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Pandemic Raises Profile of IPs; Will Resources Follow?

‘We are lucky that SARS-CoV-2 is not as variable as flu, HIV’

By Gary Evans, Medical Writer

The SARS-CoV-2 pandemic has been the biggest challenge in the history of modern infection prevention, but it also has raised the profile and importance of infection preventionists (IPs) in a way that should secure future program resources, says **Ann Marie Pettis**, RN, BSN, CIC, FAPIC, president of the Association for Professionals in Infection Control and Epidemiology (APIC).

“None of us have experienced anything like this,” says Pettis, director of infection prevention at University of Rochester (NY) Medicine. “My grandmother used to talk about the Spanish flu and how [childhood] friends of hers died in the middle of the night. This pandemic is as [challenging] as it has ever been for me and our field in healthcare. You know, all these years I’ve been saying to groups, it’s not ‘if’ but ‘when’ we will have a pandemic. We are in the ‘when’ now.”

With more than 500,000 dead of COVID-19 in the United States, the pandemic has raised awareness of the bitter toll infectious diseases can take, and, importantly, why investing in public health and infection prevention is critical to close the glaring gaps that have been exposed.

“For many years, our tagline has been ‘infection prevention is everyone’s business,’” says Pettis, who has been an IP for more than 30 years. “I’m not sure leadership took it as seriously as we would have liked. I think the pandemic has shone a light on infection prevention and really made them realize the value we bring to the table. The money that they put into supporting an infection control program is well worth it and really has an unbelievable value. Moving forward from the pandemic, I see the glass as half-full.” Indeed, a recent study revealed how costly drug-resistant infections are, a problem that will

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MEDICAL WRITER: Gary Evans

EDITOR: Jason Schneider

ASSOCIATE EDITOR: Mike Gates

EDITORIAL GROUP MANAGER: Leslie Coplin

ACCREDITATIONS DIRECTOR: Amy M. Johnson, MSN, RN, CPN

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remain front and center well after the pandemic is over. National healthcare costs associated with infections caused by six multidrug-resistant pathogens are more than \$4.6 billion annually, reports the Centers for Disease Control and Prevention (CDC).

"The highest cost was seen in hospital-onset invasive infections, with attributable costs ranging from \$30,998 (\$25,272-\$36,724) for methicillin-resistant *Staphylococcus aureus* to \$74,306 (\$20,377-\$128,235) for carbapenem-resistant *Acinetobacter*," the CDC and fellow researchers found.¹

Whether it is drug-resistant infections or an emerging pandemic, money spent on preparation and prevention is cost-effective, says **Neil Clancy**, MD, chief of infectious diseases at the VA Pittsburgh Health Care System.

A member of the Infectious Diseases Society of America, Clancy was not part of the CDC study on infection costs.

"If you have an infectious problem — whether it is a virus like SARS-CoV-2 or a new resistant bacterium — once into an environment, the costs in terms of lives and economically, can accelerate really quickly, he says. "The upfront investments to try to do what we can to limit these can be relatively trivial compared to what they cost after the fact."

The rapidly developed COVID-19 vaccines were the culmination of investments in research after the original severe acute respiratory syndrome (SARS) outbreak in 2002-2003, Clancy adds.

"The fact that they were able to turn around a coronavirus vaccine so quickly was because they weren't starting from scratch in March of 2020," he says. "If a

problem emerges, then the work and investment you put in over time pays off many times over."

Could Have Been Worse

Although the pandemic vaccines largely have been a success story, other aspects of the initial national response were plagued by testing problems, personal protective equipment shortages, mask compliance, and mixed (and sometimes contradictory) public health messages in a politicized election year. Moreover, there is an emerging consensus that even scientists underestimated the global threat the pandemic coronavirus ultimately would pose.

The warnings were there, in a series of outbreaks and epidemics, and even one flu pandemic, in the 21st century. These include the original SARS (2002-2003) and the largest outbreak of Ebola virus in history (2014-2016). Other outbreaks of novel viruses during this period include yet another coronavirus, Middle East Respiratory Syndrome (MERS) (2012-present). Having emerged in 2012, MERS still is circulating, primarily in Saudi Arabia in an animal reservoir of dromedary camels ubiquitous in the country. Finally, there was a full-blown influenza pandemic in 2009. It was not a devastatingly virulent strain of H1N1 influenza in 2009, but it was highly transmissible and there was no immediately available vaccine.

