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*Victory and Protexus
Lessons Learned as the Rebuilding Begins

In 2004, the 90th anniversary of the start of World War I, New Yorker writer Adam Gopnik wrote about the problem of historical judgment. The question was “How much can you blame the people of the past for getting something wrong when they could not have known it was going to go so wrong? The question is what they knew, when they knew it, if there was any way for them to know more, given what anyone knew at the time, and how in God’s name we could ever know enough about our own time not to do the same thing all over again.”

As we emerge from the COVID-19 pandemic, the rebuilding begins: of the economy, of the health care system, of society itself. Infection Control Today® seeks to fill in Gopnik’s gaps by giving infection preventionists (IPs) what they should know now and looking for whatever they should know more of. In that vein, this issue includes knowledge gleaned from the annual conference hosted by the Society for Healthcare Epidemiology of America on page 22. The conference got under way about a minute before we went to press, so to speak, but this issue offers a good primer.

One by-product of COVID-19 is burnout. Editorial Advisory Board member Saskia v. Popescu, PhD, MPH, MA, CIC, on page 18 offers IPs some tips about how to spot burnout in themselves and in other health care professionals and what to do about it. On page 25, author Jan Dyer gets expert input about how to ensure that COVID-19 does not become a health care–acquired infection.

Then there’s our Q&A with Tanya Lewis, CRCST, on page 30. Lewis is slated to become president of the International Association of Healthcare Central Service Material Management this month. One of her goals is to forge a closer working relationship between IPs and sterile processing teams in health care systems. Both categories of professionals will benefit from such an allegiance.

Let’s close with another quote from a writer you may have heard of: Abraham Lincoln. He said, “Fellow-citizens, we cannot escape history. We…will be remembered in spite of ourselves.”

Please send your ideas, comments, or questions to Editorial Director Alexandra Ward at award@mjhlifesciences.com.

Thank you for reading.

Mike Hennessy Sr
Chairman and Founder
MJH Life Sciences™
Suddenly I’m on Everybody’s Radar (Again)

Just call me the comeback kid. Suddenly, after practically disappearing for decades (or being consigned to the shelf marked “easily treatable”), I am returning with a vengeance. And I am not easy. That is why the Centers for Disease Control and Prevention (CDC) in December 2020 updated guidelines for how to treat me. Yes, December 2020, the beginning of one of the global COVID-19 pandemic’s biggest surges and, still, CDC investigators took time out to figure out how best to deal with me.

I am high on the list of any medical expert who has to deal with…but if I told you what category of disease I am in, this would not be much of a quiz, would it? (Although I am prominently featured in a recent article in Infection Control Today® (ICT®) at https://bit.ly/39Mk2J9 if you want to cheat.) The CDC's updated guidelines that I just mentioned recommend attacking me with a single 500-mg intramuscular dose of ceftriaxone.

My resurgence happened because I became immune to the antibiotics that had historically been used to treat me. Infections caused by me have increased 63% since 2014.

In women, I cause the following symptoms:
• Increased vaginal discharge
• Painful urination
• Vaginal bleeding between periods, such as after intercourse
• Abdominal or pelvic pain

In men, I am responsible for these symptoms:
• Painful urination
• Puslike discharge from the tip of the penis
• Pain or swelling in 1 testicle

If you are smart, you would head to your doctor if you exhibit any of these symptoms. That is no guarantee, however. I can infect you without you showing any signs. I can cause infertility in women when I spread to the uterus and fallopian tubes. I am the driver of pelvic inflammatory disease and can greatly complicate pregnancies.

I also make men infertile because I attack the rear portion of their testicles where sperm ducts are located.

I can attack your eyes, causing pain, sensitivity to light, and pus discharging from 1 or both eyes. Joints can become swollen, red, warm, and very painful whenever you move. I might be the cause of that sore throat and those swollen lymph nodes on your neck. There is an entire list of things you can do to curtail me. Here is just one of the CDC websites you can visit: https://bit.ly/3mzspwL. However, ICT® goes out to infection preventionists and other health care professionals. There is a systematic approach to fighting me, and just to make this a sporting challenge, I will let you in on it.

Well, I will let the CDC let you in on it. CDC: “Antimicrobial stewardship. The 2019 report on antimicrobial resistance threats in the United States highlights that antimicrobial stewardship (ie, the development, promotion, and implementation of activities to ensure the appropriate use of antimicrobials) remains a major public health concern.”

So there you have it. A strong antimicrobial stewardship program in which IPs play a part can possibly defeat me.

Who am I?
The shape and material composition of the N95 respirators varied widely from manufacturer to manufacturer, which can result in variations in the efficacy of a particular method from one product to the next.
Infection Control Today® (ICT®) caught up with J. M. van Niekerk, corresponding author of a recent study in *BMC Infectious Diseases*, via email to discuss some of the implications of his study’s findings: namely that because nurses are everywhere within health care facilities, they are often the ones responsible for spreading microbes (albeit unconsciously).

**ICT®**: A part of ICT®’s readership includes infection preventionists, who are charged with trying to—as their name suggests—prevent and control infections in health care settings. What practical takeaways might they get from your findings?

**van Niekerk**: The spatiotemporal behavior and social mixing patterns of health care workers play an essential role in spreading harmful microorganisms in health care settings. Quantifying these patterns can help to develop measurements to prevent the spread.

**ICT®**: It appears as if nurses are more likely to spread pathogens because they’re more on the move and interact more with other health care professionals and patients. Are there certain systemic remedies that could be applied to make them less likely to spread pathogens?

**van Niekerk**: Inform the hand hygiene policies and the strategic placement and choice of dispensers using these insights [from this study].

**ICT®**: As you know, hand hygiene adherence among health care professionals has been poor for decades. What might your findings bring to the conversation that might better encourage hand hygiene adherence?

**van Niekerk**: The results of our study can inform occupation-specific hand hygiene education. For example, based on nurses’ social mixing patterns, when and where is the best time for them to perform hand hygiene? Also, the strategic placement and choice of dispensers, especially in locations with high numbers of interaction.

**ICT®**: You monitored interactions via radio frequency identification. Should such monitoring be considered a first step in improving hand hygiene adherence?

**van Niekerk**: Understanding health care workers’ social mixing patterns in a health care setting is an essential first step to strategically determine where and when they should perform hand hygiene to minimize the spread of harmful microorganisms.

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**REFERENCE**


To read more about van Niekerk’s study, visit https://bit.ly/3cye8Nm
Test all patients who go to a hospital for COVID-19, even those who do not exhibit symptoms and are there for other medical reasons. It is very possible that more than one-third of patients not there for COVID-19 will be asymptomatic carriers of the virus who may endanger health care workers and other patients, according to a study in the American Journal of Infection Control.1

“The proportion of asymptomatic patients admitted with SARS-CoV-2 was significant,” investigators with the University of Louisville in Kentucky reported. “Identifying and isolating asymptomatic patients likely prevented exposure and development of hospital-acquired COVID-19 cases among health care workers and other patients, supporting the universal surveillance of all admitted patients.”

Investigators reached this conclusion even while acknowledging that such an approach can present logistical and financial hurdles including an increase in the cost of testing and use of the laboratory. Universal surveillance was instituted at the University of Louisville Hospital last April. The data were collected on patients from April 9, 2020, to July 1, 2020. Those who tested positive for COVID-19 were divided into symptomatic or asymptomatic categories, using the 11 symptoms that the Centers for Disease Control and Prevention says should be watched for.2

After reviewing 2882 COVID-19 tests, investigators found that 103 individuals tested positive for the disease, with 65 (63%) exhibiting symptoms and 38 (37%) considered asymptomatic. “The proportion of SARS-CoV-2 patients who were asymptomatic varied over the duration of the study but trended up from 20% at the onset of the study period to 60% at the end,” investigators wrote.

“Identifying and isolating asymptomatic patients likely prevented exposure and development of hospital-acquired COVID-19 cases among health care workers and other patients, supporting the universal surveillance of all admitted patients.”

Forest W. Arnold, DO, MSc, the study’s corresponding author and an associate professor in the Division of Infectious Diseases at the University of Louisville, tells Infection Control Today® that a possible reason for this is that “there was much less travel early, during the national quarantine, but later people got out more and thus hurt themselves in car wrecks or once they got to where they were going—to work or whatever. Traveling not only put them at risk for trauma, but also for acquiring COVID-19.”

Investigators concluded that asymptomatic carriers increased the duration of the pandemic. “The reason that we currently isolate asymptomatic and symptomatic SARS-CoV-2 patients in the hospital is based on the indirect finding that they shed live virus,” the study states. “Thus, the premise of isolating asymptomatic positive patients is to contain the shedding of live virus.”

The most common reasons for admitting asymptomatic patients were trauma or childbirth. Investigators also found some socioeconomic factors involved.

“Known risk factors for COVID-19 include persons frequently in congregate settings with an increased likelihood of close contact,” the study states. “The risk factors were exemplified in our population as pregnancy, poverty, and crowding. These clusters represented a group of pregnant Hispanic patients from one area, and additional clusters of both symptomatic and asymptomatic patients in densely populated urban parts of [Louisville]. This type of information could contribute to outbreak investigations by a health department.”

REFERENCES

The Centers for Disease Control and Prevention (CDC), along with the Pew Charitable Trusts, recently unveiled a goal to decrease inappropriate prescribing of antibiotics for community-acquired pneumonia (CAP) and urinary tract infections (UTIs) by 90% and the overprescribing of fluoroquinolone antibiotics and vancomycin by 95% in hospitals. The recommendation was made by a panel of antibiotic prescribing experts chosen by Pew and based on CDC data published March 18, 2021, in a study in *JAMA Network Open*.1

“In this cross-sectional study of 1566 patients at 192 hospitals, antimicrobial use deviated from recommended practices for 55.9% of patients who received antimicrobials for [CAP] or [UTI] present at admission or who received fluoroquinolone or intravenous vancomycin treatment,” the study states.

