



HOSPITAL EMPLOYEE HEALTH



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No One Really Knows How Many HCWs Have Died of COVID-19

Lack of standardized reporting means researchers are ‘flying blind’

By Gary Evans, Medical Writer

On July 27, 2020, three sisters stood outside a hospital window, watching their father die of COVID-19.

Two were nurses, and the third was **Estefana Johnson**, LMSW, a grief counselor in Phoenix.

“I can’t tell you how appreciative I was of the nurse who cared for my father when he was passing,” she says. “She was in the room when we couldn’t be. Her kindness — the love in her face, the compassion — overshadowed the loss. She became us; she was an extension of us. My goal now is to use my own skills to help these nurses and doctors who

are suffering. If it is not a direct family member, the loss of colleagues is very traumatic to our healthcare workers.”

While healthcare workers literally bear witness to death, who tolls the bell for them? There is no official count for healthcare workers who have died of COVID-19. Ask how many of these heroes have put their lives on the line and lost them in the process, and one enters a maze of incomplete reports collected from limited jurisdictions, mixed with extrapolations and models confounded with variables.

“We don’t know how many healthcare workers have died as a result

“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.”

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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.

Where Is a National Reporting System?

“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 due to 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 healthcare worker (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.”¹

As of March 3, the Centers for Disease Control and Prevention (CDC) reported 416,831 COVID-19 cases in healthcare workers and 1,373 deaths. These data represent a considerable undercount, as the CDC details the hamstrung database from which the information was drawn. COVID-19 status was collected from 21.6 million people, but healthcare occupational status was known for only 18%. Of the 416,831 cases of COVID-19 among healthcare personnel, death status was only available for 332,247.²

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.”

Indeed, of all the exhibits that could be presented to indict the nation’s pandemic response, the jury of history will note some unknown but significant portion of dead HCWs were uncounted casualties. It compounds the image of HCWs

begging for PPE, the CDC dropping the longstanding recommendation that N95 respirators were designated single-use only, and the widely ridiculed suggestion that scarves and bandanas might partially protect healthcare workers if PPE supplies were exhausted.

“We have seen this repeatedly with PPE shortages and shifting guidelines around PPE as supply changed and new knowledge emerged,” says **Sue Anne Bell**, PhD, FNP-BC, co-author of the federal report. “If we can learn from some of these mistakes, we can have better systems to understand what is happening to our healthcare workers.”

As it stands, it is almost as if healthcare workers were seen in some sense as expendable, rather than essential. Whether that is true to any degree, it can never happen again. Epidemiologists and virus hunters agree: Another pandemic is coming.

The Fire Next Time

It is not as if there were no warning signs for COVID-19. Like flares from a sinking ship, alerts, warnings, and near misses have come one after the other in this young century. A series of epidemics and pandemics led to the deaths of many healthcare workers, including the original severe acute respiratory syndrome (SARS), 2002-2003, and the largest outbreak of Ebola virus in history (2014-2016). SARS disproportionately hit healthcare workers. In Liberia, 8% of the healthcare workforce died of Ebola.

Other outbreaks of novel viruses during this period include yet another coronavirus: Middle East respiratory syndrome (MERS), 2012-present. MERS still is circulating primarily in Saudi

Arabia, originating in bats and now established an animal reservoir in dromedary camels ubiquitous in the country. MERS infections hold a 16% mortality rate in HCWs.⁴ There is reported work on a vaccine, but Saudi Arabia has thus far refused to cull their camels, an animal iconic to their culture.

“THE PANDEMIC HAS STRETCHED OUR SYSTEM TO THE LIMIT, EXPOSING THAT WE NEED BETTER SUPPORT FOR HEALTHCARE WORKERS THAN IS IN PLACE RIGHT NOW.”

“High seroprevalence and high genetic stability of MERS-CoV in camels indicate that camels pose a public health threat,” researchers reported. “The widespread MERS-CoV infections in camels might lead to a risk of future zoonotic transmission into people with direct contact with these infected camels.”⁵

Finally, a full-blown influenza pandemic occurred in 2009. It was not a devastatingly virulent strain of H1N1 influenza, 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 drift of influenza could include the high-virulence code that virus was genetically lacking.

Nathan Wolfe, PhD, author of the 2011 book *The Viral Storm*, warned that rapid global travel and

the continuing encroachment of animal habitats would lead to an age of pandemics. Exacerbated by climate change, the constant intermingling of microbes creates evolutionary pressure to mutate zoonotic pathogens until they transmit to susceptible humans.

