we can identify some of the defects in the care that led to this event,” Gentile said. “We also like to invite our medical teams and providers who have provided care to the patient to see what type of clinical management was included during that time.”

Also invited is the hospital executive team, including chief quality and safety officer, chief medical officer, hospital epidemiologist, and chief nursing officer.

Gentile recommended scheduling the ACA meeting a week or so in advance to give time to prepare. “That was an agreement that we actually made with our nursing and medical teams, is that if we identify an infection, they would like at least a week’s notice to complete the ACA tool,” he said. “As we know, we are all very busy, so we like to give ample time for them to assemble their team and complete the form and identify any defects that may have led to this event.”

Step two focuses on what happened. The ACA form collects information on date and time of the positive culture, dwell time, catheter size, if a security device was in place, if there was a catheter order, if the red seal was intact, and more.

“Some of these things are focusing around our CAUTI bundles, and that’s what we want to make sure we’re capturing—and also our standard work for CAUTI…This document actually provides a clear and thorough explanation of what actually happened and what is being documented in the chart.”

Step three is to discover why the infection happened. The team lists the root causes, contributing factors, and incidental findings. Their ACA form is a checklist of buckets with potential causes listed under each. The nursing team on the unit completes the form, which may end up being changed during the ACA process.

Gentile emphasized that the form does not identify the root cause of infection, but the processes that broke down during the patient’s care. The discussion of this takes the majority of the ACA meeting. Step four focuses on fixing the defects. The team works to identify and prioritize corrective actions, aiming for the strongest possible actions. Using the same categories and lists as in step three, the team outlines the corrective actions.

“For the communication piece, we knew that this patient had no order in place for their indwelling urinary catheter,” Gentile said. “So, we want to make sure that an order is in place prior to the insertion, and we also want to make sure that we’re identifying the indication for use daily. That is a part of standardizing communication tools.”

Under the environment category, they created a visual indicator, like a flag posted outside that patient’s door, to show which patients had indwelling urinary catheters. One-time didactic training was not sufficient, so more frequent refresher trainings were recommended.

“We know that if we only do it once, we can become lax with our practices and potentially cause harm again to our patients,” Gentile said.

Step five is to develop a plan to address the defects. This includes identifying the person responsible for implementing each corrective action item with the implementation date planned. They also determine how they will measure the success of the intervention and when the team will meet again to follow up on that action.

“We want to make sure that we have an action plan that is measurable,” Gentile said. “And we want to make sure that we are following up on those action plans during those steering meetings because we want to make sure if there are any defects or barriers to completing those actions, there is that support for that unit.”
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Capturing Dignity: 
Interview with artist 

Suzanne Brennan Firstenberg

In September 2021, for seventeen days, over 650,000 white flags fluttered near the Washington Monument. The public were able to dedicate individual flags to loved ones who died from COVID-19. This exhibit was called “In America: Remember,” and created a national space for mourning.

The artist, Suzanne Brennan Firstenberg, believes art has incredible power to educate, inspire, and change the lens through which viewers understand social issues. Interviews, research, and reading ground her work on topics that include gun violence, Native Americans, homelessness, and political partisanship. The underlying theme is upholding individual dignity, a value honed through her twenty-five years of hospice volunteering.

PS: HOW HAVE YOU BEEN PERSONALLY AFFECTED BY COVID-19?
SBF: I am lucky to not have suffered the loss of a loved one due to COVID-19, yet. I continue to remind myself that we are not out of the woods. Having a family member who is immune compromised has caused my entire family to be particularly careful and appreciative of others who take precautions.

PS: WHERE WERE YOU (PHYSICALLY) AND WHAT WERE YOU DOING (LITERALLY) WHEN THE IDEA CAME FOR “IN AMERICA: REMEMBER”? 
SBF: Half of my artistic effort involves reading, researching, and interviewing people…and then thinking. Ideas grow organically from that information sourcing, and, like polishing stones, the ideas are tumbled around and around until, with a high gloss, they are worth the time and effort of manifestation.

The idea for “In America” developed slowly, over the course of several months. In late March 2020, when I heard Lt. Governor of Texas Dan Patrick suggest that the elderly should be willing to accept the risk of the virus for the sake of the economy, alarm bells went off in my head. Devaluing certain groups is how societies crumble. Twenty-five years of hospice volunteering have taught me the importance of affording each member of society their dignity.

In mid-August 2020, a Washington Post headline suggested that the administration considered 180,000 COVID-19 deaths ‘just a statistic.’ It was the last straw for me. As a visual artist, I felt compelled to use art to help people understand a number—the cumulative death toll—that had become too large to understand, rendering it too easy to dismiss. Not on my watch. I endeavored to draw attention to this slow-motion mass casualty event by creating an art installation that represented each individual who had died, an installation in which each day, I would add to it, keeping the toll current and physically manifesting the relentlessness of the virus.