Shortly after the study was published, Arjun Srinivasan, MD, the CDC’s associate director for health care association infection prevention programs, told *Infection Control Today®* that he envisions reaching the goal by 2025, adding that a lot of progress has already been made in the effort to cut back on inappropriate prescribing of antibiotics since 2015.2 “The first phase of that so-called CARB [Combating Antibiotic-Resistant Bacteria] action plan was from 2015 to 2020,” Srinivasan told *ICT®*.3 “And the second phase is 2020 to 2025. In my opinion, I know it’s ambitious, but I think we should line up with that.”

Srinivasan also said that infection preventionists (IPs) should be a part of any effective antimicrobial program. “I think that the key is for the [IPs] to make sure that they’re connected with their stewardship programs,” Srinivasan told *ICT®*. “And I think in almost every instance where I interact with hospitals, that connection is already present, and it’s very strong.”

In the *JAMA Network Open* study, antibiotic treatment was unsupported for 876 of 1566 patients. That broke down to “110 of 403 (27.3%) who received vancomycin, 256 of 550 (46.5%) who received fluoroquinolones, 347 of 452 (76.8%) with a diagnosis of UTI, and 174 of 219 (79.5%) with a diagnosis of CAP. Among patients with unsupported treatment, common reasons included excessive duration (103 of 174 patients with CAP [59.2%]) and lack of documented infection signs or symptoms (174 of 347 patients with UTI [50.1%]).”

The data were collected from the medical records of patients included in hospital prevalence surveys that occurred from May 1, 2015, to September 30, 2015. They were analyzed between August 1, 2017, and May 31, 2020. But even though the data came before the COVID-19 pandemic, Pew and the CDC say that they have relevance to what’s been going on with COVID-19. According to Pew, 52% of patients who have been hospitalized for COVID-19 received at least 1 antibiotic, and many of those prescriptions were likely unnecessary.

In his interview with *ICT®*, Srinivasan said antibiotic overprescribing that the CDC tracked during the COVID-19 pandemic “represents the fact that you had a lot more patients presenting to the hospital with signs and symptoms consistent with pneumonia. They had cough, they had fever, they had chest x-ray infiltrates. And in some of those instances, it was likely
At-home COVID-19 Tests Are an ‘Effective Strategy’

BY FRANK DIAMOND

Any national strategy to contain SARS-CoV-2, the virus fueling the COVID-19 pandemic, should include antigen-based at-home testing even if that testing is less than perfect and even if many who obtain the tests decide not to go through with them. Such at-home testing would greatly reduce hospitalizations, deaths, and the accompanying health care costs involved in treating individuals with COVID-19, according to a study in the *Annals of Internal Medicine.* That at-home testing is less than perfect has been a linchpin, with critics saying there would be too many false negatives and no guarantee people would take the tests. But the investigators—A. David Paltiel, PhD, of Yale School of Public Health; and Amy Zheng, BA; and Paul E. Sax, MD, both of Harvard Medical School—crunched the numbers and reached a different conclusion.

“High-frequency home testing for SARS-CoV-2 with an inexpensive, imperfect test could contribute to pandemic control at justifiable cost and warrants consideration as part of a national containment strategy,” the study states. Using a traditional susceptible-exposed-infected-recovered compartmental epidemic modeling framework that they said represents individuals most likely to transmit the virus in the US population, the investigators computed what would happen if at-home testing were used, acknowledging that for a proportion of the population, the tests will show negative for people who are in fact positive for COVID-19. But even factoring that in, the results place at-home testing in a positive light, with results that investigators describe as “staggering in their magnitude.”

“Without a testing intervention, the model anticipates 11.6 million infections, 119,000 deaths, and $10.1 billion in costs [including] ($6.5 billion in inpatient care and $3.5 billion in lost productivity) over a 60-day horizon,” the study states. “Weekly availability of testing would avert 2.8 million infections and 15,700 deaths, increasing costs by $22.3 billion. Lower inpatient outlays ($5.9 billion) would partially offset additional testing expenditures ($12.5 billion) and workdays lost ($14.0 billion), yielding incremental cost-effectiveness ratios of $7890 per infection averted and $1.43 million per death averted.”

Their conclusions apparently reached the ears of federal health care experts because the study is featured on the COVID-19 Science Update website maintained by the Centers for Disease Control and Prevention. Investigators tinkered a bit with the model methodology, splitting the infected compartment into 4 subgroups: asymptomatic, mild/moderate, severe, and critical.

“This permitted us to capture more fully the natural history, epidemiology, and resource use associated with progressive COVID-19,” the investigators.

Even assuming that up to 75% of people testing positive would not follow isolation guidance, the tests would greatly curtail infection, hospitalization, and death, argue investigators.

LITERATURE REVIEW

public and private insurers to launch reimbursement programs to bolster application service providers; and health care systems, particularly the smaller ones, will need technical and financial assistance.

REFERENCES

study states. “Second, we introduced a parallel set of states to distinguish between epidemiologically ‘susceptible or infectious’ individuals and persons no longer susceptible or infectious due to isolation or death. In ‘susceptible or infectious’ compartments, we assumed that individuals interact in ways that permit infectious contact and transmission of SARS-CoV-2; in ‘isolation’ compartments, no transmission was possible.”

Investigators tried to account for the unpredictability of individuals’ behavior, and purposely made what they described as highly pessimistic assumptions about how those who take the tests might react to the findings. They state that they “assumed that even among the minority who did perform the test, a large proportion (50% in the base case; 75% in the worst case) would elect to ignore a positive test finding and refuse to self-isolate. This means that in the worst case, only 6.25% (25% of 25%) of persons would be assumed to adhere to the recommended testing and isolation protocols. Finally, we assumed that even among that small proportion of persons who might elect to self-isolate, 20% each day would abandon isolation and return to the active population, against recommended guidance.”

Paltiel, Zheng, and Sax argue that they have included almost every possible reason why the at-home COVID-19 tests should not make a difference—and yet conclude that those tests would in fact make a huge difference. They urge readers to focus less on the numbers and more on their conclusion that a nationwide rollout of at-home tests would make sense. “Our bottom-line message is: Do not let the perfect be the enemy of the good; even a highly imperfect home-based testing program could confer enormous benefit.”

REFERENCES
Endoscopes Are Causing Infections, FDA Warns Providers

BY INFECTION CONTROL TODAY® EDITORIAL STAFF

The United States Food and Drug Administration (FDA) wants health care providers to know that some medical devices have caused serious infections in patients. The information comes from numerous medical device reports (MDRs) focusing mainly on endoscope malfunctions. MDRs can be filed by providers, manufacturers, importers, or anybody else who sees a problem.

In a press release, the FDA said that the MDRs describe “patient infections and other possible contamination issues associated with reprocessing urological endoscopes, including cystoscopes, ureteroscopes, and cystourethroscopes—devices used to view and access the urinary tract. Reprocessing these types of medical devices involves both cleaning and high-level disinfection or sterilization so the devices can be reused.”

The FDA received 450 MDRs from January 1, 2017, through February 20, 2021, that describe how patients were infected through devices post procedure, with the cause likely to be faulty decontamination. Olympus Corporation, a manufacturer of endoscopes, filed 3 MDRs concerning cases in which patients died from bacterial infections outside the United States (the FDA said MDRs are not evidence that an infection was caused by a device malfunction).

“Two of those reports were associated with a forceps/irrigation plug, an accessory component used to control water flow and enable access to the working channel of the endoscope,” the FDA press release stated. “Lab tests confirmed the same infectious bacteria [were] present in both the forceps/irrigation plug and in the patient with the infection. The third patient death report involved a cystoscope that did not pass a leak test, indicating possible damage to the device, which could have been an underlying factor in the infection.” (For more about the sterile processing of endoscopes and all surgical devices, see our interview with Tanya Lewis, CRCST, of the International Association of Healthcare Central Service Materiel Management on page 30.)

Jeffrey E. Shuren, MD, JD, the director of the FDA’s Center for Devices and Radiological Health, said in the press release that “while some reports indicate the potential causes could be inadequate reprocessing or device maintenance issues, we’re also evaluating other possibilities, including device design or the reprocessing instructions in the labeling. Although we believe that the risk of infection is low based on available data, we’re reminding health care providers how important it is to follow the labeling and reprocessing instructions to properly clean and reprocess the devices, including accessory components.”

Linda Spaulding, RN, BC, CIC, CHEC, CHOP, a member of Infection Control Today’s Editorial Advisory Board, warned in an interview in last month’s issue of ICT® of reprocessing program pitfalls and risks associated with procedures involving reprocessed urological endoscopes with patients, “Not only does it give you good information related to scopes and processing, but if you don’t have a strong program setup, it gives you everything to put that program in place,” Spaulding said. “It gives you a policy format [and] audit tools. It gives you a competency verification tool so you can make sure your people are competent, [and]... an inventory repair and maintenance log, so you can log every single time a scope breaks and when it goes out.”

The letter the FDA sent to providers offers “recommendations for reprocessing and using these devices, including following the reprocessing instructions, not using a device that has failed a leak test, developing schedules for routine device inspection and maintenance, and discussing the potential benefits and risks associated with procedures involving reprocessed urological endoscopes with patients,” according to the FDA press release.

REFERENCES AVAILABLE AT INFECTIONCONTROLTODAY.COM
Your Future Telehealth Program Starts Now

BY RACHEL ZIMLICH, RN

The health care industry has for years been trying to figure out how to get people to buy into telehealth services. Were users concerned about security? Was it too hard to use? Would older patients be comfortable seeing their doctor online? It turns out that a pandemic was the catalyst no one saw coming.

The Centers for Disease Control and Prevention reports that telehealth usage increased 50% in the first quarter of 2020 compared with the first quarter of 2019, with a 154% increase noted by the start of the second quarter of 2020 from the prior year.¹ Changes in how telehealth visits were reimbursed helped make this happen and encouraged vendors and health care providers to offer increased support for virtual platforms.

The problem became how providers could quickly pivot to provide services their patients needed without seeing them in person. According to a Kaiser Family Foundation (KFF) report,² many providers at the beginning of 2020 did not have the capacity to offer telehealth at the level the pandemic required. Regulatory changes brought a new influx of cash to health care systems to create or upgrade telehealth systems. KFF revealed that although 50 of America’s largest health systems already had telemedicine programs in place, only about 15% of physicians in those systems used the platform.