“The way that we think about these things is that there is this constant process by which these viruses are ‘pinging’ at human populations from the animal reservoirs that they come from,” he wrote. “The events that we see are an incredibly small percentage of the events that are occurring.”⁶

While this past is prelude, the COVID-19 pandemic is the event that really exposed our surprisingly fragile, and meagerly funded, public health system. There are many other examples, but the haphazard production and storage of PPE is another broken link that must be addressed. The healthcare system itself came close to breaking as the virus surged in various locales. We now know that in a pandemic scenario, the vaunted United States healthcare system can barely protect its frontline workers, let alone keep track of the dead.

“We need to understand the scope of the problem without guessing,” Bell says. “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 healthcare workers 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.”

OSHA May Be Unleashed

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. To say the least, things have changed. It is harder to ignore the fact that thousands of HCWs have died of COVID-19, part of more than half a million people dead nationally. President Biden recently issued an executive order protecting HCWs from COVID-19, telling OSHA that “ensuring the health and safety of workers is a national priority and a moral imperative. Healthcare workers 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.”⁷

“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 diffuse occupational vs. community acquired, which has become something of a suspicious, if not false, dichotomy. First, during a pandemic, it would seem the death of an HCW is worth reporting and recording whether they acquired COVID-19 at work or in the community. Even if they clearly acquired it in the community, colleagues and patients at their healthcare facilities may have been exposed and put at risk.

To be blunt, hospitals may see more potential liability and expense in occupational COVID-19 infections. The system may include a built-in disincentive to report occupational infections if there is overlapping disease transmission in the community.

“We had a good bit of discussion about this, and I know there are hospitals and health systems that are really interested in making sure that if someone catches COVID-19 that they are able to say, ‘We don’t know that they caught it at work,’” Wynia says. “They might have caught it at a picnic, or going out to a bar, or at home. [That said], it’s entirely possible. The best studies that we could find on this suggest that maybe even the majority of healthcare workers with COVID-19 caught it somewhere other than a hospital or a clinic.”

As more HCWs are vaccinated and PPE is more available and universally used at work, there may

be more clearly defined risk between clinical settings in the community.

“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, Bell says.

“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.”

HCWs have been the most valuable commodity throughout in the pandemic response. The shocking paradox is one could make a counterargument that HCWs were seen as somewhat expendable as the worst pandemic in a century brought the nation to its knees. ■

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Staggering COVID-19 Mortality Rates During Pregnancy

They are present in news reports, but there is no comprehensive tracking system. Pregnant women, some of them healthcare workers, are dying at high rates after contracting COVID-19.

A nurse, “Ashley Gomez, 30, was unable to hold her newborn son before she died from COVID-19,” according to a recent news report.¹

The COVID-19 vaccine risk is unknown because pregnant women were not included in early clinical trials. However, the emerging data on the threat of COVID-19 infection during pregnancy is tilting the risk-benefit equation.

Consider this: Case-fatality rates in pregnant patients infected with SARS-CoV-2 were 13.6 times higher than similarly aged non-pregnant women with COVID-19, according to a preprint study in Washington state.

The researchers followed 240 pregnant women between March 1 and June 30, 2020, in a multicenter, retrospective cohort study from 35 sites in Washington. Three patients died and 24 women were hospitalized for COVID-19. The findings suggest COVID-19 pregnancy mortality rates are seriously undercounted nationally in the absence of active surveillance for such cases, the researchers emphasized.²

“Notably, in mid-October of 2020, the Centers for Disease Control and Prevention [CDC] reported only 45 maternal deaths in pregnant women with confirmed SARS-CoV-2 infections across the U.S.,” the authors reported. “If complete, this would mean that the three cases in our study population represented 7% of the total maternal deaths in pregnant women with SARS-CoV-2 across the [United States] despite annual births among our study sites making up an estimated 1.4% of the total nationwide. This is most likely due to underreporting and not a higher death rate in Washington state.”

Pregnant, hospitalized patients were more likely to present with a comorbidity or underlying condition, including asthma, hypertension, type 2 diabetes, autoimmune disease, and obesity. The three women who died of COVID-19 in Washington state were from minority ethnic groups who have shown to be at greater risk of the virus. That said, most of the pregnant patients with COVID-19 had asymptomatic or mild COVID-19 disease and healthy pregnancies.

