

# THE Hospitalist<sup>®</sup>

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Dr. Eric E. Howell (left), new CEO of SHM, and Dr. Larry Wellikson, retiring CEO of SHM.

## The wave of the future

Longtime CEO bids farewell to SHM

By Larry Wellikson, MD, MHM

### Changing times

After more than 20 years, my leadership role as CEO at the Society of Hospital Medicine (SHM) has ended with the transition to Eric E. Howell, MD, as the new SHM CEO as of July 1, 2020. Looking back, I think we can all be proud of how we have helped to shape the specialty of hospital medicine over these two decades and of how strong SHM has become to support our new specialty.

In 2000, few people knew what a hospitalist was (or more importantly what we could become), and the specialty of hospital medicine had not even been named yet. Today the reputation of SHM is firmly established and the specialty has been defined by a unique curriculum through the Core Competencies in Hospital Medicine for both adult and pediatric patients, and by several textbooks in hospital medicine. There are divisions or departments of hospital medicine at many

hospitals and academic medical centers. We even managed to convince the American Board of Internal Medicine, the American Board of Family Medicine, and the American Board of Medical Specialties to create a credential of Focused Practice in Hospital Medicine as the first-ever certification not tied to specific fellowship training.

To recognize the contributions of our members, SHM has established Awards of Excellence and the Fellow

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### Keji Fagbemi, MD

Keeping an inpatient detox unit running during the coronavirus pandemic.

### Khaalisha Ajala, MD, MBA

'I can't breathe': Noting health inequity, state-sanctioned violence.

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## Hospitalist movers and shakers July 2020

By Matt Pesyna

**Rupesh Prasad, MD, SFHM**, recently started a new role as medical director of care management for Advocate Aurora Health in Milwaukee. His focus areas include clinical documentation and care transition for inpatients.



Dr. Prasad

He was previously the quality and utilization officer for Aurora Sinai Medical Center. Dr. Prasad is a hospitalist with 15 years of experience and has served as the chief of staff at Aurora Sinai Medical Center. He is the cochair for the Advocate Aurora Health Inpatient Physician Informatics Committee, where his focus is on optimization of EHR for the end user.

Dr. Prasad cochairs the Society of Hospital Medicine's IT Special Interest Group and sits on the Hospital Quality and Patient Safety Committee. He is the president of SHM's Wisconsin Chapter.

**David Rice, MD**, recently earned promotion to chief medical officer for Baptist Health, a nonprofit health care system based in Jacksonville, Fla. In addition to his role as CMO, Dr. Rice will maintain the titles of senior vice president and chief quality officer.

Dr. Rice, who has spent the past 5 years as chief quality officer at Baptist Health, will oversee clinical quality, patient safety, and performance improvement. The Baptist Health system includes 200 different points of care.

Dr. Rice takes over for Keith Stein, MD, who had served as Baptist's CMO since 1999.

Alabama hospitalist **Jade Brice-Roshell, MD**, has been named one of the "70 African American Leaders in Health Care to Know in 2020" list by Becker's Hospital Review.



Dr. Brice-Roshell

Dr. Brice-Roshell has served as Shelby Baptist Medical Center's (Al-

abaster, Ala.) CMO for the past year and has been a Shelby staff member since 2015. It is the second year in a row that she has been honored by Becker's on this list.

After a nationwide search, executive leaders at Bassett Medical Center in Cooperstown, N.Y., have elected to elevate hospitalist **Kai Mebust, MD, FHM**, to the role of chief of the department of medicine, succeeding Charles Hyman, MD. Dr. Mebust had been working



Dr. Mebust

alongside Dr. Hyman as associate chief since March 2019 while the network was seeking a successor. It turns out they had their man in house all along.

Dr. Mebust has 16 years of experience with Bassett, including 10 years as chief of the hospitalist division and 4 years as medical director of the network's hospitalist program. In his new position, he will be charged with directing care and providing leadership for the system's physicians.

**Robert Hayes, MD**, has been named co-medical director of the hospitalist program at St. Mary's Medical Center in Huntington, WV.

Previously a hospitalist and medical director with Our Lady of Bellefonte Hospital in Russell, Ky., Dr. Hayes received his medical degree from the Marshall University Joan C. Edwards School of Medicine.

**Prisma Health Tuomey Hospital** (Sumter, S.C.) has raised its level of care for children, newborns, and infants by creating a new pediatric hospitalist program through a strengthened relationship with Children's Hospital-Midlands in Columbia, S.C.