The explosion of demand for telehealth services and new financial support for this channel meant many health care systems had to consider revising or replacing their platforms and offering support and education to providers and patients. Health care systems that did not have platforms already in place quickly learned that there is much more to telehealth than a virtual connection.

Unique Needs

When it comes to telehealth platforms, there is no such thing as a one-size-fits-all approach. Patients and providers have unique needs, and there is a wide range of services offered in every health system. Organizations need a flexible vendor partner that can satisfy different preferences among physicians and patients, says Dan Olson, senior vice president of provider solutions at Amwell, a Boston, Massachusetts–based telemedicine company.

“We find that our customers have a wide range of needs and many want an integrative solution,” Olson says. “But they also have providers that really want fast, easy, and simple.”

Early in the pandemic, some health care providers resorted to private systems like Zoom and FaceTime to see patients if their systems were not ready to meet virtual needs. But these platforms raise privacy concerns, and there is no consistency throughout the health care system. The focus should not be just seeing a patient over a video stream but also providing them with a safe, secure space that will allow providers to integrate care with their electronic medical record (EMR).

Just putting a screen between patients and providers is not enough.

“Everyone ran out with COVID-19 and tried to do video visits. The market is kind of paused now as vendors look at enabling virtual health throughout the entire care continuum,” says Patrick Rainville, director of engineering at Iron Bow Healthcare Solutions, a telehealth firm headquartered in Herndon, Virginia.

Agile, Integrated

Health care systems should be looking for enterprise platforms that do not need to be developed from scratch. Software platforms that can be configured for individual workflows at the use level—not coded—are in high demand, Rainville explains.

COVID-19 HELPED TO SPEED UP ADOPTION OF TELEHEALTH.

WHEN IT COMES TO TELEHEALTH PLATFORMS, THOUGH, THERE IS NO SUCH THING AS A ONE-SIZE-FITS-ALL APPROACH.

“A vendor should offer something that can scale from home use and wellness to ambulatory, skilled, acute care, and more,” he says.

Proven Record, Adaptability

A vendor must be able to evolve with your needs and scale across an enterprise, too. Many technology solutions can connect people, but delivering care is different. A vendor partner should have a record of success and be able to prove it.

“You need a partner that has done its due diligence and vetting,” Olson recommends. Experience matters when it comes to telehealth platforms, he adds.

A good vendor will be able to demonstrate success elsewhere and be willing to create work-arounds and flexible solutions where needed. They should share where their gaps are and what they are planning to be able to move forward. Telehealth is not a static platform.
“Ask for 2 or 3 references in a similar specialty,” Chad Anguilm, vice president of in-practice technology services at the Michigan-based health care consulting firm Medical Advantage, says. “If it’s taking a long time to find those references, that should be a red flag.”

Health care systems will also want to make sure their vendor partner is prepared to stay around and help long after a contract is signed. “Choosing a partner that has done this before or who has a customer base where they have demonstrated success is important,” Olson says. “A lot of people claim they can do things, but they might not be health care specific. It’s important to have that experience in health care because workflows and all the different systems you work with are very different than turning on a web meeting. You need account management and support teams that will walk you through it and build trust.”

The biggest question, says telehealth expert Joseph Brennan of Moonshot Health Consulting in Grand Rapids, Michigan, is how the system and patients will be supported after the health system signs on. “When implementing a technology that is in health care, whoever is supporting you—the relationship is critical,” Brennan says. “So I would ask [the vendor], ‘What is your model for support and what do I get with what I’m buying?’ ”

It is helpful to have a dedicated project manager or support team from start to finish, Anguilm adds. Sustainability is also key. If waivers and reimbursement change once the pandemic subsides, you should not need to find a new platform. A good partner will have a full implementation plan laid out, detail how you will reach out to and educate patients, provide reimbursement information, and more. Avoid long-term contracts, he adds, because there is not much information yet on what reimbursement for telehealth will look like a year from now.

“Simply put, a good vendor partner program should feel like an extension of ongoing operations. Health care organizations looking for a strong partner for telehealth should expect a level of support that maximizes opportunity and minimizes headaches and interruptions to current workflows,” adds Roland Therriault, president and executive vice president of sales at InSync Healthcare Solutions, a Tampa, Florida–based health care technology company. “Vendor partners should take on the heavy lifting of implementations, technology adoption, and optimal use of a telehealth solution. In addition, the best relationships ensure ongoing success by keeping providers apprised of evolving regulatory movements, ensuring infrastructures align with the most advanced security functionality and ongoing support and oversight of end-user education.”

Red Flags

When it comes to telehealth, the biggest challenge seems to be on the technology end. But solutions that focus only on technology are not enough. Telehealth platforms must have a deep understanding of health care and the needs of patients and providers. When searching for a telehealth platform, there are a number of things to watch for, including vendors that overpromise, Olson warns.

“That should raise a red flag, in my opinion,” Olson says. “A vendor saying that it can do anything a customer wants is not practical in the real world.” Ask vendors for references from providers that use their system already. They should be willing to share success stories, Olson says.

Anguilm adds that it is also important to look for glitches and delays during demonstrations of the program. If it happens in a demo, it will happen live, he warns. Make sure the company can support the technology it promises.

Brennan suggests that part of the vendor partner selection process should include a discussion of failure and connection rates. Where are people dropping off and what can the vendor do to help address this?

“When you’re looking for a partner, look for someone who has been around and has a full-service offering,” says Kevin Greene, director of business development at Iron Bow. It is not enough for a vendor to supply a product. There needs to be operational and clinical support with an understanding of the outcomes you are trying to reach, he adds.

Overall, Brennan says, understand that not every solution works for every system, and that there is a big difference between technology and health care. The key is finding someone who understands your goals and knows what it will take to get you there.

“It’s all the same thing. It’s videoconferencing bolted onto your EMR,” he says. “But if the person you’re talking to doesn’t have any health care references, that’s a big red flag. They’re either brand new and you’re going to be their first customer, or it’s not going that great. Many tech people don’t understand how intricate every aspect of health care is. This isn’t a retail shopping experience; this is health care.”

REFERENCES AVAILABLE AT INFECTIONCONTROLTODAY.COM

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Q&A: Infection Preventionists Will Be Needed Even More After COVID-19
Priya Nori, MD: “The immediate thing that the health care industry has to grapple with, even as COVID-19 hopefully starts to settle down after the mass vaccination campaign … [will be] superbugs.”

Q&A: Stimulus Will Boost IP Efforts, but Cultural Change Needed
Michael L. Millenson: “The CDC will pay more attention to infections. But there’s also an asterisk here. Will Congress continue to pay attention to infections? Will the administration’s budget continue to pay attention to infections? Will the media continue to pay attention to infections?”
WATCH: https://bit.ly/3sWjV5k

Q&A: With Personal Protective Equipment, 1 Size Does Not Fit All
Beau Wangtrakuldee, PhD: “In the health care industry in general, small sizes are typically based on Caucasian males, so once you get to women who truly have smaller frames, there are no products available for them.”
WATCH: https://bit.ly/3cWjG02

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Notable Quotables

“The World Health Organization...released its report on possible origins of the virus that causes COVID-19.... Not all were satisfied with the report though.... While there is a larger need for multi-lateral review and continued efforts, the truth is that the source of the pandemic does not change the poor response from so many countries, including the United States. I think we can safely say that understanding the origin is critical, but not the most immediate concern we have. For infection prevention efforts, this is a welcome reminder that regardless of source, a virus could have pandemic potential and that continued readiness is critical.”

— SASKIA v. POPESCU, PHD, MPH, MA, CIC
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As COVID-19 Recedes, Infection Preventionists Must Still Battle Stress

BY SASKIA v. POPESCU, PHD, MPH, MA, CIC

When we learn about and train for pandemic response, the focus is often on ensuring we have adequate resources, enough health care workers (HCWs) to respond, and various other nonpharmaceutical interventions. One of the things we frankly do not teach, or even talk enough about, is the post-traumatic stress of living and working in a pandemic.

There has been a wealth of information written about the impact on HCWs and how traumatized they have been by the COVID-19 pandemic, and for good reason. These are the people who are caring for patients in the face of a novel infection that has been poorly managed nationally, is challenging us globally, and has been heavily politicized to further isolate us.

A recent JAMA Network Open study found that 21% of surveyed HCWs considered leaving the workforce and 30% considered reducing their hours.1

The authors noted, “In this survey of 5030 faculty, staff, and trainees of a US health system, many participants with caregiving responsibilities, particularly women, faculty, trainees, and (in a subset of cases) those from racial/ethnic groups that are underrepresented in medicine, considered leaving the workforce or reducing their hours and were worried about their career development related to the pandemic. It is imperative that medical centers support their employees and trainees during this challenging time.”

Not Good Enough?
The photography and stories from those working on the front lines have been a window into how devastating and painful this pandemic has been and underscore the health care system’s failure to contain it. The pain of this pandemic has been widely felt, but especially among health care professionals. As we battle waves of surges, isolation, and disconnect in our efforts to help as many patients as possible, we have realized we are running a marathon in which the finish line continuously moves farther out of reach. Formerly stable systems seem to be falling apart as the realization sinks in that your best efforts may not be good enough.

The impact of this pandemic will take years to understand. From long-haul COVID-19 to those preventable deaths and the mental health outcomes, we will be feeling this for a while.

It is important to take a moment to discuss the impact on infection preventionists (IPs). Most people do not know about IPs but we are always there. We work to ensure education and training, support our fellow HCWs, review supply chain challenges, try to prevent health care–associated infections (HAIs), ensure adequate personal protective equipment, and perform myriad other duties in our job descriptions. Helping respond to COVID-19 has been up to IPs.

We are the experts in transmission, prevention, and interpreting nuanced (and often changing) guidance while answering questions from frontline HCWs.

Let us not forget that HAIs do not stop in the face of a pandemic and that things like proning a patient with COVID-19 can make central line care more difficult.

During this time, as hospital case counts drop, IPs are expected to just switch back to normal while still ensuring a readiness to respond to COVID-19.

This, quite frankly, has been the hardest part for many IPs.