Q&A

Hospital Employee Health sought further comment on the study

from lead author **Kristina Adams-Waldorf**, MD, professor of obstetrics and gynecology at the University of Washington in Seattle. This interview was edited for length and clarity.

HEH: The high mortality rate is the most disturbing finding. Can you discuss your reaction to this and the implications for preventing these COVID-19 deaths?

Adams-Waldorf: Deaths in pregnant women are relatively rare, and we work incredibly hard to prevent them. The three deaths we found by tracking women for the first few months of the pandemic were shocking to us and a sky-high maternal mortality rate compared to what we are used to from historical levels of maternal mortality in Washington state. When we compared them to the general population at a similar age [with COVID-19], it was a 13.6 higher mortality rate, which was also saddening. It’s not completely a surprise because pregnant women are highly susceptible to influenza and pregnant women die every year from flu viral infection, which is why we try so hard to vaccinate all pregnant women in the [United States] but succeed only about half the time in doing so.

HEH: The study suggests there is severe underreporting of mortality related to COVID-19 in pregnancy

in the United States. Compared to CDC data, your study showed 7% of the total maternal deaths in pregnant women with SARS-CoV-2 nationally with only of 1.4% of the total births.

Adams-Waldorf: The second shock was when we compared our numbers of maternity deaths to what the CDC was reporting as the total number of maternal deaths. It was at that moment we realized how undercounted the deaths of pregnant women are nationally. What the CDC has are these COVID-19 case reports filled out by the states. There is a check box [to mark whether] they are pregnant or not. Most of the time those are not filled out, so they can't know for certain whether a person with COVID or a person who died was pregnant. As you can imagine, the public health departments have been completely overwhelmed during this [pandemic]. Having a lot of time to track down information on different people when they are getting thousands of these per day is not really a priority. They are missing this in about 65% of all their case reports. They end up with skewed data or a lot of missing data.

HEH: Do you have any hopes or expectations that your study may lead to heightened surveillance nationally?

Adams-Waldorf: With the current tasks [facing] public health

departments to not only count everyone but also to vaccinate everyone — and how unprepared we were as a nation for this pandemic — I'm not particularly hopeful that the status quo is going to improve. What I do hope now is that this information is taken into account by the state departments of public health, and that this will change their prioritization scheme for vaccination. In many states, including Texas, New Mexico, New Hampshire, and Alaska, being pregnant qualifies you to be in phase 1b as one of two high-risk conditions that are needed to be qualified for phase 1b. That's not true of all states, and it's not true in Washington state. We wrote a letter to our officials at the state government asking them to prioritize pregnant women in phase 1b.

HEH: As of Jan. 7, 2021, the CDC states "getting vaccinated is a personal choice for people who are pregnant."³ Based on your findings, it appears the risk of a potential bad outcome of COVID-19 infection during pregnancy outweighs the vaccine risk.

Adams-Waldorf: Yes, absolutely. In my opinion, the risk of a bad outcome from COVID-19 and pregnancy is high. Our death rate was 1 in 80. Our hospitalization rate

was 1 in 10, and we had women who had months of long-haul COVID-19 symptoms. The toll that it took on them in addition to their pregnancy was significant.

I am a strong advocate of the COVID-19 vaccine. I think that there is this myth that pregnant women can just sit at home and protect themselves from the pandemic and telework. That is not reality. Pregnant women are on the frontlines as healthcare workers and in essential jobs like teachers. They have large families sometimes, and they are exposed to other people. ■

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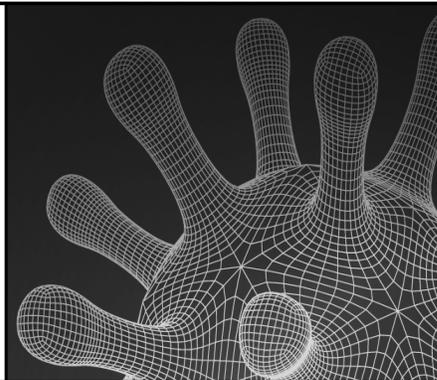
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The Long Tail of COVID-19

Some people have experienced symptoms for at least a year

Remember when SARS-CoV-2 infection was thought by some to be no worse than seasonal flu, or just another version of the cold virus? We have climbed a steep and thorny path through ignorance to come to this reckoning in 2021: There now is an open question about whether some people — healthcare workers and the public alike — could experience recurrent COVID-19 symptoms for years.