As it circulated the globe, it infected a staggering 1 billion people, suggesting that some future antigenic shift of influenza could include the high-virulence code that virus was lacking genetically. Although not considered as virulent as other flu

stains, the CDC estimates mortality in the range of 151,700 to 575,400 people.²

Indeed, it is somewhat sobering to realize that as bad as the COVID-19 pandemic has been, it could have been worse. For example, for all the legitimate concern expressed about the emerging variants of SARS-CoV-2, other viruses are much more mutable than the pandemic coronavirus.

"We are lucky that SARS-CoV-2 is not that variable a virus compared to influenza, and certainly (human immunodeficiency virus). But it does vary, and you will see more and more [variants] over time as more people are infected," **John Moore**, PhD, a professor of microbiology and immunology at Cornell University said in a recent interview.³

While emphasizing she is not downplaying the pandemic, Pettis says that, from an infection control standpoint, a pathogen that was harder to kill in the environment would raise the stakes considerably.

"[SARS-CoV-2] is incredibly easy to kill in the environment — you look at it and it dies," she says. "In terms of the germ causing it, it could have been a whole lot worse. Let's hope this is not a dress rehearsal for an even worse pandemic."

There remain concerns, for example, that some version of avian influenza will jump to humans, triggering the recurrent scenario where a zoonotic pathogen mutates and begins transmitting in a population with no existing immunity.

"It could be an avian flu that has a high mortality rate," Pettis says. "Or it could be 'organism x' that we can't even imagine. It's so important as we move through this and see the light at the end of the tunnel with this pandemic, that we strategize

how to close the gaps that have been identified. That is really imperative."

The Tragedy in Nursing Homes

There is no bigger gap than nursing homes, which have lost more than 172,000 residents to COVID-19 — about a third of all U.S. deaths in the pandemic.⁴ In the absence of federal regulation, typically nursing homes assign infection prevention as a part-time function to an employee who already has a lot of responsibilities, Pettis says.

"One of the biggest tragedies out of all of this is what has happened to our elderly in this country," she says. "It has really brought this to light, and one of the main shortcomings is to have no one in nursing homes who are experts in infection prevention and can really devote time to it."

New York nursing homes have particularly been hit hard, with a recent state attorney general report finding egregious lapses in infection control and thousands of deaths that were not properly reported. In a call to action, APIC urged New York to require a full-time IP in every state long-term care facility.

"We feel that the timing is right, given what New York State has experienced with nursing homes," she says. "If not now — when? We can no longer ignore the need for excellent infection prevention and protection for our elderly in long-term care."

APIC calls on New York State nursing homes to require a minimum of one full-time trained and certified IP in each nursing home. Seeking transparency, APIC also said health departments should collect and publicly report data on nursing home infection rates and the number of certified IPs.

The report by New York Attorney General **Letitia James** found infection control lapses and errors in long-term care that include the following:⁵

- Failing to properly isolate residents who tested positive for COVID-19.
- Failing to adequately screen or test employees for COVID-19.
- Demanding that sick employees continue to work and care for residents or face retaliation or termination.
- Failing to train employees in infection control protocols.
- Failing to obtain, fit, and train caregivers with PPE.

For example, infected patients transferred to one long-term facility after a hospital stay were supposed to be placed in a separate COVID-19 unit, the report notes.

"[They] were, in fact, scattered throughout the facility despite available beds in the COVID-19 unit," James' report states. "This situation was allegedly resolved only after someone at the facility learned of an impending [health department] infection control visit scheduled for the next day, before which those residents were hurriedly transferred to the appropriate designated unit."

Regarding employee screening, the report found that workers at another nursing home were bypassing symptom checks by coming through a back entrance.

"Preexisting insufficient staffing levels in many nursing homes put residents at increased risk of harm during the COVID-19 pandemic," the investigation revealed. "As nursing home resident and staff COVID-19 infections rose during the initial wave of the pandemic, staffing absences increased at many nursing homes. As a result, preexisting low staffing levels decreased further to especially

dangerous levels in some homes, even as the need for care increased due to the need to comply with COVID-19 infection control protocols and the loss of assistance from family visitors.”