I could probably go on for several pages about the stress and burden placed on IPs regarding how COVID-19 affected our roles. In so many ways, we are the recipients of anxiety, anger, sadness, and frustration for those in health care—not intentionally, but as a by-product of the work we do. Preparedness, like public health, is often not valued until it is needed, and it has certainly been needed the last 15 months.
Stressed Out

There has been increasing conversation about posttraumatic stress disorder (PTSD) for health care workers. Most professionals in health care will experience this. The National Institute of Mental Health (NIMH) defines PTSD as a disorder resulting from experiencing a shocking, scary, or dangerous event. NIMH notes that “while most but not all traumatized people experience short-term symptoms, the majority do not develop ongoing (chronic) PTSD. Not everyone with PTSD has been through a dangerous event. Some experiences, like the sudden, unexpected death of a loved one, can also cause PTSD. Symptoms usually begin early, within 3 months of the traumatic incident, but sometimes they begin years afterward. Symptoms must last more than a month and be severe enough to interfere with relationships or work to be considered PTSD. The course of the illness varies. Some people recover within 6 months, while others have symptoms that last much longer. In some people, the condition becomes chronic.”

In a pandemic that has stretched well over 15 months and will likely continue for several more, the fallout for all of us will be significant. Beyond the horrific number of lives lost, and lives changed forever by COVID-19 even for survivors, the pandemic’s traumatic ramifications bleed into our economy, throwing millions of people out of work and—significantly for the health care system—leaving them without insurance coverage. There is a lot of suffering going on that is not immediately noticeable.

Although there has been a lot of focus on HCW PTSD, it should be noted that IPs have experienced this from the beginning. Last July, Ed Yong of the Atlantic wrote about public health specialists experiencing burnout, noting that pandemic experts are not doing well. Yong wrote that “the same experts who warned of the coronavirus’s resurgence are now staring, with the same prophetic worry, at a health care system that is straining just as hurricane season begins. And they’re demoralized about repeatedly shouting evidence-based advice into a political void.”

IPs fall into the middle of the Venn diagram that is health care and public health. We are uniquely poised to protect patients and HCWs while ensuring there is a strong bond and link between public health and health care. During the Toronto SARS-CoV-1 outbreak in 2002-2003, there were reports that IPs formed their own phone trees and groups to ensure information was shared across hospitals and to fill gaps that existed. Despite finding ourselves in this middle area of the Venn diagram, very little attention is paid to IPs.

Underappreciated

My research has primarily focused on this, and one thing I find myself continuously saying is that we are often seen as a cost center and not a revenue generator. That attitude hinders us as IPs take on COVID-19. We are expected to ensure hospitals can respond to novel pathogens and yet still maintain our daily duties. Too soon after undergoing the stress of dealing with the Ebola virus disease in 2014, we find ourselves once again in the situation of managing preparedness, response, and anxiety. With COVID-19, though, this is not an isolated case.
It is felt in nearly every facet of our lives. When people were frustrated by working from home and feeling isolated, many of us felt the opposite—wanting a quiet moment at home away from the stress of hospitals and having to deal with surges and wave after wave of patients with COVID-19. Being at this intersection means we fail to realize how much COVID-19 affects us. Missing from our discussions: the oddness of de-escalation. That quiet between storms, when the adrenaline and craziness of responding to surges eases a bit and IPs are expected to just switch back to normal. That has been one of the most challenging things for me.

We ramp up and work to ensure things are functional in order to keep HCWs and patients safe, but then come those moments when cases decrease and patient numbers drop...and there is a desperate need to go back to normal. “Normal” is what got us here, and there is a fundamental need for us in both infection prevention and health care—but also nationally—to establish a sustainable approach to COVID-19 and novel pathogens. During this time, as hospital case counts drop, IPs are expected to just switch back to normal while still ensuring a readiness to respond to COVID-19. This, quite frankly, has been the hardest part for many IPs.

The Association for Professionals in Infection Control and Epidemiology has been focusing on this more, emphasizing that our work and roles within communities often wipe out our reserves. The attention to ancillary people in health care, like IPs, is so critical. Fundamentally, we are a team in hospital response. There has been a concerted effort to provide well-being services and ways to recharge. As I write this, though, I think about my own process in doing so.

Truth be told, in health care we are often trained to just keep going and get the job done. It is important though, that now we focus on our well-being. The Centers for Disease Control and Prevention has reiterated this with resources for coping with stress.

CDC Resources for Coping With Stress

Health care Personnel and First Responders: How to Cope With Stress and Build Resilience During the COVID-19 Pandemic

Employees: How to Cope With Job Stress and Build Resilience During the COVID-19 Pandemic

Exposure to Stress: Occupational Hazards in Hospitals

Workplace Health Promotion

Resources

More and more, it is important that we take the time to do this. Difficulty sleeping or changes in energy are normal byproducts of stress and not always easy to deal with. There are several resources, such as mental health specialists, online guides, and confidential crisis resources, available to help guide people through these challenging times. Utilizing the resources available can help. They are free and reiterate many things that, frankly, we all need to start doing, like taking deep breaths and a moment to stretch, making time to unwind, and ensuring we are exercising and eating healthy (doing our infection prevention rounds does not count).

Moreover, these tips routinely emphasize the importance of connecting with others and taking time to unwind. Some strategies I have really latched onto as a way to cope (and these are by no means perfect) include taking a walk outside during lunch with a colleague to discuss how we are feeling about it all, virtual coffee happy hours with friends, unplugging from TV and social media for the weekend, and, frankly, talking to other IPs.

More and more, we need to care of ourselves during all of this. Seeking help for mental well-being and PTSD is vital and something we all need to invest in. It might be odd to prioritize yourself during a pandemic, but this is the exact time to do so.

COVID-19 is not the only infectious disease we face, and as they tell you when you are flying on a plane, you have to put your oxygen mask on first before caring for others. I am eternally grateful for the infection prevention community during this pandemic, and now is the time we need to prioritize our health and well-being because PTSD is truly more prevalent than we realize. Care for yourself with the dedication you put into protecting patients and other health care workers.

SASKIA V. POPESCU, PHD, MPH, MA, CIC, is a hospital epidemiologist and infection preventionist. During her work as an infection preventionist, she performed surveillance for infectious diseases, preparedness, and Ebola-response practices. She holds a doctorate in biosecurity from George Mason University in Fairfax, Virginia, where her research focuses on the role of infection prevention in facilitating global health security efforts. She is certified in infection control and has worked in pediatric and adult acute care facilities.

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Findings From the Annual Conference of the Society for Healthcare Epidemiology of America (SHEA)

As may have been expected, the COVID-19 pandemic cast a long shadow over the annual conference of the Society for Healthcare Epidemiology of America (SHEA Spring 2021), held virtually from April 13 to April 16. Although much of the data gathered for the presentations and study results unveiled at the conference were gathered prepandemic, their applicability to the COVID-19 crisis was often noted. And some of the studies did indeed result from systems and processes put into place when the pandemic struck. One of the hallmarks of this pandemic that historians may note is how the health care system adapted and found innovative ways to confront it, and infection preventionists (IPs) were very much a part of that innovation. *Infection Control Today*® (ICT®) covered SHEA Spring 2021, and a sample of what we learned follows. Readers can find more ICT® stories generated by the SHEA conference at infectioncontroltoday.com/conference/shea.

**BY FRANK DIAMOND**

Electronic medical records (EMRs) operate along the lines of most data-crunching technology: They’re only as effective as the data they’re given to crunch. One of the many jobs of IPs involves surveillance to prevent health care–acquired infections (HAIs) or to control them—ie, eliminate them—once they appear. A study by investigators with Piedmont Healthcare in Atlanta (among the 5 largest health care systems in Georgia) underscores just how important a role EMRs can play in combating HAIs.

The challenges of controlling HAIs in the maelstrom of a worldwide pandemic that requires a proportionate response by health care systems can’t be overstated. With help from the health system’s business intelligence (BI) department, IPs at Piedmont, which comprises 11 separate hospitals, refined software to allow the information collected about HAIs to be easily integrated into EMRs. This was a case in which COVID-19 was definitely the mother of invention.

As the study notes, before COVID-19, the infection prevention team performed HAI surveillance “through a home-grown system that didn’t interface with their EMR” by entering information gained on rounds into a spreadsheet. However, this meant that only 1 person could enter data at a time. “Due to the necessity of increasing efficiency in the current pandemic, the IP team proposed using technology to automate our HAI drill down process,” the study states. The IP and BI teams wanted to see whether the HAI data in the infection surveillance system could be registered in interactive data software that the health care facility uses in other HAI prevention dashboards.

“…we were so resource strapped, we were trying to work smarter and not harder by using technology.”

The existing spreadsheet was reviewed to select variables essential for HAI drill downs and where the data existed in the EMR, the study states. “The BI team worked to find the correct data tables within the EMR so that the data could automatically refresh daily in the data visualization software.”

The BI team could identify HAI variables that had once been entered manually within the EMRs. “This automation of drill downs allows for quick analysis of trends and areas for opportunity to prevent future HAI,” the study states. It concludes that “this utilization of technology can be applied to other health care facilities who have similar software systems to streamline IP workflows. The automation of quickly and efficiently recognizing areas for opportunity will give more time for the IPs to be rounding preventing HAI.”

Piedmont got much better at tracking and treating HAIs, but that can create other problems, Pearson tells ICT®. “When you start to look for something, of course you’re going to find more, and that’s exactly what we found with our situation when we got this more robust surveillance system,” she says. “We had to explain to our physicians...
and surgeons that you aren’t doing worse per se than you were before. We were just not detecting this patient harm because we were just looking at cultures.”

Hospital officials reminded doctors that according to the National Healthcare Safety Network (NHSN), a division of the Centers for Disease Control and Prevention, culture-based surveillance systems miss between 50% and 60% of surgical site infections. “We did write an SBR [situation-background-assessment-recommendation] to the NHSN to request that they revise how they risk-stratify facilities because that’s not currently in their NHSN patient safety annual surveys,” Pearson tells ICT®. “We really want to make sure that we’re being compared fairly against other hospitals across the nation who have other enhanced software systems like this because that’s not currently being done.”