This is the nightmarish world of the so-called “long-haulers,” who have developed a seemingly chronic condition the Centers for Disease and Control and Prevention (CDC) is calling “long COVID.”¹

“Some people got sick in March, so it has been a year for them,” says **Natalie Lambert**, PhD, associate professor of medicine at Indiana University.

Lambert is studying the condition and expects to publish a paper soon based on case reports, patient interviews, surveys, and other methods to find some meaning to this madness. Long COVID presents as a panoply of symptoms that can linger for months after even mild acute cases. Typical symptoms like fatigue or loss of sense of smell can recede completely for months, only to reappear — sometimes as different manifestations of COVID-19.

“With the most common symptoms, the time of duration was over three months,” she says. “For some long-haulers, the symptoms never go away. For others, after three, four, six months, they completely recover. Some who feel completely recovered have a relapse. For a lot of long-haulers, symptoms come and go,

and then new ones come up. It’s just constant uncertainty.”

For example, a healthcare worker (HCW) may feel well enough to return to work only to get hit by the illness again in the future. No one has to tell employee health professionals that sick policies are a longstanding issue, with the need for staffing balanced against the threat of presenteeism that could endanger patients and co-workers.

“It makes it hard to go back to work, and it is also very difficult to explain to an employer, who might say, ‘I thought you were better,’” Lambert says. “But this is not a typical disease trajectory.”

Certainly, HCWs are aware of the job security issues in such scenarios, but they also have a deep moral obligation not to care for patients when they are feeling sick or impaired. For example, a common symptom is “brain fog,” which can affect cognitive function and decision-making.

“As you can imagine, healthcare workers are really concerned about having those kinds of symptoms,” Lambert says. “They don’t want to make mistakes while they are treating patients.”

Known Unknowns

The unknowns are legion, including whether HCWs experience a higher rate of long COVID than the general public, disease progression and duration, and infectiousness and transmission factors. Like seemingly every other aspect of this pandemic virus, there is no national reporting system to capture long COVID cases,

meaning large population studies are considerably more difficult.

“The really hard part is that the data [source] that medical researchers like me typically use to answer questions like those is the electronic health record,” Lambert says. “[With that], we can look at tons of people, and compare them to background variables to answer different questions. There isn’t a whole lot of data on people with long COVID in the electronic healthcare record. There aren’t many treatments for these long-term cases yet. I’m collecting data mostly on people who are not hospitalized — these are the typical long-haulers.”

Although vaccines are rolling out and many healthcare workers are receiving it, the final insult of long COVID may be too much for some. They may struggle with intermittent symptoms and find it difficult to balance life and work. Some are considering leaving the profession.

“Some healthcare workers are saying, ‘It just doesn’t seem worth it to continue on under the current conditions,’” Lambert says. “They may be sick and have to return to work, but not have the support that they need. For example, not being able to get time off when we’re in a pandemic and it’s all hands on deck.”

Yet healthcare workers stepped in and held the line early in the epidemic, when there were no vaccines or treatments, and precious little personal protective equipment (PPE).

“They were willing to go in and fight the fight, treating patients without enough PPE and all of that, but there is a point as things drag on if there is not enough support for them, there is just not enough

industry support,” Lambert says. “We are analyzing all of these health narratives scientifically to identify the prevalence of these themes, but I can say anecdotally reading them myself that this is something the world should be concerned about. Also, the mental health impact of the horrors healthcare workers are facing and have had to endure.”

Physicians and nurses are infamous for pushing through anything until the job is finished, even at the risk of their own health. The problem with this admirable work ethic is that long COVID might worsen if workers ignore the symptoms and forge ahead. The result could be a severe rebound of disease, and heart problems like tachycardia.

“If you are not feeling well, you should rest,” Lambert explains. “Healthcare workers are used to pushing through long shifts and getting things done. But if long-haulers try to do this, it can make their symptoms debilitating. The nature of COVID is that symptoms can come and go, and rest is essential for recovery. That information needs to become part of health leave policies, but right now it is not, as medical staff are needed more than ever.”

The CDC View

The CDC recently held a clinical outreach call on the long COVID phenomenon, which included an overview by **Alfonso Hernandez-Romieu**, MD, a member of the agency’s COVID-19 Late Sequelae Unit.