The rural community has been affiliated with Children's for a long time, but the new setup places full-time physicians in the Sumter facility that are part of the Children's team.

The pediatric hospitalist team will work closely with local pediatricians and family physicians to ensure that follow-ups and other preventative treatments are handled once a child is discharged from Tuomey Hospital.

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## Sneak Peek: Journal of Hospital Medicine

## A black physician in the time of two pandemics

'Overwhelming times to say the least'

By Kimberly D. Manning, MD

"Hey there – just checking on you and letting you know I'm thinking of you."

"I know words don't suffice right now. You are in my thoughts."

"If there's any way that I can be of support or if there's something you need, just let me know."

The texts and emails have come in waves. Pinging into my already distracted headspace when, like them, I'm supposed to be focused on a Zoom or WebEx department meeting. These somber reminders underscore what I have known for years but struggled to describe with each new "justice for" hashtag accompanying the name of the latest unarmed black person to die. This is grief.

With every headline in prior years, as black Americans we have usually found solace in our collective fellowship of suffering. Social media timelines become flooded with our own amen choirs and outrage along with words of comfort and inspiration. We remind ourselves of the prior atrocities survived by our people. And like them, we vow to rally; clinging to one other and praying to make it to shore. Though intermittently joined by a smattering of allies, our suffering has mostly been a private, repetitive mourning.

**The two pandemics**

The year 2020 ushered in a new decade along with the novel SARS-CoV-2 (COVID-19) global pandemic. In addition to the thousands of lives

that have been lost in the United States alone, COVID-19 brought with it a disruption of life in ways never seen by most generations. Schools and businesses were closed to mitigate spread. Mandatory shelter-in-place orders coupled with physical distancing recommendations limited human interactions and canceled everything from hospital visitations to graduations, intergenerational family gatherings, conferences, and weddings. As the data expanded, it quickly became apparent that minorities, particularly black Americans, shouldered a disproportionate burden of COVID-19. Known health disparities were amplified.

While caring for our patients as black physicians in the time of coronavirus, silently we mourned again. The connection and trust once found through racial concordance was now masked figuratively and literally by personal protective equipment (PPE). We ignored the sting of intimations that the staggering numbers of African Americans hospitalized and dying from COVID-19 could be explained by lack of discipline or, worse, genetic differences by race. Years of disenfranchisement and missed economic opportunities forced large numbers of our patients and loved ones out on the front lines to do essential jobs – but without the celebratory cheers or fanfare enjoyed by others. Frantic phone calls from family and acquaintances interrupted our quiet drives home from emotionally grueling shifts in the hospital – each conversation serving as our personal evidence of COVID-19 and her ruthless ravage

of the black community.

Add to this trying to serve as cultural bridges between the complexities of medical distrust and patient advocacy along with wrestling with our own vulnerability as potential COVID-19 patients, these have been overwhelming times to say the least.

Then came the acute decompensation of the chronic racism we'd always known in the form of three recent killings of more unarmed African Americans. On March 13, 2020, 26-year-old Breonna Taylor was shot after police forcibly entered her home after midnight on a "no knock" warrant. The story was buried in the news of COVID-19 – but we knew. Later we'd learn that 26-year-old Ahmaud Arbery was shot and killed by armed neighbors while running through a Brunswick, Ga., neighborhood. His death on Feb. 23, 2020, initially yielded no criminal charges.

Then, on May 25, 2020, George Floyd, a 46-year-old father arrested for suspected use of a counterfeit \$20 bill, died after a law enforcement official knelt with his full body weight upon Floyd's neck for more than 8 minutes. The deaths of Arbery and Floyd were captured by cell phone cameras which, aided by social media, quickly reached the eyes of the entire world.

At first, it seemed plausible that this would be like it always has been. A black mother would stand before a podium filled with multiple microphones crying out in anguish. She would be flanked by community leaders and attorneys demanding justice. Hashtags would be formed. Our people would stand up or kneel



Dr. Manning is a professor of medicine and the associate vice chair of diversity, equity, and inclusion at Emory University in Atlanta, where she also is a hospitalist at Grady Memorial Hospital. To read the full version of this article, visit the Journal of Hospital Medicine, where it first appeared (doi: 10.12788/jhm.3481).

down in solidarity – holding fast to our historic resilience. Evanescent allies would appear with signs on lawns and held high over heads. A few weeks would pass by and things would go back to normal. Black people would be left with what always remains: heads bowed and praying at dinner tables petitioning a higher power for protection followed by reaffirmations of what, if anything, could be done to keep our own mamas away from that podium.