Quick Action Keeps NICU Respiratory Illness in Check

BY INFECTION CONTROL TODAY® EDITORIAL STAFF

The COVID-19 pandemic presented daunting challenges to hospital departments all too familiar with them: neonatal intensive care units (NICUs). However, COVID-19 isn’t the only pathogen in town, as IPs and other health care professionals can attest. One of those health care professionals is Bhagavathy D. Navalkele, MD, an assistant professor at the University of Mississippi Medical Center in Jackson, who specializes in infectious diseases.

The study1 that Navalkele cowrote explains how staff at the medical center’s NICU sprang into action to contain an outbreak of human parainfluenzavirus type 3 (HPIV-3). It is a common respiratory tract illness in infants and young children.

“Early diagnosis and isolation of respiratory tract viral infections [are] important to prevent an outbreak,” the study states. “Successful control of outbreak in NICU requires prompt implementation of [infection prevention] measures with focus on symptom screening, cohorting, and disinfection practices.”

One infant was identified as having hospital-onset HPIV-3 on April 30, 2019. In May 2019, the virus was diagnosed in 3 other infants in the NICU. An investigation into the outbreak began on May 3, 2019. “Enhanced [infection prevention] measures were immediately implemented,” the study states. “All positive cases were cohorted to a single pod of the NICU and placed in contact with droplet isolation precautions.”

Navalkele tells ICT® that when the frontline health care professionals realized they were dealing with a cluster, they contacted the infection prevention department. “When we step in with our role as infection prevention specialists, we...make it a...bit more organized and structured,” she says. “We provide them definitions. We provide them a complete plan on all aspects that might have been missed.”

The multidisciplinary team included NICU nurses, physicians, nurse practitioners, and—perhaps most important of all—environmental services (EVS) personnel. “We met with the environmental services staff, and we explained to them that this is a critical situation in the neonatal ICU,” Navalkele tells ICT®. “And this cannot spread more.”

EVS came through. “They helped us with cleaning, the disinfection,” Navalkele continues. “Cleaning was occurring very meticulously, almost every few hours. All the surfaces were getting cleaned, and the equipment was getting cleaned.”

The hospital’s laboratory also needed to get involved. “Lab was notified,” Navalkele notes. “We said, ‘Hey, we’re going to test all these babies for [parainfluenzavirus] type 3 so that we can identify it immediately. They made sure that they had an adequate supply of testing kits. And they helped us transport those specimens to the health department” as well as the Centers for Disease Control and Prevention (CDC).

The CDC tested the HPIV-3–positive
specimens using whole genome testing. Investigators confirmed 7 cases of hospital-onset HPIV-3, 6 from the NICU and 1 from the newborn nursery. Investigators determined that the case in the newborn nursery was unrelated to the NICU cases and that the nursery baby had been infected by a sick visitor. Five of the infants from the NICU had lower respiratory tract illnesses, and 1 had an upper respiratory tract illness.

“Average time from admission to diagnosis was 71 days (range: 24 to 112 days). None had severe illnesses requiring intubation and all had full recovery,” the study states. “No CO [community-onset] HPIV-3 cases were reported from NICU during the investigation. Maximum likelihood phylogenetic tree of HPIV-3 WGS [whole genome sequencing] showed that sequences from the 6 HO cases clustered together separately from the 3 CO controls suggesting single source of transmission and 3 CO cases were not related to the HO cases or source of the outbreak.”

N95 Decontamination Process Allows 25 Reusages

BY FRANK DIAMOND

When it erupted around the end of 2019 and the beginning of 2020, the panic that COVID-19 inflicted on the US health care system could be felt on many levels: How do you treat it? How does it spread? Can a vaccine be developed? Nothing seemed to rattle health care providers as much as finding out that N95 respirators were in short supply. The US simply didn’t have enough in stock, and the countries that manufactured them were not willing to part with them because they wanted to protect their own populations. IPs and other health care professionals needed to improvise. That improvisation led to investigations into how many times an N95 can be reused and still keep SARS-CoV-2 at bay.

The answer is anywhere from 20 to 25 times, says Christina Yen, MD, an infectious disease specialist at Beth Israel Deaconess Medical Center in Boston, Massachusetts. In a recent study, Yen applied old technology—vaporous hydrogen peroxide (VHP)—to the challenge of thoroughly disinfecting N95s.

VHP had been used in health care settings for some time to decontaminate ambulances and different areas of a hospital, for instance. But as Yen’s study states, “little is known about its impact on N95 respirator efficacy. We assessed whether repeated VHP reprocessing altered [4] key respirator efficacy qualities: quantitative fit, qualitative fit, seal check, and filtration rate.”

When the experiment first began, Yen tells ICT®, she didn’t know what to expect. She says that “for a lot of us, especially myself, when I first took on this project, I was not sure what we were going to find.”

Yen says that she did “a lot of reading” before, during, and after the prospective cohort study that took place from June 15 to August 31, 2020, and discovered that there was a growing amount of literature looking at VHP even before the pandemic. She found that encouraging and says “because more programs outside of our own program were also doing it, we were developing a body of literature as the months went on during the initial pandemic that was demonstrating over and over that this was, I think, actually not only safe but probably doable for many of us.” The results seem to support her enthusiasm.

The study concludes: “VHP reprocessing did not diminish the efficacy of respirators based on the [4] metrics we assessed: filtration rate, seal check, qualitative fit, and quantitative fit. Of significance, the filtration rate remained well above the 95% standard filtration for N95 respirators—even through 25 cycles of reprocessing. VHP reprocessing is a safe, viable strategy to disinfect respirators and extend their use, particularly during supply shortages.”

In the study, 7 participants were fitted with N95s. The N95s were disinfected 25 times in a VHP generator.

“After each cycle, participants donned and doffed respirators and performed a seal check. Participants were given [2] attempts to pass their seal check,” the study states. “Every 10 cycles, qualitative fit testing was done....Appropriate fit is defined as a fit factor score of 100 or greater. Quantitative testing was done at cycles 1, 3, 5, 7, 10, 15, 20, and 25.”

As with many other efforts to stave off COVID-19, the N95 mask decontamination was a team effort, says Yen.

“It was not just infection prevention-ists,” Yen tells ICT®. “It was environmental safety. It was health care epidemiologists. So many people from so many different backgrounds with so many different skills sets made this possible.”

REFERENCES FOR ALL ARTICLES IN THIS SECTION ARE AVAILABLE AT INFECTIONCONTROLTODAY.COM
Early in the COVID-19 pandemic, mysteries abounded about this ninjalike disease striking a defenseless populace seemingly out of the blue. Who was most at risk? What were the best steps for protecting the vulnerable—when those were identified? Epidemiologic data on transmission were scarce, consisting mainly of small case reports, cohort studies, and governmental reports. A review of 40 studies suggested 44% of COVID-19 cases worldwide were nosocomial, but many hospitals were still coming to grips with what exactly they could do to prevent spread.

As the pandemic took hold, some experts warned that rates of health care–acquired infections (HAIs) might rise because of patients with the virus being sicker, with longer lengths of stay, and other COVID-19–related factors. Over time, however, universal masking, “extreme” hand hygiene, and other intensified measures—when properly adhered to—were countering those predictions. Hospitals around the world were seeing striking drops in many HAIs.

A study at Kerman University of Medical Sciences in Iran, for instance, found the total rate of nosocomial infection for all illnesses was 3.7% during the first part of the pandemic, 20% lower than at the same time the previous year. A hospital in Spain saw the incidence of nosocomial Clostridioides difficile infection drop by 70% from March 11 to May 11, 2020, compared with the same time span the year before. In Singapore, investigators found enhanced infection prevention and control (IPC) measures had the “unintended positive consequence” of containing respiratory viral infections: Incidence shifted dramatically downward, from 9.69 cases per 10,000 patient days prepandemic to 0.83 cases.

It is not surprising that intense precautions would also reduce cases of nosocomial COVID-19. A comprehensive infection control program implemented at Brigham and Women’s Hospital in Boston, Massachusetts, in March 2020 included dedicated COVID-19 units, personal protective equipment (PPE) in accordance with Centers for Disease Control and Prevention recommendations, donning and doffing monitors, universal masking, visitor restriction, and reverse transcriptase–polymerase chain reaction (PCR) testing of symptomatic and asymptomatic patients. Despite the high burden of COVID-19 in the hospital, only 2 patients were identified as having HAIs, 1 of whom was likely infected by a visiting spouse before visitor restrictions and universal masking. Between March and June 2020, of 8370 patients with non-COVID-19–related hospitalizations, 11 tested positive for the virus. Only 1 of the 11 was deemed an HAI—but with no known exposures inside the hospital.
Best Method

The protective precautions have become routine. At Penn State Health Milton S. Hershey Medical Center, in Pennsylvania, limited visitation, screening of all employees and visitors upon each arrival, universal mask wearing, contact tracing, hand hygiene, and equipment cleaning “are essential parts of our everyday work,” says Fibi Attia, MD, MPH, CIC, infection control coordinator, and a member of the Infection Control Today® Editorial Advisory Board. All those measures “are definitely working together to limit any exposure.”

The least, and potentially the best, of these measures is masking. According to Aaron Richterman, MD, et al. in JAMA: “Mounting evidence supports the effectiveness of a relatively simple intervention in reducing hospital transmission of SARS-CoV-2: universal use of surgical masks by health care workers [HCWs] and patients,” even when physical distancing is not possible.

It did not take long to find out that masking was a simple but effective measure to flatten the curve of nosocomial COVID-19. From March 15 to June 6, 2020, investigators at Duke Health (a system of tertiary care academic hospitals, community hospitals, and clinics) assessed all HCWs—of 21,014—who had tested positive for the virus. Of those cases, 22% were health care-associated, and 40% had no clear source. Of note, the investigators said, 80% of the HCWs did not work in COVID-19 units.