“Based on information available so far, persons with long COVID often present reporting persistent severe fatigue, headaches, and brain fog, which is defined as mild

subjective cognitive impairment, approximately four weeks after acute illness,” he said. “Reports from clinicians have highlighted that long COVID may be independent of acute illness severity.”¹

Researchers in China found that 76% of 1,733 patients reported at least one symptom of long COVID six months after their acute illness. Overall, 63% reported fatigue or muscle weakness, and 26% experienced labored breathing. Sleep problems occurred in 26%, and 22% reported anxiety or depression.²

“One in five patients not requiring supplemental oxygen during hospitalization had decreased lung function after six months,” Hernandez-Romieu said.

Indeed, long COVID can follow mild infections not requiring hospitalization. A study of patients in a post-COVID-19 clinic in France revealed 35% to 54% of patients with initial mild cases experienced persistent symptoms after two to four months.³

“Half to three-fourths of patients attending the post-acute COVID clinic in France [reported] new symptoms not initially present or symptoms that reappeared after initial resolution,” he said. “In addition, 9% of patients in a Faroe Islands study reported persistent severe symptoms at four months.”⁴

In the post-acute COVID-19 clinic in France, more than 25% of patients developed new neurological signs and symptoms after their acute COVID-19 illness. These included cognitive dysfunction, balance disorders, and swallowing and speech disorders, Hernandez-Romieu said.

“It is important for providers evaluating patients to perform baseline and serial comprehensive reviews of systems and physical exams to detect new or recurrent

manifestations in patients with possible long COVID and improve its medical management,” Hernandez-Romieu explained. “There is still a lot we do not understand, and empathy toward patients experiencing long COVID is fundamental.”

Another speaker raised this point, emphasizing that long COVID patients should be reassured during treatment, even in the absence of medical explanations for some of the aspects of their suffering.

“While we don’t know what’s causing these symptoms, they are very real for patients, and we are seeing patients get better. I think it’s important to reassure them of that, while still supporting them in their journey,” **Allison Navis**, MD, lead clinical neurologist at the Center for Post-COVID Care at Mount Sinai Hospital in New York City, explained on the CDC clinical outreach call.¹

Navis described a 42-year-old female patient who was experiencing cognitive issues, although she continued to work fewer hours. “She also noted physical fatigue that worsened with exercise,” she explained. “She had a tingling sensation throughout her body, but it was worse in her hands, and she also had heart rate elevations, palpitations, and shortness of breath.”

One of the initial clinical suspicions was that long COVID was a widespread neurological process that could include the brain. “There’s been some evidence that COVID can affect the brain, but that seems to be very rare and less common than the inflammatory changes,” Navis said.

Distinct from brain impairment, brain fog is one of the most common neurological symptoms seen in these patients.

“Brain fog is a symptom. It is not a diagnosis, and it means many

different things to different people,” Navis said. “Oftentimes, it’s a combination of short-term memory issues, concentration, or a sort of word-finding speech difficulty.”

It is important to highlight that brain fog does not equal dementia. “Dementia is a neurological diagnosis, but we are seeing a lot of reassuring cognitive test results,” Navis said. “That doesn’t mean that these changes are not present and affecting these patients, but we’re not seeing patients who were previously high-functioning coming in with dementia”

Thus, it is unlikely that long COVID involves widespread infection in the brain. “There could be some inflammation. There could be a role of the vasculature playing into this, but we really don’t know,” Navis said. “Could the peripheral nervous system be affected? It absolutely could. It’s much more vulnerable to systemic insult. It’s not protected by the blood/brain barrier.”

Younger Patients Begin the Long Haul

Navis finds no “clear correlation with the severity of COVID infection, age, or risk factors — meaning that we’re seeing a lot of patients who had mild COVID and were not hospitalized. We’re seeing a lot of younger patients and those who were previously healthy.”

The symptoms often fluctuate, as patients report feeling like their normal selves and then will have bad day with fatigue and other symptoms.

“The impact on life varies,” she says. “Some patients are able to continue working. It might be a little bit more challenging, but they haven’t had to stop working. Whereas, others are on disability.”

Sleep disorders of some variety are common, with some long COVID patients struggling to fall asleep, or waking up frequently.

“We’re also seeing a lot of mood symptoms — so many patients expressing depression, anxiety, or post-traumatic stress disorder [PTSD]-like symptoms,” Navis said. “In addition to the brain fog, we’re also seeing these other symptoms as well. Headaches are probably the second most common symptoms that we’re seeing.”