We've learned to treat the grief of racism as endemic to us alone, knowing that it has been a pandemic all along.

## SHM responds to racism in the United States

The Society of Hospital Medicine deplores the negative impact of racism in our nation and will always strive to remedy racial inequities in our health care system. Racism in our society cannot be ignored. Nor will SHM ignore racism's impact on public health. SHM enthusiastically supports its members working to promote equity and reduce the adverse impact of racism. We are committed to using our platform to improve the health of patients everywhere.

SHM would like to reaffirm its long-valued

dedication to diversity and inclusion. We remain committed to promoting healthy discussions and action throughout our publications, resources and member communities, as outlined by our diversity and inclusion statement.

**SHM Diversity and Inclusion Statement**

Hospitalists are charged with treating individuals at their most vulnerable moments, when being respected as a whole person is crucial to advance patients' healing and wellness. Within our workforce, diversity is a strength in all its

forms, which helps us learn about the human experience, grow as leaders, and ultimately create a respectful environment for all regardless of age, race, religion, national origin, gender identity, sexual orientation, socioeconomic status, appearance, or ability.

To this end, the Society of Hospital Medicine will work to eliminate health disparities for our patients and foster inclusive and equitable cultures across our care teams and institutions with the goal of moving medicine and humanity forward.

# Hospitalists stretch into new roles on COVID-19 front lines

'Every single day is different'

By Larry Beresford

In the midst of the COVID-19 pandemic, health systems, hospitals, and hospitalists – especially in hot spots like New York, Detroit, or Boston – have been challenged to stretch limits, redefine roles, and redeploy critical staff in response to rapidly changing needs on the ground.

Many hospitalists are working above and beyond their normal duties, sometimes beyond their training, specialty, or comfort zone, and are rising to the occasion in ways they never imagined. These include doing shifts in ICUs, working with ventilator patients, and reporting to other atypical sites of care like postanesthesia care units and post-acute care or step-down units.

Valerie Vaughn, MD, MSc, a hospitalist with Michigan Medicine and assistant professor of medicine at the University of Michigan in Ann Arbor, was doing research on how to reduce overuse of antibiotics in hospitals when the COVID-19 crisis hit and dramatically redefined



Dr. Valerie Vaughn wears personal protective equipment at Michigan Health, Ann Arbor.

her job. “We were afraid that we might have 3,000-5,000 hospitalized COVID patients by now, based on predictive modeling done while the pandemic was still growing exponentially,” she explained. Although Michigan continues to have high COVID-19 infection rates, centered on nearby Detroit, “things are a lot better today than they were 4 weeks ago.”

Dr. Vaughn helped to mobilize a team of 25 hospitalists, along with other health care providers, who volunteered to manage COVID-19 patients in the ICU and other hospital units. She was asked to help develop an all-COVID unit called the Regional Infectious Containment Unit or RICU, which opened March 16. Then, when the RICU became full, it was supplemented by two COVID-19 Moderate Care Units staffed by hospitalists who had “learned the ropes” in the RICU.

Both of these new models were defined in relation to the ICUs at Michigan Medicine – which were doubling in capacity, up to 200 beds at last

count – and to the provision of intensive-level and long-term ventilator care for the sickest patients. The moderate care units are for patients who are not on ventilators but still very sick, for example, those receiving massive high-flow oxygen, often with a medical do-not-resuscitate/do-not-intubate order. “We established these units to do everything (medically) short of vents,” Dr. Vaughn said.

“We are having in-depth conversations about goals of care with patients soon after they arrive at the hospital. We know outcomes from ventilators are worse for COVID-positive patients who have comorbidities, and we’re using that information to inform these conversations. We’ve given scripts to clinicians to help guide them in leading these conversations. We can do other things than use ventilators to manage their symptoms. But these are still difficult conversations,” Dr. Vaughn said.

“We also engaged palliative care early on and asked them to round with us on every [COVID] patient – until demand got too high.” The bottleneck has been the number of ICU beds available, she explained. “If you want your patient to come in and take that bed, make sure you’ve talked to the family about it.”

The COVID-19 team developed guidelines printed on pocket cards addressing critical care issues such as a refresher on how to treat acute respiratory distress syndrome and how to use vasopressors. (See the COVID-19 Continuing Medical Education Portal for web-accessible educational resources developed by Michigan Health – <https://ww2.highmarksce.com/micme/index.cfm?do=cnt.page&pg=1119>).