The first iteration of this art was entitled, “In America: How could this happen...” and was installed outside the Washington, DC Armory in late October/November 2020. That exhibition ended when we ran out of space; the death toll was 267,080.
Representatives of the National Park Service and the Trust for the National Mall experienced that art exhibition last fall and knew that it should be replicated on the National Mall. I worked with them beginning in February 2021, to bring the art to the National Mall in September. By then, I wrongly assumed, the pandemic would be nearly over, and life would be “getting back to normal.” I named the upcoming exhibition, “In America: Remember,” to send the message that one in three families that had lost loved ones to COVID-19 would not have a “normal” to return to. I would be carving out space for their grief and appealing to our nation to respect their loss.

As it turned out, the pandemic got a second wind and “In America: Remember,” became a plea for keeping each other safe by continuing to practice remediating behaviors of vaccination, mask wearing, and social distancing. The pandemic had reignited over the summer and my initial purchase of 630,000 flags, initiated in June, was woefully shy of the number I would need throughout the three weeks of exhibition. On certain days, the actual daily death toll was ten times higher than my June estimates. I placed two additional flag orders.

**SBF: I funded last fall’s installation through my art studio. “In America: Remember” was self-funded again, this time with some help from several family foundations, Safeway/Albertsons, and CareFirst. I am very grateful for the in-kind donation by Ruppert Landscape of thousands of man and woman hours for planting the flags. Also, hundreds of people volunteered to work at reception tables and to help me with the de-installation. Work will continue throughout the winter as I clean, document, photograph, and archive the estimated 16,000 personalized flags.**

**PS: What are you hoping people will realize and/or feel when looking at the flags?**

SBF: This art installation was designed to both honor each individual who died and capture the massive scale of our collective loss. Some viewed it as data visualization, others interpreted the art in the traditional sense of a memorial. Taken in its totality, it was the physical manifestation of empathy.

My hope is that the art will fuel a determination to never let this happen again. That determination begins with focusing on the common good. Whether in preparation for the next pandemic, or to address climate change, we must flip our cameras and rather than continuing this selfie mentality, bring others into focus. Our very survival depends on it.

**PS: What is it like for you to see all the flags together, on the Mall, near the Washington Monument?**

SBF: It was an incredible honor and responsibility bringing this art to the National Mall. The flags, themselves, created a national place of mourning. By encouraging visitors to dedicate individual flags and by fulfilling requests for flag dedications through the website, we recaptured the dignity of 700,000 people who had been reduced to a single number.

The enormity of what the art stood for is now just sinking in as I see photos of the art. During the exhibition, I made myself available to the press for interviews, but I did not follow stories in the press or on social media. I simply wanted to be present for the many, many families who brought their grief to those flags. My “co-creators”—as I refer to those who dedicated flags—came from all across the country to add names, stories, and meaning to the art. I tried to meet as many of them as I could.

**PS: What would you like to share about the project that hasn’t been asked here?**

SBF: Some of the most difficult moments came when talking with family members of deceased who refused to get vaccinated. Irrational fear of vaccination—or misplaced desire for self-declaration—are difficult motivations for grieving families to accept. Anger and frustration complicate grief. One flag, though, reflected one person’s synthesis of faith in God and faith in science: The person who dedicated a flag to ‘Kitty’ had begged Kitty to get the vaccine, but Kitty had dismissed her, saying “God will protect me.” As the flag writer noted: “The vaccine is from God, you passed the end of July.”

The art exhibition has ended, but the pain continues. As I was ceremoniously removing the last flag, through the legs of onlookers I spied a woman with her arms wrapped tightly around her body. She was crying as she watched us from a distance. I interrupted the proceedings and went to meet her—she had lost her mother.

“In America: Remember” did not have separate sections for conservatives or liberals. We did not have separate sections for people of different races. We were all together, in that space, sharing stories of loved ones, sharing grief. Together. We Americans need to find more ways to knit ourselves into a country across intransigent divides, for those divides offer illusory affiliation. We need to learn to affiliate on things that really matter, like caring for each other. 🌍
I n early March 2020, the first COVID-19 patients arrived in our hospitals in New York City—solidifying the reality that the epidemic which had been ravaging China, Italy, and nursing homes in Washington State had arrived in New York. Weeks and days before, we’d been watching, waiting, and preparing for their arrival. But nothing could prepare us for the onslaught of tragic affliction and death we would witness in our communities and healthcare facilities over the next several weeks and months. I was soon to experience firsthand just how devastating this disease was. Unbeknownst to me, COVID-19 would impact me personally, not just professionally.

I am the Director of Infection Control at Memorial Sloan Kettering (MSK) Cancer Center in New York City. I started at MSK one year before the pandemic “hit.” At that point, I still felt like a newbie and was just beginning to structure and stabilize my team to meet the demands of infection prevention and control as we knew it then.