These can vary from tension headaches to something that would be closer to a migraine. “Many [of these] patients don’t have a history of headaches, and now they complain of frequent headaches,” she said. “A lot of patients are complaining of tingling or numbness — sometimes a burning sensation. It can be local. It can be throughout the entire body, and sometimes alternating in locations, and more often, patients will say that it’s a little bit worse distally in their extremities.”

Clinicians also are seeing fluctuating heart rates and blood pressure, with patients complaining of lightheadedness, palpitations, and gastrointestinal disturbances. “In terms of neuroimaging, we’re really not seeing large, inflammatory, or infectious lesions,” Navis said. “We’re not seeing signs of what looks like encephalitis. We’re not even really seeing many strokes.”

There could be damage to the central nervous system, but again there is no substantive evidence to support or refute it on a large scale.

“Any inflammatory or metabolic changes can cause neuropathies, and we are seeing the presence of a small fiber neuropathy on some of our patients,” Navis said. “That could explain some of the symptoms, as well as dysautonomia and tingling.”

Broaching a delicate subject, Navis raised the question of whether and to what degree the mental health of patients could be contributing to long COVID symptoms.

“I want to highlight the importance of mental health aspects,” she said. “I think it’s extremely important to address those, to not be dismissive of them, but also not to [link] everything to it. A lot of patients do have depression and anxiety that’s secondary to these ongoing symptoms, and I think that’s extremely understandable. However, we do know that depression, anxiety, and PTSD can affect cognition and other symptoms. That is something we can act on, and, hopefully, improve those symptoms.”

With few available cures for neurological damage, a lot of the treatment will be therapeutic and supportive, with a multidisciplinary approach, she said. ■

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A Third Arrow in the Quiver: FDA Grants Emergency Use of New Vaccine

Tested against some variants, 85% effective in preventing severe COVID-19

The Food and Drug Administration (FDA) has issued an emergency use authorization (EUA) for a third vaccine COVID-19 in the United States, approving Janssen Biotech's vaccine for administration to those 18 years and older.

"In making this determination, the FDA can assure the public and medical community that it has conducted a thorough evaluation of the available safety, effectiveness, and manufacturing quality information," the agency announced on Feb. 27.¹

As opposed to the two messenger-RNA vaccines already in use (Pfizer, Moderna), the new Janssen vaccine uses an attenuated adenovirus type 26 to target spike protein of SARS-CoV-2. A subsidiary of Johnson & Johnson, Janssen developed a vaccine that triggers antibody production after a single dose and can be stored in a refrigerator for approximately three months.

Clinical trials included 40,000 participants, with roughly equal numbers receiving either placebo or vaccine. Trial sites included South Africa, Mexico, and some countries in South America, meaning the vaccine was exposed to some of the circulating variants of the pandemic virus. This may explain its overall 66% efficacy in preventing moderate to severe/critical COVID-19 occurring at least 28 days after vaccination. That is lower than the mid-90s efficacy percentages found in the two preceding vaccines, but those clinical trials were conducted before the many virus mutations appeared. In addition, the vaccine prevented 85% of cases of severe infection.

"The most important goal for any of the vaccines that we are using is whether it prevents serious disease that requires hospitalization, perhaps intensive care admission, and death,"

says **William Schaffner**, MD, nationally known vaccine advocate and a professor at Vanderbilt University. "We are less interested if it prevents [mild] disease that just keeps you at home."

The most commonly reported side effects were pain at the injection site, headache, fatigue, muscle aches, and nausea. Most side effects were mild to moderate in severity and lasted one or two days.

"At this time, data are not available to determine how long the vaccine will provide protection, nor is there evidence that the vaccine prevents transmission of SARS-CoV-2 from person to person," the FDA reported. ■

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Long-Term Care Workers Refusing COVID-19 Vaccines

In what would appear to go beyond vaccine hesitancy to outright refusal, 62.5% of staff at thousands of skilled nursing facilities (SNFs) have turned down COVID-19 vaccines. 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 reported. "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."¹

Historically, long-term care workers have shunned influenza vaccinations, citing skepticism about the vaccine's efficacy and claiming such canards as 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.¹

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members of skilled nursing facilities participating in the Pharmacy Partnership for Long-Term Care Program — United States, December 2020-January 2021. *MMWR Morb Mortal Wkly Rep* 2021;70:178-182.