Of the HAI cases, 70% were related to unmasked exposure to another HCW for more than 10 minutes, less than 6 feet apart; 30% were thought to be secondary (a non–COVID-19 infection) to direct care of patients who tested positive for the virus. However, only 1 week after the hospital system initiated universal mask wearing, the cumulative incidence rate of nosocomial COVID-19 dropped significantly, whereas the community-acquired cases and cases with no clear source continued to mirror the cumulative incidence rates in the communities surrounding Duke Health. At Mass General Brigham in Boston, a study involving more than 75,000 workers also found universal masking could quickly reverse the trajectory of nosocomial spread: Prior to the new rule, new infections among HCWs spiked from 0 to 21%; afterward, the positivity rate declined linearly from 14.65% to 11.46% during a 3-week period.

‘Rampant’ Spreading

Similarly, results of a study at the German Heart Center in Berlin showed that measures including obligatory surgical face masks for patients and employees, SARS-CoV-2 screening for all patients, and symptom-based testing for employees led to an overall 0.4% prevalence of positive tests (5 of 1128 tests). The incidence of new infections was 0.5%. No nosocomial infections were found, despite a mean number of 14.8 in-hospital contacts.

Notably, the investigators said, during the observation period the number of positive SARS-CoV-2 tests sharply increased in Germany. Nonetheless, “[m]y experience tells me that nosocomial COVID-19 is rampant,” Manoj Jain, MD, an infectious diseases physician and contributing health writer for the Washington Post, wrote in a January 2021 op-ed, “and hospitals are not sounding the alarm.”

His concern was raised about a patient who died of nosocomial COVID-19. Jain was perplexed—how could the virus have reached the patient? It was not lack of handwashing. It was unlikely the virus had come from surfaces; the hospital’s environmental services staff had been diligent. All the family members who had visited the patient had tested negative.

That was not the only patient either. Jain said in his op-ed that he had seen 5 other cases of nosocomial COVID-19 in the previous 4 weeks.

Were the staff the reason? Jain said he “armored” himself with N95 masks covered with a surgical mask and a face shield, plastic gown, and gloves. Still, one of his colleagues, who was taking similar precautions, tested positive. Again, there was no discernable cause. However, Jain noted, in the doctors’ lounge food is served, and health care workers frequently gather, “often taking off their masks to share COVID-19 war stories.”

When outbreaks have been reported in hospitals that are using universal masking, unmasked exposure to other health care workers is often the cause. Transmissions have been traced to break rooms and cafeterias. Last November, more than 900 Mayo Clinic staff contracted COVID-19 in 2 weeks.

Amy Williams, MD, executive dean of clinical practice, in a briefing said 93% of staff contracted the virus in the community. Most of those who contracted it at work had been eating in a break room with a mask off. She later updated that to say they could have been exposed while eating with a mask off in campus cafeterias.

One of the ways to prevent these “breaches in now-routine preventive measures,” Richterman et al. wrote in JAMA, would be to provide adequate, well-ventilated and, ideally, dedicated space for breaks and meal times, perhaps staggering times to minimize contact and conversation.

Unprecedented

The unprecedented demands of this pandemic call for unprecedented responses. Abbas et al., in their literature review, found that many hospitals are breaking with traditional management of respiratory viral illness, particularly nosocomial outbreaks. In a “paradigm shift,” they said, hospitals are expanding testing criteria: testing asymptomatic patients/residents and health care workers, as well as conducting serial testing or repeat point-prevalence surveys. When Brigham and Women’s instituted liberal universal testing on admission, the investigators...
observed fewer late-onset cases (diagnoses on hospital day 3 or later).

At 2 Minnesota skilled nursing facilities (SNFs), serial testing identified COVID-19 cases among 64% of residents and 33% of health care workers. Following up with genetic sequencing revealed facility-specific clustering of viral genomes from HCW and resident specimens, suggesting intrafacility transmission.13

However, such information is not useful by itself: It needs to be supported by action. Although transmission was reduced by early identification of asymptomatic infections and prompt implementation of mitigation efforts, there were challenges. The Minnesota Long-Term Care COVID-19 Response Group found that, in the SNFs, continued SARS-CoV-2 transmission was “potentially facilitated” by “low baseline knowledge of and experience with [IPC] and PPE use,” delays of up to 12 days in receiving half of the HCW test results at one facility, and incomplete HCW participation.11

The Minnesota study is an example of how none of the measures is entirely effective on its own (although masking comes close). For instance, serial testing, investigators said, needs to be done until no new cases are detected after 14 days—along with IPC strengthening. Testing should be accompanied by “IPC education, flexible medical leave, and PPE resources targeted to this at-risk workforce.”13

Investigators at Changi General Hospital, Singapore, developed a prediction model to identify patients at low risk for COVID-19 to better guide resource allocation.14 They said that their risk prediction score would have obviated the need for isolation and testing in up to 41% of patients with pneumonia and acute respiratory infection. Missed cases of COVID-19 are “expected trade-offs” of their risk stratification strategy, they conceded, but they pointed to “reassuring reports” that basic infection control measures (eg, masks, hand hygiene) are effective in minimizing the risks of nosocomial spread.

Crucially, the precautions need to be carried out faithfully. As more viral strains evolve and people relax their vigilance because of the vaccines, more waves of the pandemic are only too possible. Can all this experience benefit hospitals and their workers in a future wave of this pandemic—or in a future pandemic?

When Outbreaks Have Been Reported in Hospitals That Are Using Universal Masking, Unmasked Exposure to Other Health Care Workers Is Often the Cause.

Transmissions Have Been Traced to Break Rooms and Cafeterias.

Rhee et al said that their findings at Brigham and Women’s suggest that “robust and rigorous infection control practices” can minimize the risk of nosocomial spread of COVID-19, and “provide reassurance” as some health care systems reopen services and others continue to face surges.6

Better Tools

The basics can also be supplemented with more sophisticated tools. When there was no routine SARS-CoV-2 screening of asymptomatic HCWs, 5 hospitals in the United Kingdom assigned different locations within the hospitals as either green (virus negative) or red (positive) zones, combined with staff bubbles. That tactic helped keep nosocomial infections down. But as patients tested positive even after spending prolonged periods of time in green areas, the investigators realized that there were unrecognized transmission events between the 2 areas.15

They turned to viral genome sequencing as a realistic possibility to track and identify root causes of nosocomial transmissions. They sequenced SARS-CoV-2 genomes for patients and HCWs, obtaining 173 high-quality genomes. They then integrated patient movement and staff location data into the analysis to understand spatial additional links in transmission pathways and enhanced identification of outbreak clusters. Looking forward, they said, adopting genomic approaches in real time (eg, within 48 hours) along with consideration of patient movement data sets will enhance rapid identification of linked nosocomial SARS-CoV-2 infections. Their approach, they suggested, could optimize infection control management strategies, lead to targeted interventions, and ultimately prevent avoidable harm.

In his op-ed, Jain said he told his regional Memphis and Shelby County COVID-19 Joint Task Force, consisting of hospital executives and mayors, that hospital staff need to be regularly tested through “the affordable technique of pooling up to 20 test samples.”11 Such PCR gold-standard testing, he said, would amount to the cost of a cup of coffee and a few doughnuts. Without testing, he said, “we are flying blind.”

Like other HAIs, COVID-19 can be prevented, Jain said: “Hospitals should be places where patients come to get better, not sicker; where diseases are treated, not acquired.”

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REFERENCES AVAILABLE AT INFECTIONCONTROLTODAY.COM
COVID-19 Underscores Nurses’ Role in Infection Prevention

BY AMBER WOOD, MSN, RN, CNOR, CIC, FAPIC

The COVID-19 pandemic thrust everyone deep into the world of infection prevention, probably more than anyone other than an infection preventionist (IP) cared to venture, and kept us all there longer than we wanted to stay. But nurses would be remiss not to take some lessons from this experience to explore what our role is and should be in infection prevention.

The key lesson is that nurses can be effective only when their basic physiologic and safety needs are met. The global disruption in supply of personal protective equipment (PPE) dealt a devastating blow to our safety efforts and eroded the trust nurses have in the system. The reuse and decontamination of single-use PPE, although necessary in some dire situations as part of critical strategies to conserve PPE, led nurses to feel they were left unprotected, at risk of infection, and putting their patients at risk of infection and that their respiratory health was at risk from chemical exposure. Nurses who attempted to supply their own PPE were rejected and, in some cases, reprimanded for trying to meet this perceived safety need, which nurses interpreted as a lack of concern for their health.

We also learned that meeting the psychological needs of nurses is critical to their ability to be effective. Making difficult decisions about PPE management, COVID-19 protocols, and patient care prioritization has taken a toll on the mental health of IPs, occupational health professionals, and health care leaders (Figure). It is essential to acknowledge the impact this pandemic has had on our mental health as we find our path forward. Simply seeing the IP in the hallway may trigger a nurse to recall a mixed bag of emotions and traumatic memories of COVID-19 training days that they would rather forget. Offering a forum for peer support and grief counseling can help bridge the divide and move individuals toward healing. Pastoral care can also be a great resource for restoring the emotional well-being of nurses and IPs.

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Although the situation may seem bleak, IPs must identify what went wrong and prevent recurrence to build back trust. To that end, nurses need a seat at the table when discussing PPE stockpiling and purchasing practices to share their lived experiences and help the team discover where practice deviated from plans. IPs should support the nurses in these discussions as allies, informed advisers, and advocates for patient and health care worker safety.

Nurses have been on the front line of the battle against COVID-19 and are often hailed as our first line of defense against infection. However, declaring that nurses are on the front line implies that there is backup on the way. If there is anything this pandemic has taught us, it is that there is no relief crew coming—nurses are our front, back, and only lines of defense regardless of the setting, whether it is the emergency department, inpatient unit, operating room, nursing home, or behavioral health. Because of this, the health and safety of nurses and other frontline clinicians and health care workers must be the top priority if we are going to win the war against pathogens.