By late January and through February 2020, there was much uncertainty and a definite sense of impending doom as we watched and waited for COVID-19 patients to hit our front doors. When the onslaught finally began, infection preventionists (IPs) spent their days in leadership meetings and incident command centers—all hands were on deck, including after normal business hours and on weekends. We understood that the cases would be multiplying, and multiply rapidly they did. So rapidly that New York hospitals were mandated to increase bed capacity by 50% within a two-week timeframe. IPs were part of the interdisciplinary team that helped to assess unconventional spaces for conversion to patient care areas; this included conference rooms, lobbies, and tents in parking lots. There were even tents set up in New York City’s Central Park to manage the rapid influx of patients.

At the same time, the monumental challenge of personal protective equipment (PPE) shortages needed immediate attention. Healthcare facilities across the board were unable to get supplies of PPE at a time when PPE was most needed. Frontline staff were fearful and worried about their ability to adequately protect themselves. Against all our training, IPs developed protocols for PPE reuse. We taught and retaught staff how to put on and remove PPE to protect themselves. We trained dedicated staff to be PPE champions and developed alternative and nontraditional approaches in the absence of adequate PPE supply. We partnered with our supply chain departments, administrative, and frontline staff to keep abreast of supply streams for PPE and continually made changes to protocols based on available supplies and the developing knowledge about SARS-CoV-2 transmission. The upshot for most of us is that the supply chain is far more fragile than we thought, and in times of crisis, very few suppliers can deliver just in time to everyone. This leaves facilities to fend for themselves.

Ironically, IPs were at the heart of the COVID-19 response yet remained largely unrecognized for the influential and
leadership roles they held. IPs usually participate on leadership teams, but the pandemic experience put us front and center of the response. Basically, at any hour on any given day, we were expected to be available to support frontline healthcare workers. We did our jobs enthusiastically, tirelessly, without complaint or reward because simply put, that’s the inherent nature of IPs—we do what is needed, when it’s needed. We were trained for this moment in time, and we responded zealously to keep our clinical colleagues and patients safe.

During the early weeks of COVID-19, I was checking in on my parents daily. My mother worked in a large building supply store with exposure to the public and had been active in her church before things started shutting down. She had not been feeling well and we made the decision that she should go to the hospital. We were both terrified and tried not to think about what it would mean if she had COVID-19, and how we were sure she would get it in the hospital if she didn’t have it already. Once seen in the emergency department, she was immediately admitted for suspicion of COVID-19 infection. A COVID-19 test was performed, but the results would take more than a week to return.

My mother spent seven weeks in a community hospital, in a makeshift ICU, being cared for by travel nurses and third-year medical students untrained in critical care medicine. Like so many other hospitals, they were short staffed and inundated with COVID-19 patients, and I’m profoundly grateful to them for doing their best. While I was at work trying to protect our healthcare workers from contracting this disease, and seeing its impact on patients, I was also keeping up on what developments were most likely to help as a caretaker. Like so many COVID-19 patients in the early days of the pandemic, my mom quickly progressed to severe and then to critical illness and was on a ventilator for six long weeks. Unfortunately, in April and May 2020, there were no well-established treatment modalities for COVID-19. The medical and scientific community was racing to develop approaches, all the while learning new things about COVID-19 disease progression in the moment. At the time my mother was hospitalized, her symptoms could only be “chased” and treated by trial and error once they developed. The feelings of powerlessness that families described at not being able to help or even to visit their loved ones were amplified for me and others like me who have dedicated their professional lives to healthcare—and were especially poignant for me as an IP.

We were hopeful that she’d get better care by trained critical care nurses and intensivists when she finally got transferred to the real ICU in mid-May. Sadly, on May 22, 2020, she lost her battle with COVID-19. She was an active, healthy 65-year-old, almost ready to retire, full of life, and before her COVID-19 illness, she had been excitedly planning for her “golden years.” Tragically, she can be counted among the almost 780,000 people who lost their lives to COVID-19* in this country alone.

During the time my mom was hospitalized, I continued to work. Strict visitor restrictions prevented me from being at her bedside. Although each family dealt with their own loved one’s illness as best they could, this pandemic put many people in the same situation at the same time. Some of my colleagues also experienced the death of loved ones or became ill with COVID-19 themselves. What was extraordinary was the commitment, camaraderie, and support IPs put forth to keep colleagues safe, and that our interdepartmental colleagues reciprocated those sentiments. We truly were all in this together, from morning ’til night, day in and day out, each patient, staff member, and family member.

More than one year after my mother’s death, the experience of the COVID-19 pandemic has changed the way I view my purpose, both personally and professionally. Personally, I am more acutely aware of not taking relationships with family and friends for granted, recognizing that time is not guaranteed. Professionally, my experience has taught me that whether it’s COVID-19 or another infection or safety risk, we must bring the same vigor to the mission of keeping everyone safe. This means keeping up with best practices, being vigilant about risks, researching better ways to approach persistent problems, listening, and problem solving with our colleagues and patients. This has always been the work of IPs, but for me, the pandemic has brought new focus to the mission of creating a safer world through the prevention of infection.