LTC Staff Refusing Vaccine

Compounding such problems nationally is the recent report that 62.5% of staff at thousands of skilled nursing facilities have turned down COVID-19 vaccine.⁶ (See “*The Struggle to Immunize Long-Term Care Staff.*”)

In contrast, an APIC survey found that 85% of IPs who have been offered the COVID-19 vaccine have received it.⁷ Another 2% had an appointment to take it soon, and 5% said they intend to get the vaccine at a later time. The APIC survey, conducted January 20–25, 2021, netted 1,598 respondents. Of those, 1,497 (94%) said they have been offered the vaccine.

“IPs are in a unique position to influence and encourage vaccine uptake among other healthcare professionals and the public,” Pettis says. “If we think the vaccines are safe, we believe others should feel assured.” ■

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Historical Atrocities Shadow Vaccine Efforts

Tuskegee researcher: ‘The men’s status did not warrant ethical debate’

The national dialogue on immunizing people of color against COVID-19 has brought past atrocities to light, forcing a conversation on the deep distrust engendered by government “medical care,” such as the Tuskegee experiment.

“We have to understand that science has not always valued people,” said **Aletha Maybank**, MD, the chief health equity officer for the American Medical Association (AMA). “It has not always been trustworthy and has actually exploited [them].”

Begun in 1932, the Tuskegee, AL, experiment studied — then unethically ensured — the progression of syphilis in hundreds of poor Black men for 40 years. The Black sharecroppers enlisted in the study were told they were being treated for “bad blood,” a catch-all diagnosis taken from the community vernacular.

In fact, they were being followed for the progression of latent syphilis, a sexually transmitted disease caused by the bacteria *Treponema pallidum*. They were not told they had syphilis.

Given the current situation with COVID-19 vaccines, it should be emphasized that the Tuskegee experiment was done by researchers with the U.S. Public Health Service (PHS), which was the rough equivalent to the modern day Centers for Disease Control and Prevention (CDC).

The PHS researchers used Black community medical people and churches to do grassroots recruitment for “free healthcare.” In fact, they were essentially conducting a death watch to study the effects of untreated

syphilis — even encouraging participants and families to agree to autopsies so they could study the bodies. There was a financial incentive to agree to autopsy that went toward burial services.

That macabre detail was made worse by the refusal to treat the men with penicillin after it proved highly effective against syphilis in the late 1940s. Easily treated with antibiotics in the early stage, syphilis can cause blindness, brain damage, and a host of other maladies if left untreated. The PHS researchers even convinced the Army not to draft any Tuskegee participants when penicillin was first administered to soldiers in World War II.

There was an attitude among the PHS researchers that Black men did not merit ethical concerns as research subjects, with one saying in a 1976 interview that “The men’s status did not warrant ethical debate. They were subjects, not patients; clinical material, not sick people.”¹

Astonishing in retrospect, in 1969, the CDC convened an expert panel to review the experiment — only to give the green light to continue it with the men untreated. It ended after being exposed by the press in 1972. Although it led to public outrage, lawsuits, and widespread human research reform, Tuskegee’s real legacy is the infamy of being “the longest nontherapeutic experiment on human beings in medical history.”²

When the study began in 1932, approximately 400 Black males 25 to 60 years of age with syphilis were recruited, with about 200 without the infection designated as a control group. “By the time it was stopped in 1972, only 74 of the test subjects were still alive,” researchers report.³ “[Overall], 128 patients had died of syphilis or its complications, 40 of their wives had been infected, and

19 of their children had acquired congenital syphilis.”

A 2018 study found that disclosure of the egregious experiment in 1972 resulted in avoidance of medical care in older black men.⁴ “Although our study has focused on how Tuskegee generated mistrust and shaped demand for healthcare services by Blacks, the Tuskegee example also revealed racial inequities inherent in the provision of healthcare,” the authors concluded.

Generational Trauma

“I think what has happened is that many people, actually for the first time, have learned about the U.S. Public Health Service study at Tuskegee,” the AMA’s Maybank said at a CDC forum on empowering healthcare workers to be vaccinated against COVID-19.

African-Americans — even if they don’t know all the details — know the pain and betrayal that resonates after Tuskegee.