U.K. Physicians with Long COVID Call for Action

In an unusual appeal from healthcare workers stricken with the malingering symptoms of long COVID, a letter signed by more than 40 physicians calls for more surveillance and research into the poorly understood condition.¹

As employee health professionals are aware, people with long COVID — many of whom appeared to recover from initial infection — may experience an intermittent panoply of symptoms that include fatigue, headache, loss of sense of smell, and others. Some come out of it in weeks or months, but others have suffered long COVID for a year and are still followed.

“We write as a group of doctors affected by persisting symptoms of suspected or confirmed COVID-19,” the physicians wrote. “We aim to share our insights from both personal experience of the illness and our perspective as physicians. Tackling this problem will involve collaboration between politicians, healthcare services, public health professionals, scientists, and society.”

The group of doctors in the United Kingdom called for these principles to be implemented to help people with long COVID:

- **Research and surveillance.**

Persisting symptoms of COVID-19 should be addressed using a scientific methodology and without bias, they

wrote, making the common-sense point that people experiencing the condition should be counted.

“We still know very little about COVID-19, but we do know that we cannot fight what we do not measure,” the physicians emphasized.

Research and surveillance should capture the full spectrum of disease, including in those not admitted to a hospital and not tested. “We need a clear definition for recovery from COVID-19,” they noted. “We argue that further research into chronic COVID-19 symptoms is essential. Failure to understand the underlying biological mechanisms causing these persisting symptoms risks missing opportunities to identify risk factors, prevent chronicity, and find treatment approaches for people affected now and in the future.”

- **Clinical services.** “Services need to be timely, tailored to individuals’ presentations, and involve investigating and treating pathology, as well as the functional recovery of individuals,” the physicians emphasized.

Before any active rehabilitation can start, long COVID patients must be assessed for heart and lung health. “Before we get people exercising, it’s important to be sure that it’s going to be safe,” the authors stated. “We need proper evaluation of cardiac and respiratory function, and we need

to take things slowly and in a paced measure. ... The establishment of one-stop clinics will allow pattern recognition and expertise to develop among clinicians identifying and managing sequelae of COVID-19.”

- **Patient involvement.**

“Patients must be involved in the commissioning of clinical services and the design of research studies,” the authors wrote. “Patients experiencing persisting symptoms of COVID-19 have a great deal to contribute to the search for solutions.”

- **Access to services.** Clinical services should not unfairly discriminate against those with negative tests. A clinical diagnosis should be adequate for accessing need of care.

“We welcome increasing awareness of the problem of persisting symptoms of COVID-19,” the physicians concluded. “As politicians, scientists, and doctors attempt to tackle this issue, these principles can act as a guide enabling the experiences of those with the condition to inform the efforts of experts and lead to improved research and clinical care, benefiting those affected and society as a whole.” ■

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HOSPITAL EMPLOYEE HEALTH

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CE QUESTIONS

- 1. According to Mathew Wynia, MD, MPH, occupational infections generally are not required to be tracked and reported in healthcare. Which medical area is an exception and must report occupational infections?**
 - a. Intensive care
 - b. Laboratory
 - c. Emergency department
 - d. Respiratory therapy
- 2. According to Natalie Lambert, PhD, long COVID's wide variety of symptoms:**
 - a. require prolonged hospitalization in many cases.
 - b. can be directly transmitted without other signs of infection.
 - c. may completely resolve and later return.
 - d. have not lasted more than six months in any cases thus far.
- 3. The Food and Drug Administration has issued an emergency use authorization for Janssen Biotech's COVID-19 vaccine for administration to those 18 years and older. How effective is this new vaccine in preventing severe COVID-19 that could lead to hospitalization and death?**
 - a. 50%
 - b. 66%
 - c. 85%
 - d. 94%
- 4. Which is a frequently cited reason for COVID-19 vaccine hesitancy among long-term care workers?**
 - a. The vaccine efficacy is less than 50%
 - b. Fear of contracting COVID-19
 - c. Waiting for others to take it first
 - d. Skepticism regarding clinical trials and vaccine development

CE OBJECTIVES

After reading each issue of *Hospital Employee Health*, the nurse will be able to do the following:

1. Identify particular clinical, administrative, or regulatory issues related to the care of hospital employees;
2. Describe how the clinical, administrative, and regulatory issues particular to the care of hospital employees affect health care workers, hospitals, or the healthcare industry at large;
3. Cite solutions to the problems faced in the care of hospital employees based on expert guidelines from relevant regulatory bodies, or the independent recommendations of other employee health professionals.