*Number of U.S. deaths as of December 1, 2021.

Tania N. Bubb, PhD, RN, CIC, FAIPC, is Director of Infection Control at Memorial Sloan Kettering Cancer Center in New York, New York.
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Economic burden of SSIs

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- Cost can be as high as $144,809 at 12 months, among colorectal patients.
- Triclosan-coated sutures could save $809 to $1170 per patient, compared to traditional sutures in colorectal surgery.

SSI = surgical site infection.

References:

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For complete indications, contraindications, warnings, precautions, and adverse reactions, please reference full package insert.
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Economic burden of SSIs

In a meta-analysis, triclosan-coated sutures were shown to reduce the risk of SSIs by 28%.1*

28% decrease in the risk of SSIs

Plus Antibacterial Sutures are coated with triclosan for an added layer of protection

International Guidelines

• World Health Organization (WHO)
• Asia Pacific Society of Infection Control (APSIC)

US Guidelines

• Centers for Disease Control and Prevention (CDC)
• American College of Surgeons (ACS)
• Surgical Infection Society (SIS)

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*21 RCTs, 6462 patients, 95% CI: (14, 40%), P<0.001.
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‡Based on a retrospective study of 107,665 patients who underwent colorectal surgery between 2014 and 2018. Study included 70,243 commercial patients and 21,732 Medicare patients.
§Median costs estimated to be avoided per patient by commercial payers were $809 (95% CI, $26–$4481) for deep incisional SSIs and $1170 (95% CI, $146–$4884) for superficial and deep incisional SSIs.
||Over 12 months as projected in a peer-reviewed economic analysis.
¶CDC, WHO, ACS/SIS, and NICE guidelines on reducing the risk of surgical site infections are general to triclosan-coated sutures and are not specific to any one brand.


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The infection prevention profession was already facing a growing staffing shortage prior to March 2020. A study published recently in the *American Journal of Infection Control* (AJIC) noted that nearly 40% of current U.S. infection preventionists are anticipated to retire in the next 10 years.1 Then came COVID-19, and in a matter of weeks what was previously a concerning trend became an acute crisis for many infection prevention departments. Holly Taylor, MPH, CIC, Infection Prevention Director at Ascension Health Texas, used an alternative staffing model to maintain—and in some cases even improve upon—critical infection prevention processes at her 1,543-bed hospital system during the COVID-19 surge.

**THE COMING STORM**

The Ascension Health Infection Prevention Department was fully staffed, but still lean, when Taylor became the department’s director in September 2019. “We had eight full-time infection preventionists plus me covering 12 acute care hospitals over a 150-mile geographic spread of Central Texas,” Taylor said. “One team member was covering 13 hospitals, and another had four hospitals spread over 50 miles.”

Between December 2019 and March 2020, Ascension Health’s infection prevention team lost two full-time IPs to new positions and was due to lose a third IP to an unanticipated retirement. Over just 3 months, the department’s staff to bed ratio shifted from 1:171 to 1:257. Simultaneously, Ascension Health implemented a hiring freeze due to growing COVID-19 concerns and constraints, preventing Taylor from backfilling the newly open positions.

“We had these staffing vacancies and then we knew COVID was coming,” Taylor said. “Keeping the lights on and department functional became critically important.”

Taylor and Ascension Health were—and are—not alone. The infection prevention profession nationally has acknowledged a growing staffing shortage due to a “silver tsunami” of Baby Boomer retirements, as well as increased challenges recruiting and retaining incoming IPs. Even prior to COVID-19, issues such as increased workload and work-life balance issues were driving IPs out of the profession. As many IP positions remain vacant for months at a time, it is a strong possibility that there may not be enough IPs in the industry to fulfill the current need.1

**A WORKABLE SOLUTION**

With COVID-19 cases surging, a 38% staff vacancy rate, and no ability to hire full-time team members in the foreseeable future, Taylor had to think and act quickly.

“I needed to find a solution that was workable now so that we could begin offloading work immediately and meet the growing demand for our on-site services,” she said.

The answer came in the form of a nascent staffing model Ascension Health had begun employing just several months prior to the pandemic. In late 2019, Ascension Health recruited and retained two of the system’s retiring IPs to assist on an as-needed (PRN) basis with specific infection prevention quality and research-related projects. The arrangement was working well for both Ascension Health and the two staff members, providing a flexible, supplemental, and relatively affordable solution to short-term staffing needs. “I had been retired almost a year and this opportunity arose to work from home with flexible hours, doing something I love and already know how to do,” said Cyndie Lanne, BSN, RN. “It was an ideal situation for me.”