“They have the stories,” Maybank said. “They have the trauma that’s been passed down over generations. And they have those experiences of discrimination and exclusion and harm from our institutions.” Given this history, the goal shouldn’t be to “coerce” communities of color to be immunized, but make sure they can make an informed decision that they arrive at on their own, she said.

“People definitely have concerns — healthcare workers and their patients — have anxieties all around that,” she said. “Especially when people have power and systems have power. We know historically this power that goes across our society has been abusive sometimes, or oppressive, and this has produced harm and early death amongst Black, brown, and Latinx people.”

The result, borne out in polls of these communities today, is an entrenched distrust in medical institutions. “And this is really rooted in that false kind of hierarchy of human value that’s based on either skin color or wealth or gender — what country you’re from, what language you speak,” she said.

Healthcare workers of color are influenced by their communities and their historic messages, so they may have a degree of vaccine hesitancy even in medical settings, she explains.

“When it comes to approaches for empowering healthcare personnel, especially people of color, they don’t escape the history or cultural concepts,” Maybank said. “We are human beings. I think overwhelmingly that people who are in positions of leadership really need to better understand that context — that healthcare workers are not separate from their own communities.”

It is a good opportunity to explicitly engage employees in pandemic listening and planning sessions. There is a perception, for example, that the pandemic response has valued speed over equity, she said.

“Urgency without that prioritization of equity really prevents us from having these conversations that we need to have with our healthcare workers,” Maybank said. “And to learn from their real experiences with discrimination and racism, sexism, ableism, and xenophobia. Oftentimes, in the context of urgency, we will see an excuse given to overlook the realities.”

Vaccine Champion

Speaking at the same forum was **Kimberly Manning, MD**, vice chair of the diversity, equity, and inclusion program at Emory University in

Atlanta. Manning described herself as a “vaccine champion.”

“In my lived experience, I think a lot of it starts with who we are,” she said. “I’m a Black American woman, a descendant of slavery, whose family is from Alabama. I attended two historically black colleges, one of which is Tuskegee University. These conversations have been things that I have been hearing for my entire life.”

This background has enabled Manning to speak with credibility to communities of color.

“My first language, I would say, is African-American vernacular,” Manning said. “[I speak this way to] individuals around me, especially in downtown Atlanta where I work.”

These social interactions became an opportunity to bring up the pandemic vaccines with a simple question, “How do you feel about the COVID vaccine?” she said. “Not ‘Are you going to take it?’ Or ‘You need to take it,’ but ‘How do you feel about the vaccine?’” she said. “What I found is that it is not one size fits all. Specifically, as it relates to Black Americans, there’s a lot of heterogeneity in why people feel eager to get the vaccine and why [others] are not yet sure.”

In this way, Manning raises the vaccine profile, but is careful to humanize each individual and truly listen to what they say.

“[I’m] not doing the thing where you ask something and you’re plotting what you’re going to say next,” she said. “But to really start this habit of listening and engaging in unique ways. I think we can do that. It’s just not unique to me.”

Another speaker, **Lauren A. Smith**, MD, MPH, chief health equity and strategy officer at the CDC Foundation, concurred on this point. “I think, in order to build trust and to earn it, we have to [have] authentic listening and recognition — an acknowledgement and, frankly, a reckoning with the factors that have led communities of color to have such a disproportionate burden right now,” she said.

A vaccine-enabling environment for communities and healthcare workers needs both trust and confidence.

“If that environment has been poisoned or toxified by historic systemic racism or other adverse [events] it’s hard to grow,” she said. “And we’re seeing that come to the fore in the specific conversations around vaccines. Because people can see with their own eyes the inequities they or their family members experience within healthcare.”

They also know why they have an excess burden of COVID-19, because of the structural biases in healthcare, she added.

“We also have to ensure we’re in there for the long haul,” Smith said. “People in a community can tell when folks are parachuting in for a quick in and out — without any real lasting sort of investment or connection. We could do an even better job forcefully confronting the chapters in our history that have created this environment where misinformation can take hold.” ■

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The Struggle to Immunize Long-Term Care Staff

Respect their concerns, listen, and celebrate vaccinations

Almost two-thirds of healthcare workers in thousands of skilled nursing facilities (SNFs) have turned down COVID-19 vaccine, even though the mortality rates of long-term care residents are among the highest of any population.