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Figure. Maslow’s Hierarchy of Needs

- **Physiological**: breathing, water, food, warmth, rest
- **Safety**: security, health, employment, resources
- **Love & Belonging**: relationships, friendships, peer support
- **Esteem**: confidence, achievement, respect, emotional well-being
- **Self-actualization**: achieving full potential

We also learned that meeting the psychological needs of nurses is critical to their ability to be effective. Making difficult decisions about PPE management, COVID-19 protocols, and patient care prioritization has taken a toll on the mental health of IPs, occupational health professionals, and health care leaders (Figure). It is essential to acknowledge the impact this pandemic has had on our mental health as we find our path forward. Simply seeing the IP in the hallway may trigger a nurse to recall a mixed bag of emotions and traumatic memories of COVID-19 training days that they would rather forget. Offering a forum for peer support and grief counseling can help bridge the divide and move individuals toward healing. Pastoral care can also be a great resource for restoring the emotional well-being of nurses and IPs.
Perioperative Nurses

The nurse’s role in infection prevention is also that of an expert adviser. In the earlier stages of the pandemic, elective surgery was canceled across the country. This left a large portion of the nursing workforce being laid off, working at testing centers, or being deployed to other areas of the hospital to support or provide care to patients with COVID-19. The full impact of the delay in elective surgical procedures on patient outcomes may not be known for years. Delays in elective surgery may have led to worsening patient conditions that necessitated an urgent or emergent surgical procedure. The cancellation of elective surgery was also a huge setback to the pocketbooks of hospitals and surgery centers, from which many facilities may never financially recover. In future events, we may see increased resistance to cancellation of elective surgery, and in anticipation of this, hospitals and surgery centers need to start planning now to be prepared to continue surgery safely. This is a prime opportunity to call in perioperative nurses who are skilled in the use of PPE and preventing surgical site infections. The perioperative nurse will be the key partner to the IP for successful planning.

Implementation Experts

As problem-solving MacGyvers, nurses are the premier implementation experts. IPs can count on nurses for practical advice when implementing new practices and processes. For example, external female catheters have been a game changer as an alternate to indwelling urinary catheters for women to prevent catheter-associated urinary tract infections (CAUTIs). However, there are some practical issues that can be a barrier to implementation, such as leaking. Nurses troubleshoot these issues every day and can provide expert advice for improvement like adjusting the level of suction. When clinicians began placing patients in prone position to improve ventilation because of COVID-19 infections, nurses thrived in the role of implementation experts and patient safety advocates by continuing to support using external female catheters for CAUTI initiatives and also advocated for preventing pressure injuries from the tubing.

GRIEF IS A FUNNY CREATURE; THE MORE WE IGNORE IT, THE LONGER IT SEEMS TO CONTINUE.

YOU CANNOT JUST TUCK IT AWAY DEEP INSIDE AND PRETEND IT NEVER EXISTED.

GRIEF AND HEALING TAKE HARD WORK, BUT YOU ARE NOT ALONE.

IPs as Educators

Nurses are the portal to the patient and the community. In this position, the nurse's role is to be a champion and advocate for health and wellness in each interaction. This role is not limited to the nurse's interactions with a patient. It permeates their being and exists in every interaction they have with family, friends, colleagues, and members of their community. Because of this role, nurses should be a source of credible, evidence-based information, especially in an era of prevalent misinformation and fake news. The IP can support nurses with prepared information on COVID-19 infection, testing, and vaccination in a question-and-answer format to equip nurses with credible speaking points.

Moving On

It may be difficult to imagine how to begin healing and planning for future events when we are still living in a pandemic. But grief is a funny creature; the more we ignore it, the longer it seems to continue. You cannot just tuck it away deep inside and pretend it never existed. Grief and healing take hard work, but you are not alone. We have a shared experience that bonds us all, for better or for worse. If you are struggling, please talk to someone, and if you are in crisis, get immediate help. Your physical and mental health are of the utmost importance. □

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REFERENCES AVAILABLE AT INFECTIONCONTROLTODAY.COM

Resources for Nurses and Infection Preventionists

- Association of periOperative Nurses https://www.aorn.org
- Association for Professionals in Infection Control and Epidemiology https://apic.org
- American Hospital Association https://www.aha.org
Sterile Processors, Infection Preventionists Need to Team Up

When Tanya Lewis, CRCST, takes the helm as president of the International Association of Healthcare Central Service Materiel Management (IAHCSMM) this month, she will bring with her good memories of working with infection preventionists (IPs) at Wellstar North Fulton Hospital in Roswell, Georgia. Lewis supervises the sterile processing department at the hospital and has had a great working relationship with the IPs there. “Now, I can say in the past that I haven’t had good relationships with my infection preventionists, because they didn’t really know what we did,” Lewis tells Infection Control Today (ICT). “And some of them—I don’t know if it was fear, or what—but because they didn’t know, they never came to see what we did.”

There’s a lesson there for IPs: Visit the sterile processing department when you can because the job has gotten more challenging than in the days when all that needed disinfection were knives, scalpels, forceps, and other classic tools of surgery. For instance, “there are a lot of steps in cleaning robotic instruments,” says Lewis. She says that one of her main goals when she becomes IAHCSMM’s president will be to lobby states to mandate that anybody who works in sterile processing be certified. Now, that’s a goal many infection preventionists can relate to.

ICT*: Is that assumption correct? Did COVID-19 change how sterile processing is done? Or is it basically the same thing?
Tanya Lewis, CRCST: Oh no, it changed it dramatically. We were having to reprocess disposable masks, the N95 masks, and we didn’t have to do a lot, but at some of my other sister facilities, they did. But here at North Fulton, we didn’t have to do hardly any. But yes, it absolutely did change the dynamics of sterile processing. Because we were always [saying], “No, we can’t reprocess unless we have validated or anything like that.” We weren’t used to reprocessing disposable items. But when COVID-19 came along, it took a whole new turn for a lot of things; our respirators and N95 masks and things of that sort.

ICT*: What are the major challenges you see for IAHCSMM as a whole going forward?
Lewis: I think that as we move forward, we’re going to have to look at a lot of ways that we’re doing things differently. For instance, the reprocessing of disposable items that we have not done in the past. I think that we have to actually give our members real-life situations where what we’re doing right now, in this pandemic, reprocessing things that we normally wouldn’t reprocess, we have to give them the information and the tools that they need in order to be able to do that and do it successfully. There are going to be a lot of different changes going forward. I’m so sure of that. And because I don’t believe that with the pandemic... We’re not sure when it’s going to end or what else [will happen] with all the different variants and everything.

We just want to make sure that we give our members the tools that they need to do their jobs successfully.

ICT*: You mentioned disposable medical instruments. I know that duodenoscopes were in the news because more of them were becoming disposable. Do you welcome disposable medical instruments in your job? Or do you think your members might feel that, “Well, if everything becomes disposable, will they need us as much anymore?”
Lewis: That’s always a question that comes up, and I really think that, regardless if we have disposable this and disposable that, because we do have a lot of disposable tools now. We also have reusables, like you said the duodenoscopes, the disposable ureteroscopes and things of that sort. We have those, but we’re going to always have to have our reusable products where we have the disposables as a backup. It may come to a point where we have the reusables as a backup due to manufacturer back orders or whatever. So no, I don’t think we’re going away anytime soon.

ICT*: Disposable and reusable—might they sometimes intersect? In other words, you could have a reusable instrument but at a certain point you have to dispose of it. That’s up to the sterile processing expert, right?
Lewis: That’s correct. Yes, they really do intersect. I’ll use an example of a flexible, reusable ureteroscope. And you know, if you have an issue with that scope, and you don’t have another one available right at that time, then you can open up a
ICT®: And everything is disinfected after use, correct?
Lewis: Everything that is used we absolutely do clean and then disinfect, if the instructions for use say so. Some things are hand washable. Some cameras, you cannot disinfect them, so you can sterilize them, but you have to manually clean them and clean them thoroughly in order for them to be processed and sterilized. You can’t get anything sterile unless it’s clean.

ICT®: You’re the head of the sterile processing department there. What worries you in terms of being a manager of other people and what they might miss or what they might rush through, especially during a pandemic? Everybody was working many hours and exhausted. What set off alarms for you?
Lewis: Let’s see. I don’t like to brag, but I have to say that my team is really, really conscientious. And they really understand that our patients are our top priorities. I don’t really stay up at night...if they think that they have something they’re not really sure about, they’re always able to call me or go to the manufacturer for different things. We use 1 source a lot. That being said, if there’s something that they’re not sure about, they’re going to reach out to [me] or they’re going to go to the manufacturer and see what they need to do to make sure that that item is clean and processed properly.

ICT®: What would you say offhand are the 5 things that you have to disinfect the most?
Lewis: I would say cameras, laparoscopic cameras, general cameras, Cisco cameras, laparoscopic instruments. And they have to go through the process that they go through....I guess the robotic instruments not so much as the cameras, but there are a lot of steps in cleaning robotic instruments. You hand wash them, you flush them, you soak them, you rinse them, and then you attach them to the ultrasonic and then you send them through the disinfector—the washer disinfector. There are a lot of steps involved with that. Everything that we get in that’s new or that we’ve not seen before, I try my best to make sure that my team has an in-service [training]. They’re educated, and they’re competent, and they complete a competency [test] once they’ve completed their in-service to make sure that they are very confident with what they’re doing. So, like I said, a lot of cameras are laparoscopes, and our robotic [instruments],

ICT®: Medical television shows where the surgeon is asking for a scalpel, scissors, or knife....
Lewis: That’s what we do. We reprocess all of those items, we reprocess the knife handles that you put the scalpel blade on, and we reprocess the scissors, and we just try to do our best and make sure that we’re giving our patients 100% of what they need.

ICT®: A core of our readership comprises infection preventionists. Does your department and infection prevention have much back and forth? Or further, whom do you interact with the most in terms of other departments?
Lewis: OR [the operating room]. Of course, OR, we interact with them. But my infection control practitioner is excellent. She knows...this is the first one—well, maybe the second—I’ve known, who really understands what we do, why we do it, and why we have why it’s so important for us to make sure that we get our instructions for use from the manufacturer, because we can never just guess. We’re not ever going to guess on how we would clean an item, or a camera, or a scope, or anything of that sort. We have to have that information. And we have to be able to do it according to the manufacturer’s instructions because if we don’t, then we’re setting our patients up to fail. And we’re setting our patients up for infection. And that we’re never going to do. Not intentionally.