Using this positive experience as a model, Taylor requested approval to maintain both IPs, plus the one due to retire in March 2020, in PRN roles. The Ascension Health human resources department and leadership had already seen the model work as a potential solution, and quickly approved the proposal. “We now had the ability to leverage this invaluable resource of three staff members who’d been in the field for a long time,” said Taylor. “So I asked them nicely if...
they would be willing to take on remote responsibilities as the site-based team was getting stretched and I was having trouble filling positions. They all said unequivocally, ‘Absolutely, what do you need?’”

Dividing responsibilities between the infection prevention department’s full-time and PRN staff was easy. The remote PRN employees were in the best position to take on tasks such as centralized surveillance and electronic reporting, functions that, while administrative, still required subject-matter expertise and, while critical, did not require them to be on site. Conversely, with these activities off-loaded, Taylor’s on-site team would be able to dedicate more time to rounding, training, and other tasks that required in-person facilitation.

Because the three retirees were already in the Ascension Health system, Taylor and her team were able to get them up and running in their new roles immediately. Working between 10 and 30 hours each per week, the PRN team members conducted all health system surveillance, including identification and classification of healthcare-associated infections (HAIs); all chart reviews to manage line-listings; all communicable disease reporting; National Healthcare Safety Network (NHSN) data entry and reporting; and internal resource-pages management. They also made sure Ascension IPs had access to COVID-19 guidance as it evolved and learning. “They didn’t feel like that dovetailing—like they were drinking from a fire hose,” Taylor said. “This gave them bandwidth to learn the profession in a way that will promote longevity.”

Supported retention of both existing and new staff: Taylor didn’t lose a single IP to burn out in 2020. “I can’t tell you how many tears our PRN colleagues saved,” she said. “Their impact can’t be overstated. Everyone felt supported even when things were lean and really tough.”

Taylor suggested that the model Ascension Health’s infection prevention department used to shore up their team and deliver sustained, high-level support to their health system during COVID-19 could provide a potential solution to the infection prevention profession’s growing staffing challenges. “I think this model has broad ranging applicability,” she said. “With so much of [infection prevention’s] workforce nearing retirement age, figuring out how to leverage the expertise and institutional knowledge of experienced infection preventionists in smaller roles and maintain them in PRN status can be so helpful when training and onboarding the new staff we’re all going to need in the coming years.”

**MAKING IT WORK**

Want to replicate the Ascension model in your own health system? Here are some tips from Taylor and Lanne:

- **Start early:** Have conversations with administrators and others to gain buy-in for the PRN approach, and determine how to maintain retiring IPs within the HR system. “It’s much easier to keep them on than to bring them back,” Taylor said.
- **Be flexible and creative:** Think outside the box about what tasks can be off-loaded to PRN staff.
- **Structure real-time discussions:** Whether via Zoom or in person, schedule meetings between on-site infection preventionists and PRN staff on a weekly or bi-weekly basis.

**Reference**


**Michele Parisi is a freelance writer for Prevention Strategist.**
Angela Zuick, Medline Director of Clinical Services, says, “It’s hard for people to understand COVID-19 because they can’t see it. And that’s the problem with pathogens and infection. You can’t see them.”

Infection easily spreads through:
1. Environment of care
2. Human-to-human transmission
3. Clinical practice

Our 3-zone strategy covers the entire perimeter of risk and breaks infection prevention into small, manageable parts. The key to success? Making sure everyone at every level is involved, understands the 3-zone strategy and practices infection prevention consistently.

“The zones help organizations look at every aspect of infection,” says Zuick. “They can ask, ‘How can we improve best practices? What training and education do we need to close gaps? Which products will best support our people and keep everyone safe? How do all of these things come together to help us get closer to zero harm?’”

The 3 zones of infection prevention

Zone 1: Environment of care
The environmental zone provides many surfaces for germs to live. Proper cleaning and disinfection are crucial to keep everyone safe from infection.

Environmental services (EVS) teams play a crucial role in cleaning and disinfecting surfaces. Yet, EVS managers and staff face problems that can challenge their efficacy, including a lack of clear-cut guidelines on how to solve surface contamination. An evidence-based cleaning and disinfecting program, Zuick says, can provide EVS workers training and education on protocols and products that can help prevent the spread of germs.

Zone 2: Human-to-human transmission
In the human-to-human zone of a healthcare setting, unchecked pathogens can easily cause infection through hand, face and bodily contact. Masks, gowns, gloves and hand hygiene products and practices protect patients, family, caregivers and staff.

“The number one way to help fight infection is simple: wash your hands,” says Zuick. “In fact, hand hygiene is fundamental to all zones. Everyone coming into the facility must practice proper hand hygiene in order to prevent transmission.”

Many device-related infections happen because people don’t practice proper hand hygiene or use PPE properly. And visitors and family often don’t realize their hands could contaminate their loved ones’ devices. But remaining vigilant about hand hygiene and using PPE can help minimize transmission within this zone.