Along with other healthcare workers in hospitals and other settings, long-term care staff were considered a top vaccine priority because they care for frail residents, the Centers for Disease Control and Prevention (CDC) reports.

“Among 11,460 SNFs, with at least one vaccination clinic conducted during the first month of the CDC Pharmacy Partnership for Long-Term Care Program, a median of 77.8% of residents and 37.5% of staff members received ≥ 1 vaccine dose through

the program,” the CDC stated.¹ “SNFs that provide skilled nursing care and rehabilitation services for persons with complex medical needs have been documented settings of COVID-19 outbreaks. In addition, residents of [long-term care facilities] might be at increased risk for severe outcomes because of their advanced age or the presence of underlying chronic medical conditions.”

Historically, long-term care workers have shunned influenza vaccinations, citing skepticism about the vaccine’s efficacy or that they do not get the flu. The COVID-19 vaccine raises its own set of suspicions. “

Frequently cited reasons for vaccine hesitancy included the perceived rapidity of vaccine development; inadequate information received about vaccine safety, side effects, and administration; and skepticism regarding the clinical trials and vaccine approval processes,” the CDC stated.

Conspiracy or Misinformation?

David Gifford, MD, MPH, senior vice president of quality and regulatory affairs at the American Health Care Association (AHCA), has been working with about 15,000 nursing homes around the country on vaccine issues.

He spoke at a recent CDC forum on vaccine uptake issues for healthcare workers. “I think a number of the challenges mirror what we’re seeing in the general population and elsewhere,” he said. “People feel like the vaccine was rushed. Shortcuts were taken. They’re worried about long-term side effects.”

These were the most common questions, but there also were

concerns based on the misinformation that has spread along with the virus.

“I try not to refer to them as conspiracy theories because that sort of sends a signal to the individual that their views and their information are [being] discredited in some way,” Gifford said. “And the decision that the staff are making based on the information they hear makes sense. The information they’re hearing is what doesn’t make sense.”

Drawing that distinction and listening carefully have proved key to successfully change workers minds, particularly if a trusted source delivers the information. If possible, make sure that the information is personal and targeted to the individual, addressing their concerns in a nonjudgmental way, he said. “[With these measures] we have seen facilities with 75%, 85%, 90% vaccine uptake rates among the staff, while others are at 30% and 40%,” Gifford said. “A lot of the divide is around different types of belief issues and where people get their information — from families and friends.”

Gifford and colleagues also have started a follow-up campaign, “See Something Say Something,” to correct misinformation. “If you hear something inaccurate, speak up,” he said. “So that people are making the best decisions on the information out there.”

Celebrate Vaccinations

In the long run, the attempts to offer the vaccine are less effective if the information is not clear and it is delivered by someone who does not look or sound like the targeted group, he said.

“A lot of this comes from the level of trust between management and [staff],” Gifford said. “You’re not a used car salesman trying to sell people

on it because that doesn’t engender trust. It sort of has a predetermined outcome. I think that messaging and the involvement of nurses and physicians in delivering that message has been really key.”

Successes should be celebrated by reminding all staff of the benefits of getting vaccinated after someone is immunized. “It’s not just about protecting you and protecting your family, which are two important messages,” he said. “It’s about protecting your residents. It’s about getting back to normal, being able to visit families, going out and doing the activities we have been all restricted from doing. I think those are messages that really resonated very well.”

Making a point that the unvaccinated staff do not have callous disregard for the elderly residents, Gifford said the COVID-19 outbreaks in nursing homes have hit hard workers hard. “It’s been ground zero,” he says. “Depending on the state, anywhere from 30% to half of all of the [COVID-19] deaths come from the nursing home population. And that’s been devastating to the workforce. Not just the nurses and aides, but housekeeping, dietary. They work there because they care about the elderly. They know these individuals, treat them as family. Many of them don’t have family — or family nearby — and certainly they haven’t been able to have family visit.” ■

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Misinformation Guide on COVID-19 Vaccines

Spotting and defusing misinformation, disinformation

Public health agencies and academic partners have created a vaccine misinformation field guide outlining how to respond to the misinformation and disinformation that are undermining uptake of the COVID-19 vaccines.