ICT®: It sounds like the reprocessing is more difficult with the more sophisticated instruments. I’m assuming that scalpels and scissors have been done for decades. You have that down pat. It’s the new stuff that’s a bit of a challenge, right?
Lewis: Correct. You’re absolutely correct, the new things are a challenge. They’re a challenge for us. And that’s to do it correctly every single time. And so, she’s been in this arena before. She worked in the GI [gastroenterology] lab. We have a very great relationship. Now, I can say in the past that I haven’t had good relationships with my infection preventionists, because they didn’t really know what we did. And some of them—I don’t know if it was fear, or what—but because they didn’t know, they never

“I just think that infection preventionists and sterile processing should always work as a team. It should always be a team effort. It’s not them or us. It’s not sterile processing. It’s not infection prevention, but it’s us as a team. And that’s the way we’re going to keep our patients safe.”
came to see what we did. But for...I'm going to say the last 2 IP professionals I've worked with, we have a really close relationship. And they know exactly what we do, because they've come down, and they've come to see exactly what we do. I think that's a great thing. I think you should always have a great working relationship with your IP person.

ICT®: We've written articles here at Infection Control Today® about how, when this pandemic happened, all of a sudden infection preventionists were people to whom different departments would go to seek information about how to protect yourself as a health care worker from getting COVID-19. Was that what happened in your case?

Lewis: Oh, yes. She was very adamant about trying to make sure that we had everything that we needed. Everything we needed to protect ourselves, first and foremost. She wanted to make sure that we protected ourselves. And so, if we were short—which I have to say thank you, that we were not short—but had we had any limited supplies of PPE [personal protective equipment] or anything, she was right on it, because she knew exactly what we needed to do. And she knew that our job was just as important as making sure that the OR had the things that they needed. So, you know, she really did a great job during the pandemic. And of course, we're still in the pandemic. She's still keeping in contact, checking in on us to see if we need anything. And I just think that's the relationship that you should have with your infection preventionists.

ICT®: Whom do you report to when you have to give a report about how things are going in your department? A hospital administrator?

Lewis: Well, we have an IC [infection control] committee, and we meet quarterly. We've probably been meeting on some Zoom calls, of course, since the pandemic. But we have quarterly meetings...composed of OR and pharmacy, housekeeping, IP, and nursing. There are others that are there as well but those are the main departments. We do talk about our infection rates and talk about our instructions for use and IUSS [immediate-use steam sterilization], which is very, very minimal; little to none. We do not [use] IUSS, unless it's an extreme emergency....

ICT®: Stepping back a little to talk about your position as the upcoming president of IAHCSMM, what do you see as the priorities in that position?

Lewis: Communication should be first, I think, for our membership. My goal is...with the staff at IAHCSMM to really work on trying to get more states with mandatory certification. Now, we've done a great job; IAHCSMM has done an excellent job. But I think we can move just a little bit on a quicker level. They may not agree with me at headquarters, but I just think that we should be moving just a little bit faster with trying to... And it's a process; they have to go before the legislature in that state and everything. It really is a process. But I think it's a process worth moving forward with in trying to expedite where more states are requiring mandatory certification in order to work in sterile processing. That's one of the things; I think we have a great membership. And I want to make sure that our members are qualified and educated to do the jobs that they do every day. We try really hard to give them education, things that they can Zoom in on or they can do a
Lewis: What does certification involve? Do you have to go to school for a year or take a certain number of hours of a course of some sort?

Lewis: Let's see, New York, Massachusetts, Denver [Colorado],... ICT: What would you tell your fellow sterile processing professionals about how to further get through this pandemic? The numbers look good, as you know, right now, but the variants are out there. What advice do you have for your fellow sterile processing professionals? ICT: I have this to tell my coworkers—because that's what I think, we're all one big family. We should just continue doing what we're doing and follow CDC [Centers for Disease Control and Prevention] guidelines. Just maintaining wearing your masks, and those of us who want a vaccine—I would like to think a lot of them would, but you know, some people don't. But if you want a vaccine, make sure that you get it when it's available to you. Keep your hands washed, wear your mask, social distance, just all the basic things. We have to stay safe. We have to stay safe for ourselves, our families, and our patients. Right now, those are the things that we have to do to stay safe. I just think that they're doing what they're doing. Just keep doing it.

ICT: I'm always a little shocked about vaccine hesitancy among health care professionals. And it's a real concern. Have you had conversations with your team about vaccination?

Lewis: I've talked to my team, and some of them have had the vaccine already. I took it in December, and then I took my second dose in January, but some of them have had the vaccine already. And then some of them are still a little leery. You can't force them, but I just keep trying to explain the positive part of it. It may not be 100% effective. But if you get it, you will not get a real severe case of COVID-19. So that in itself... I don't have a lot of millennials, but the ones I have, they're like, "No. I don't know what's in that vaccine. I'm not taking it." You can't force them. Maybe at some point it might be mandatory, but most of my people have received a vaccine.

ICT: Is there anything I neglected to ask you, that you think is pertinent that you want sterile processing professionals and infection preventionists to know?

Lewis: No, I just think that infection preventionists and sterile processing should always work as a team. It should always be a team effort. It's not them or us. It's not sterile processing. It's not infection prevention, but it's us as a team. And that's the way we're going to keep our patients safe.

This interview has been edited for clarity and length.
Scientists Claim Machine Streamlines COVID-19 Testing

Perhaps lost in all the attention placed recently on vaccinations for COVID-19 is the fact that testing represents another crucial weapon against the pandemic. Scientists with the Salk Institute for Biological Studies say that they’ve developed a noncumbersome test that detects not only COVID-19 but also variants of the disease as well as other infections. They recently published their findings in Med.

In a press release, the scientists note that patients who present with COVID-19–like symptoms, are usually given a polymerase chain reaction (PCR) nasal swab. The Salk scientists invented a machine called Nirvana, which stands for “nanopore sequencing of isothermal rapid viral amplification for near real-time analysis.” Instead of using PCR, Nirvana utilizes recombinase polymerase amplification and can screen 96 samples at the same time.

According to the press release, Nirvana reports positive and negative results within 15 minutes. “And within [3] hours, the device finalizes results on all 96 samples—including the sequences of [5] regions of SARS-CoV-2 that are particularly prone to accumulate mutations leading to new variants such as the B.1.1.7 variant identified in the UK.”

www.salk.edu

Surgical Device Said to Offer More Flexibility

For years, treatment of high-risk abdominal aortic aneurysms (AAAs) with severe aortic anatomy has presented a frustrating challenge to surgeons. “Now for the first time we have a breakthrough solution that offers new hope to patients and doctors alike,” Robert Rhee, MD, the chief of vascular and endovascular surgery at Maimonides Medical Center in Brooklyn, New York, said in press release by Maimonides. Rhee was referring to the Gore Excluder Conformable AAA Endoprosthesis With Active Control System, a device that Rhee believes gives surgeons more leverage when operating on patients with AAA. The device is manufactured by Gore, a company that makes vascular grafts, endovascular and interventional devices, and surgical meshes.

According to the Maimonides press release, the device “offers a conformable stent graft, enhanced device positioning, and optional angulation control. This delivery system is the first to feature angulation control, giving physicians the option to angle the device to achieve orthogonal placement to the aortic blood flow lumen to maximize conformability and seal.”

In the press release, Rhee said, “It’s been a privilege leading my fellow clinicians at 50 health systems across the country in this important research....”

www.goremedical.com

Bacteria-Binding Wound Care Method Applied

When it comes to wound care, the health and hygiene company Essity believes that its Cutimed Sorbact bacteria-binding technology has brought the science involved to a whole new level. According to a company press release, Cutimed Sorbact uses a “physical mode of action” that not only better facilitates the healing process but also reduces the risk of the wound generating strains of bacteria that become resistant to antibiotics.

“Hydrophobic bacteria and fungi are attracted to the Sorbact mesh, which is applied directly to the wound, and bound pathogens are removed with each dressing change with an average bacterial load reduction of up to a 73.1% in critically colonized wounds,” according to Essity’s press release. “Sorbact binds and lifts away pathogens, rather than killing them, ensuring no endotoxins are released, which could impair recovery.”

The product can be used on traumatic and postoperative wounds, as well as chronic wounds such as arterial, venous, and diabetic foot and ulcer wounds. It can also be used for wounds that develop as a result of the removal of a fistula, and abscesses caused by fungal infections.

“Pressure injuries are one of the most common types of injuries, with 2.5 million patients developing a pressure injury per year,” the company says in the press release. “The injuries are localized damage to the skin and underlying soft tissue, usually occurring over a bony prominence, and often result from prolonged use of a medical devices.”

www.essity.com
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When the ultrasonic cleaner is supplying sufficient energy and conditions are correct, SonoCheck™ will change color. Problems such as insufficient energy, overloading, water level, improper temperature and degassing will increase the time needed for the color change. In the case of major problems the SonoCheck™ will not change color at all.

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Reveal the hidden areas of instruments with the TOSI® washer test, the easy to use blood soil device that directly correlates to the cleaning challenge of surgical instruments. TOSI® is the first device to provide a consistent, repeatable, and reliable method for evaluating the cleaning effectiveness of the automated instrument washer.

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This kit simulates a flexible endoscope channel to challenge the cleaning efficiency of endoscope washers with channel irrigation apparatus. A clear flexible tube is attached to a lumen device with a test coupon placed inside; the entire device is hooked up to the irrigation port of the endoscope washer.

**HemoCheck™ / ProChek-II™**
Go beyond what you can see with all-in-one detection kits for blood or protein residue. HemoCheck™ is simple to interpret and indicates blood residue down to 0.1μg. The ProChek-II™ measures for residual protein on surfaces down to 0.1μg.
Defend with Profend®
nasal decolonization swabs for better outcomes with reduced HAI* risk.

Efficient, effective bacterial decolonization can help lower HAIs*, length of stays, and costs.¹

Profend® PVP-Iodine swabs kill 99.7% of S. aureus at 10 minutes and 99.9% at 12 hours after application.² They are simple for the OR and ICU staff to apply for just 60 seconds, with a compact design for patient comfort. And CDC guidelines recommend nasal decolonization as a core strategy to prevent surgical site infections.

Learn more at www.DefendwithProfend.com


*Healthcare-associated infections