Zone 3: Clinical practice
In the clinical zone, catheters cause some of the most common healthcare-associated infections (HAIs). Central venous catheters (CVCs), peripherals (PIVs) and indwelling urinary catheters (IUCs) are access points and breeding grounds for germs that can lead to catheter- and central line-associated bloodstream infections (CABSIs and CLABSIs) and catheter-associated urinary tract infections (CAUTIs).

When team members are stressed, distracted, rushed or tired, a simple oversight on a busy day can have serious infection consequences.

Having a system of products, such as a CVC insertion bundle, can help clinicians minimize risk of infection and error. Bundling everything a clinician would need in the right sequence makes it easier for them to follow best practices no matter how busy they might be.

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1 Environment of care
Remove pathogens from surfaces, air and water to ensure the environment isn’t a source of HAIs.

2 Human-to-human transmission
Properly equip patients or residents, family and staff with everything they need to stop pathogens from spreading through hand, face and bodily contact.

3 Clinical practice
Give caregivers tools that make it easy to reliably follow best practices and keep pathogens from invading the procedure site.

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As the COVID-19 pandemic surged again in late 2020, making a vaccine available to the public was a top priority. On December 11, 2020, the FDA implemented an emergency use authorization of the Pfizer-BioNTech Vaccine. A week later, the Moderna Vaccine was also approved. In the meantime, the plan for administering the vaccine was in the works, which included the CDC coordinating with many other agencies. Considerations had to be given to vaccine availability and to high-risk populations such as seniors and healthcare workers. Hospitals were quick to organize vaccination clinics. As the availability and confidence in the vaccine increased, the qualified populations expanded, creating the need for more public vaccination sites. As a result of President Biden’s 100 million vaccination goal, FEMA partnered with state governments to increase vaccine access through “Federal Pilot Community Vaccination Centers (FPCVC).” These centers were selected based on data analysis including the CDC’s Social Vulnerability Index. A clinic was set up and began service on March 3, 2021, in the Washington Avenue Armory located in Albany, New York. This clinic was selected as one of the Type 3 centers that had a goal of administering 1,000 vaccinations per day. Staffing included personnel from FEMA, Public Health Service branches of the FDA, and the National Institute of Health (NIH), in addition to New York State, which contracted with American Medical Response (AMR). The clinic began with administering 1,200 vaccinations per day. It was quickly evident that additional support was needed to meet the daily demand. Through outreach, the Albany Stratton Veterans Administration Medical Center (VAMC) provided several RN volunteers beginning in April. This clinic gave the selected nurses the opportunity to work with national medical staff and observed the detailed coordination that was needed to make the clinic run safely.
Clinic organization, layout, and staffing

The Armory, an arena located in a depressed area in Albany, New York, was chosen due to its central location near a busy crossroad bus stop and which also had a safe parking area and convenient shuttle service. Public access was through the Main Street front door where masking and temperature checks could take place, and where screening questions could be answered. Half of the large central space of the Armory was set up with 18 bays for immunization. Wayfinding signs took visitors to the assessment tables. The other half was set up with chairs to allow for post-vaccine observation time. Once complete, the visitor would circle around to a designated exit. Bleachers surrounded the processing area, allowing the chief medical officer to keep a bird’s eye view on the entire operation.

In the back corner of this circa 1891 building there was a small room that was suitable for the pharmacy. It was staffed by pharmacists and nurses from FEMA, FDA, and NIH and later the Stratton VAMC RN staff. The daily clinic hours were 8 AM to 8 PM with the pharmacy opening at 6:30 AM to start the vaccine preparation.

Each day, staff was required to wear masks and had temperature checks, and COVID-19 testing was mandated twice a week (every Monday and Thursday mornings). Earlier testing was preferred for optimal infection control if there was a positive test result. If anyone was positive, the staff person was required to leave the facility and not return for 10 days until isolation cleared. Fortunately, we did not learn of any staff testing positive during the month we were present.

Pharmacy process, vaccine preparation, and quality checks

The pharmacy work room was dated, with limited electrical and light fixtures. The room contained three tables with chairs and two locked, small vaccine freezers. We sat two staff at one table and one at each of the others, usually split between RNs and pharmacists. Each table had a set of daily use supplies. Just outside the pharmacy room there was the locked, main vaccine freezer. The vaccine we used, Pfizer mRNA, had strict temperature guidelines that were reinforced daily. The USPHS staff were responsible for maintaining tight temperature control at time of delivery of the vaccine from FEMA to the time the vaccine was to be diluted for individual vaccines. Strict timelines were adhered to that dictated the number of vaccines to be drawn up based upon the number of appointments for the day.