"The novel SARS-CoV-2 virus has triggered two parallel pandemics: a biological one, which has spread to every country in the world, and a social pandemic of misinformation — an infodemic — spreading across social networks," the guide states.¹ "Vaccines have been sucked into this vortex of confusing information, which ranges from the innocently misleading to the intentionally deceiving. Vaccine-critical messaging increased more than two-fold compared to pre-COVID-19 levels, with 4.5 billion views of content spreading vaccine misinformation in just the United States alone between March-July 2020."

The guide was created by a collaboration that includes UNICEF and the Yale Institute for Global Health.

"[It includes] risk evaluation metrics for what to respond to and what not to respond to," **Saad Omer**, PhD, MPH, director of Yale Institute said. "And it also talks about specific strategies for pre-bunking or

'inoculating' — no pun intended — against specific misinformation."

According to the guide, misinformation is "false information that's shared by people who don't realize it is false and don't mean any harm, including vaccine proponents." This is in contrast to disinformation, which "is deliberately engineered and disseminated false information with malicious intent or to serve agendas."

People can be surprisingly vulnerable to misinformation, especially in times of upheaval.

"[This is] due to a complex mix of cognitive, social, and algorithmic biases," the guide states. "These include information overload and limited attention spans, various cognitive biases, the novelty of misinformation, trust, and algorithmic popularity."

Another factor fueling misinformation includes lower trust in scientists and journalists. Conspiracies appear to help people reduce the complexity of reality and abate feelings of powerlessness and mistrust.

"People may be exposed to misinformation through media or voiced opinions and rumors, and more and more through online social networks, which fuel the infodemic," the guide states. "By amplifying

attention-grabbing information, social media algorithms may incentivize the circulation of misinformation and disinformation, allowing false information to spread faster and further than true information."

The guide takes the reader through stages, with chapters on preparation, listening, understanding, and engagement.

"Be credible in terms of the information to not go beyond the data," Omer said at a recent CDC forum on improving COVID-19 vaccinations. "Consider communicating vaccine as an aspiration, as an act. Leverage self-efficacy and social norms."

Science, in a vacuum, has little effect unless deployed with cultural literacy, he added.

"You form the final message with the communities that you're engaging with," Omer said. "The co-creation part comes in there." ■

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Strange Ebola Transmission Spurs Outbreak

Outbreaks in Guinea, Congo — CDC alerts U.S. providers

An emerging Ebola outbreak in Guinea may have been sparked by a survivor of the historic West African outbreak of 2013-2016. That

means the virus would have had to incubate in the index case, without replicating enough to cause acute disease, for at least five years. There

are more questions than answers at this point, but the genetic match with the virus that killed 11,000 people in Western Africa in the previous

outbreak appears beyond doubt to researchers.

"This [genetic] pattern shows clearly that the new outbreak is the result of the resurgence of a strain that previously circulated in the West African outbreak from 2013-2016," researchers reported.¹ "The unexpectedly short branch leading to the 2021 Guinean Ebola virus genomes suggests a marked substitution rate slowdown, which might be due to latency in a survivor."

It previously was known that the Ebola virus can try to escape the immune system by hiding in the eyes and testes, sensitive areas that the body is reluctant to attack. The surprising element here is that the virus was transmitted after such a prolonged period and the possibility that sexual transmission may have occurred.

"The human origin of the current Ebola outbreak and the associated shift in our perception of [virus] emergence call for careful attention to survivors," the authors concluded. "The possibility of resurgence of Ebola, up to five years or more after [infection], opens new challenges for survivors, their families, and their communities — but also for the

health system that has to create ways to work with communities, known and unknown survivors, without creating further stigmatization."

As of March 6, 2021, Guinea has had 18 cases of Ebola, with nine deaths and two recoveries. Five healthcare workers are among the confirmed cases. In an unrelated outbreak in Congo, there were 11 cases with four deaths and two recoveries. Two healthcare workers are among the confirmed cases.²

With two outbreaks ongoing as this report was filed, the Centers for Disease Control and Prevention (CDC) is advising healthcare personnel to be aware of the African outbreaks and ask incoming patients about international travel.

"[S]hare this information with all personnel who might conduct screening and triage activities or be responsible for initial clinical management of patients, including emergency medical services, outpatient, and emergency department personnel," the CDC advised.³

In addition, the CDC continues to recommend screening and triaging everyone entering the facility for signs and symptoms of COVID-19.