The Pfizer vaccine was shipped in specially designed thermal shipping containers packed with dry ice to maintain the recommended storage temp of -70° C (±10°) for up to 10 days, unopened. The package came equipped with GPS-enabled thermal sensors. These sensors tracked the location and temperature of each vaccine shipment across preset routes, 24 hours a day, 7 days a week. This allowed Pfizer to proactively prevent deviations and act before they happened. Upon delivery to the Armory, the pharmacist followed The Pfizer-BioNTech COVID-19 Vaccine Delivery Checklist to open the shipping containers. He would press and hold the “Stop Shipment” button on the temperature recording device for five seconds. This triggered an email to the manufacturer. The LED indicator light stopped blinking and turned to a solid light. A green light indicated approval to unpack; a red light meant stop and wait for a status report from the manufacturer.

Due to the dry ice packing, the box was opened in a well-ventilated area and staff opening the container donned cryogenic gloves to prevent cold burns. The five trays were removed and placed in the ultra-cold freezer (-112° F and -76° F). The shipping containers were stored, with the remaining dry ice, in a well-ventilated area awaiting pick up by supplier. We moved several days’ worth of vials to the smaller pharmacy room’s freezer which was not as cold (-13° F to 5° F) for quicker thawing.

Hand hygiene was performed before vaccine preparation and whenever our hands became soiled. For the next step, based on the vaccination schedule report from the prior day, we prepared up to 50, 3 ml syringes with 1.8 ml of 0.9% Sodium Chloride (preservative free) diluent. Although syringe work is repetitive and tedious, requiring care to consistently measure accurately.

Upon morning arrival, two USPHS staff members handled the initial inventory and checked expiration dates of the vaccine vials, recorded the main and smaller freezer temperatures, and read the detachable digital data logger (located on both freezers) for any temperature excursions. Had temperatures dropped, an alarm would sound, and security would have notified the pharmacist on-call, who would be required to come in, investigate, and address the event. There were drills to ensure the process worked.

We were sent the daily report from the Clinic Operations Unit, which provided the day’s revised vaccination appointment schedule. The appointments were tallied by the hour, giving us an idea of what we needed to prepare without worry of vaccine expiration and waste. Usually, 240 to 300 vaccines were prepared for the morning rush. Two pharmacy staff would count and remove between 40 to 50 vaccine vials from the freezer and

“The clinic provided high-quality vaccination service because of a well-organized multidisciplinary team effort overseen by FEMA.”
Vaccination process and patient observation

During the initial interview with the patients, they were triaged for the amount of time needed for post-vaccination observation depending on risk factors. Those individuals who had experienced any allergic or anaphylactic reactions to other medications or other sources would be noted. Those with allergic reactions would be screened for a 30-minute post-administration observation period. All others would be observed for 15 minutes. This was conducted in two group settings. A runner from the EMT station would arrive at the pharmacy, several times a day, to pick up the newest bins.

Changing vaccines; clinic evaluation

At the end of April, the clinic was due to switch to the Janssen/Johnson & Johnson one-dose vaccine. A few days before we were to switch, this vaccine had reported side effects that placed it on hold. Since this clinic worked mainly by appointment, the daily vaccination numbers dropped for a few weeks. Early in May, the J & J vaccine was resumed, and volume picked up again. However, by May 27 the operation was scheduled to be shut down.5

Other vaccination sites continued within the city and surrounding community. The Armory site was very instrumental in serving the inner city underserved population of Albany. One disadvantage of the location was that the parking was located on a side street and not easy to find. However, overall, the clinic provided high-quality vaccination service because of a well-organized multidisciplinary team effort overseen by FEMA. It was also a great opportunity for these nurses to demonstrate the high-quality nursing and infection prevention skills that were required to provide safe vaccinations.

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5. Mass Vaccination Site at Washington Avenue Armory Closing

Jessica Hayashi, MS, BSN, RN, CIC, CPHQ, FACHE, FAPIC, has extensive experience in acute care medical center infection prevention (IP) program leadership and as a team member. Her current role IP Specialist at the Albany Stratton VAMC. She is a long term APIC member, serving as past chapter president and on a national committee and panel.

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‘Running Better than a Drive Thru’: How We Organized An Efficient Mass Vaccination Site

BY VAL SPARKS

In March 2020, when COVID-19 was new, the Midland Unified Command Team—consisting of Midland Health officials, City of Midland health and fire departments, Midland County emergency response, and the Midland Independent School district—started meeting to share information and make public statements regarding the then unknown disease taking hold in our facilities, city, and life. We continued to meet frequently to discuss how we could manage the PPE shortages and how to handle masking and school shutdowns. When the long-awaited Pfizer vaccine became available, we immediately began to plan for the mass vaccination of our community as soon as possible.

The Midland Unified Command Team put together a written plan to present to the Texas Department of State Health Services to request large amounts of vaccine and how we would be able to store and distribute the vaccine in a safe and timely manner. Midland Memorial Hospital had been on the forefront and had in place a large sub-zero freezer that could store thousands of doses of the Pfizer vaccine. With Midland being the central distribution point for west Texas, we were offering to provide vaccine to the

Celebration Cake the day the Mass Vaccination clinic closed on April 30

All the volunteers that worked the Mass Vaccination Clinic

Photo of author

Set up with volunteers prepared to begin mass vaccinations at the Midland Horseshoe Area

Clinic on the road at Marfa Veteran’s Facility

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surrounding small communities that had little to no medical facilities.