With Ebola now added to this, the CDC recommends posting "contact information for infection control personnel and the local public health jurisdiction for reporting of communicable diseases, including Ebola, in easily visible locations." ■

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Call for National Reporting System of Healthcare Worker Deaths

'We don't know how many healthcare workers have died of COVID'

Compounding the tragic loss of so many healthcare workers (HCWs) during the pandemic, a new report concludes that, in the absence of a national reporting system, the true count of those who have died of COVID-19 is unknown.

"We don't know how many healthcare workers have died as a

result of COVID, let alone how many have died of it acquired at work," says **Matthew Wynia**, MD, MPH, FACP, director of the Center for Bioethics and Humanities at the University of Colorado Anschutz Medical Campus. "We really are flying blind here a lot of the time because we don't have standardized

reporting systems where all of the states are using the same metrics."

Wynia is the co-author of a recent report written at the request of the Department of Health and Human Services (HHS) as part of a rapid assessment of the healthcare mortality issue.¹ "Other information that is often missing is pregnancy, race and

ethnicity, what type of job were they doing, did they have adequate PPE [personal protective equipment], or was their hospital in the midst of a surge and they were overwhelmed and running out,” Wynia says. “All of those questions we really just can’t answer because we don’t have that information on any kind of national basis.”

HHS requested data on deaths related to COVID-19 caused by occupational exposure as well as deaths that “could reasonably be attributed to conditions exacerbated by COVID-19,” such as suicides.

“The absence of a uniform national framework and inconsistent requirements across states for collecting, recording, and reporting HCW mortality and morbidity data associated with COVID-19 impairs anyone’s ability to make comparisons, do combined analyses, or draw conclusions about the scale of the problem,” the report authors concluded. “Promulgation of a robust national data reporting system, including collection of data on circumstances and interventions that may raise or lower risk, as well as data on where the infection occurred, would support the adoption of effective mitigation strategies and policies to reduce COVID-19 mortality and morbidity in HCWs.”

As of March 13, 2021, the Centers for Disease Control and Prevention (CDC) reported 445,284 COVID-19 cases in HCWs and 1,458 deaths.² These data likely represent a considerable undercount. COVID-19 status was collected from 21.6 million people, but healthcare occupational status was known for only 18%. For the 445,284 cases of COVID-19 among healthcare personnel, death status was only available for 355,681 (79.88%). An investigative journalism project documented 2,900 HCW

deaths from March through Dec. 23, 2020.³

“There are estimates that are really low and there are estimates that are really high — and that fact alone is really concerning,” Wynia says. “It really means that the best studies on this are ones that are being done by newspapers right now, looking through death notices and finding this woman was a nurse, this person was a respiratory therapist, and counting them up that way. If that is the best we can do, it is kind of pathetic.”

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It makes all the more damning those earlier images of HCWs without adequate PPE facing an emerging pathogen with no existing immunity. The threat was underscored when the CDC dropped its longstanding recommendation that N95 respirators were designated single-use only.

“We need to understand the scope of the problem without guessing,” says **Sue Anne Bell**, PhD, FNP-BC, co-author of the federal report. “On a good day, our healthcare system already is substantially stressed. The pandemic has stretched our system to the limit, exposing that we need

better support for [HCWs] than is in place right now.”

Thus, the call for a national reporting system for HCWs.

“There is remarkable fragmentation of reporting systems nationally,” Wynia says. “There are mechanisms for nationwide reporting of occupational hazards, injuries, deaths. If you get killed by a crane at a construction site, that will be reported. But there is not a national reporting system — OSHA [Occupational Safety and Health Administration] has just never set one up — for occupationally acquired pandemic illness. There are actually models for this. In laboratory enforcement, there are occupationally acquired infections that are tracked, but not in the hospital itself. That’s a problem.”

It is a problem that may partially be resolved by OSHA issuing an infectious disease standard to protect HCWs now that the political climate has changed. Rulemaking was proposed in 2016 but fell victim to an antiregulatory agenda at the federal level. Recently, President Biden issued an executive order, telling OSHA that “ensuring the health and safety of workers is a national priority and a moral imperative. [HCWs] and other essential workers, many of whom are people of color and immigrants, have put their lives on the line during the COVID-19 pandemic.”⁴

“Notably, no OSHA category counts deaths specifically from occupationally acquired infection,” according to the federal report. “When a recognized incident, such as a needlestick, leads to illness and death in an HCW, the occupational source is clear. However, when an infectious disease is circulating in the community, it may not be possible to trace individual cases among HCWs to occupational rather than

community exposure. Although this may leave any single case uncertain in origin, measures such as excess disease, hospitalization, and death among HCWs compared to the general public could indicate the added risk overall due to occupational exposure.”¹

A national reporting system that accounts for such factors could help differentiate between occupational infections and those that are community acquired. The system may include a built-in disincentive to report occupational infections if there is overlapping disease transmission in the community. Hospitals may see more potential liability and expense in occupational COVID-19 infections.

“I think most hospitals want to do the right thing,” Wynia says. “Most health system managers are good people who are honestly trying to figure out the best way to go here.

But there is obviously the underlying incentive to not spend too much time looking at these things because sometimes you are going to get burned.”

Still, healthcare systems have multiple incentives to keep their workforce healthy and determine the source of infection, says Bell, a nurse scientist and professor at the University of Michigan School of Nursing.

“I think the incentive is if we have data that track occupational-related deaths, we can understand and improve working conditions and [determine] where the infections are coming from,” she says. “We will have healthier employees, patients, and communities.” ■

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An Idea Whose Time Has Come: An Academic Path for Infection Preventionist Education

Move to accelerate IP careers

For decades, many infection preventionists (IPs) got into the field by sheer serendipity, found out about their sleuth colleagues during an outbreak, or were otherwise exposed to a healthcare epidemiology practice that many find quite rewarding.

With shifting demographics and aging expertise, the Association for Professionals in Infection Control and Epidemiology (APIC) is creating IP curriculum for colleges and universities.

“Our workforce is aging. We have a lot of IPs [who] will be retiring out in

the next few years,” says **Ann Marie Pettis**, RN, BSN, CIC, FAPIC, president of APIC. “There is not this automatic pathway into infection prevention. People sort of stumble into it — I know I did.”

Pettis was working in a newborn unit decades ago when she worked with an IP to investigate an outbreak. She found the work intriguing and eventually joined the infection control department.

The time has come for a more proactive approach by exposing college students to the field.

“We really understand that we

Understanding Causes of Health Care Worker Deaths Due to the COVID-19 Pandemic (December 10, 2020). Washington, DC;2020.

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need to be out there at the undergrad as well as the graduate level to introduce people to this,” Pettis says. “So they realize it could be a career path. We have been reaching out to different universities and colleges.”

An APIC task force is developing IP Academic Pathway core concepts, which will detail competencies needed to work successfully in the field as outlined by the Certification Board of Infection Control and Epidemiology. ■



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CME/CE OBJECTIVES

Upon completion of this educational activity, participants should be able to:

1. Identify the clinical, legal, or educational issues encountered by infection preventionists and epidemiologists;
2. Describe the effect of infection control and prevention issues on nurses, hospitals, or the healthcare industry in general;
3. Cite solutions to the problems encountered by infection preventionists based on guidelines from the relevant regulatory authorities, and/or independent recommendations from clinicians at individual institutions.

CME/CE QUESTIONS

- 1. A report by New York Attorney General Letitia James found infection control lapses and errors in long-term care that did not include which of the following?**
 - a. Failing to properly isolate residents who tested positive for COVID-19
 - b. Failing to adequately screen or test employees for COVID-19
 - c. Failing to continue requiring personal protective equipment for vaccinated employees
 - d. Failing to train employees in infection control protocols
- 2. How long did the Tuskegee experiment continue?**
 - a. 15 years
 - b. 20 years
 - c. 30 years
 - d. 40 years
- 3. Which anatomical area has been shown to serve as a reservoir of latent Ebola virus?**
 - a. Eyes
 - b. Lungs
 - c. Spine
 - d. Stomach
- 4. In requesting a report on healthcare worker deaths as the result of COVID-19, government health officials requested data on mortality caused by occupational exposure as well as deaths that "could reasonably be attributed to conditions exacerbated by COVID-19," such as:**
 - a. severe influenza.
 - b. lung cancer.
 - c. dementia.
 - d. suicide.