The team did site visits within our community to locate a possible ongoing mass vaccination clinic. We found an unused pavilion within the Midland County Horseshoe area that had no bookings for many months into 2021 due to COVID-19. It had easy access off major roads and parking was plentiful. It was secure and we were able to move people through the facility quickly and efficiently with climate control and internet access.

The Midland Unified Command Team partnered with Premier Physicians who assisted in using their massive database scheduling appointments and mandatory state reporting. We engaged and increased our nursing “hotline” (68NURSE) to receive the phone calls and gather the personal data that allowed them to give appointments to those requesting vaccine.

We engaged our local community, the student nurses, paramedics, fire fighters, active and retired healthcare personnel, and non-clinical citizens, in order to volunteer to make this process as efficient as possible.

We created an efficient workplace by doing the following:
- Trained nurses and physicians on the vaccine handling, mixing, and storage.
- Trained everyone on side effects and proper intermuscular administration.
- Organized vaccine information packets with V-safe information in both English and Spanish.
- Provided paper registration forms for those who did not have internet access.
- Kept additional medical supplies that were provided by the hospital and the Midland Emergency Management team.
- Arranged for Team Rubicon, retired veterans who assist with disaster management, to be on location for six weeks to manage traffic flow, food for the staff and volunteers, and assistance with transporting individuals who were mobility challenged.

The first vaccine was given on January 22. We were open every weekday, from 10 AM to 4:30 PM. We stayed open during the debilitating ice and snowstorm in February and never missed a day. We were able to vaccinate anyone who wanted it. They came from across the vast state of Texas, out of state, and even foreign countries. The mass vaccination facility closed on April 30, 2021, having administered over 73,000 doses.

We continued to do “pop-up” clinics and provide the COVID-19 vaccine to local employers, schools, oilfield offices, and smaller communities. We assisted local nursing homes, churches, and home health agencies that support the elderly and homebound to give vaccines. Currently, we have reopened a walk-in clinic in a hospital outpatient facility, two afternoons a week offering vaccines for first and second doses and boosters for those who qualify. To date, Midland Health and the Unified Command Team have distributed over 131,500 doses of COVID-19 vaccine.

And our efforts continue.

We have had MANY kudos from the local communities and across the state. Our favorite is from a Facebook post: “This place runs better than a [fast food] drive through [sic].” We are honored to be able to serve our community in this important mission.

Val Sparks, MSN, RN, CIC, is infection preventionist at Midland Memorial Hospital in Midland, Texas.
Everyone Plays a Role in Infection Prevention

The COVID-19 pandemic catalyzed an unprecedented awareness around infection prevention. An elevated understanding of the spread of pathogens and strict adherence to infection prevention practices, including cleaning and disinfection, was emphasized across healthcare. Infection Preventionists and Environmental Services are now commanding a new status in the spectrum of care. We are entering a period of change that — provided we sustain the lessons learned — has the potential to create a safer healthcare system for patients and professionals alike.

COVID-19 REVEALED THE NEED FOR BETTER INFECTION PREVENTION

Across the country, the pandemic revealed cracks in our healthcare system — from staffing issues to complex and ever-changing guidelines and regulations because of the singular focus on COVID-19. Reporting for other healthcare-associated infections (HAIs) was given less priority. Now is the time to recognize the importance of continued diligence to protect patient, visitor and staff spaces from other pathogens that are easily transmitted from contaminated surfaces.

COMING TOGETHER TO HELP KEEP PATIENTS HEALTHY

In the face of a highly contagious, novel pathogen, healthcare workers banded together in their shared responsibility for infection control practices to protect patients and each other. But the pandemic also heightened awareness of the need for more frequent and thorough disinfection of high-risk surfaces and surfaces in the immediate patient environment. Furthermore, it accelerated interest in the adoption of effective and efficient solutions within healthcare facilities. Establishing proven cleaning and disinfecting practices can positively impact defense against the future of emerging pathogens that have little to no antibiotics to treat them.

CLOROX HEALTHCARE SUPPORTS INFECTION PREVENTION EFFORTS

As the healthcare industry’s most trusted brand, Clorox Healthcare provides evidence-based solutions that kill a wide range of pathogens and are associated with a reduction in HAIs. Our ready-to-use product portfolio helps reduce human error and is rigorously tested and clinically proven. We also offer expert consultation and training. Despite the heavy demands of the pandemic, we saw healthcare workers taking a more active role in cleaning and disinfection. Then and now, Clorox Healthcare is committed to advancing these lessons to help create a more resilient healthcare system.

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