It’s amazing how quickly patients can become very sick with COVID-19, Dr. Vaughn said. “One of the good things to happen from the beginning with our RICU is that a group of doctors became COVID care experts very quickly. We joined four to five hospitalists and their teams with each intensivist, so one critical care expert is there to do teaching and answer clinicians’ questions. The hospitalists coordinate the COVID care and talk to the families.”

Working on the front lines of this crisis, Dr. Vaughn said, has generated a powerful sense of purpose and camaraderie, creating bonds like in war time. “All of us on our days off feel a twinge of guilt for not being there in the hospital. The sense of gratitude we get from patients and families has been enormous, even when we were telling them bad news. That just brings us to tears.”

One of the hardest things for the doctors prac-



Hospitalists at Michigan Health picked up some ICU duties.

ticing above their typical scope of practice is that, when something bad happens, they can’t know whether it was a mistake on their part or not, she noted. “But I’ve never been so proud of our group or to be a hospitalist. No one has complained or pushed back. Everyone has responded by saying: ‘What can I do to help?’”

## Enough work in hospital medicine

Hospitalists had not been deployed to care for ICU patients at Beth Israel Deaconess Medical Center (BIDMC) in Boston, a major hot spot for COVID-19, said Joseph Ming Wah Li, MD, SFHM, director of the hospital medicine program at BIDMC, when he spoke to *The Hospitalist* in mid-May. That’s because there were plenty of hospital medicine assignments to keep them busy. Dr. Li leads a service of 120 hospitalists practicing at four hospitals.

“As we speak today, we have 300 patients with COVID, with 70 or 80 of them in our ICU. I’m taking care of 17 patients today, 15 of them COVID-positive, and the other two placed in



Dr. Joseph Ming Wah Li (left) and Dr. David Feinbloom of Beth Israel Deaconess Medical Center, Boston, display their PPE in a COVID ward.



Dr. Joseph Ming Wah Li (second from right) and members of his hospital medicine team take a break at Beth Israel Deaconess Medical Center.

a former radiology holding suite adapted for COVID-negative patients. Our postanesthesia care unit is now an ICU filled with COVID patients,” he said.

“Half of my day is seeing patients and the other half I’m on Zoom calls. I’m also one of the resource allocation officers for BIDMC,” Dr. Li said. He helped to create a standard of care for the hospital, addressing what to do if there weren’t enough ICU beds or ventilators. “We’ve never actualized it and probably won’t, but it was important to go through this exercise.”

Haki Laho, MD, an orthopedic

hospitalist at New England Baptist Hospital (NEBH), also in Boston, has been redeployed to care for a different population of patients as his system tries to bunch patients. “All of a sudden – within hours and days – at the beginning of the pandemic and based on the recommendations, our whole system decided to stop all elective procedures and devote the resources to COVID,” he said.

NEBH is Beth Israel Lahey Health’s 141-bed orthopedic and surgical hospital, and the system has tried to keep the specialty facility COVID-19-free as much as possible, with the COVID-19 patients grouped

together at BIDMC. Dr. Laho’s orthopedic hospitalist group, just five doctors, has been managing the influx of medical patients with multiple comorbidities – not COVID-19-infected but still a different kind of patient than they are used to.

“So far, so good. We’re dealing with it,” he said. “But if one of us got sick, the others would have to step up and do more shifts. We are physicians, internal medicine trained, but since my residency I hadn’t had to deal with these kinds of issues on a daily basis.”

### Convention Center medicine

Another Boston hospitalist, Amy Baughman, MD, who practices at Massachusetts General Hospital, is using her skills in a new setting, serving as a co-medical director at Boston Hope Medical Center, a 1,000-bed field hospital for patients with COVID-19. Open since April 10 and housed in the Boston Convention and Exhibition Center, it is a four-way collaboration between the Commonwealth of Massachusetts, the City of Boston, Partners HealthCare, and the Boston Health Care for the Homeless Program.

Boston Hope is divided into a post-acute care section for recover-



Dr. Amy Baughman marks her personal protective equipment.

ing COVID-19 patients and a respite section for undomiciled patients with COVID-19 who need a place to safely quarantine. Built for a maximum of 1,000 beds, it is currently using fewer, with 83 patients on the post-acute care side and 73 on the respite side as of May 12. A total of 370 and 315, respectively, had been admitted through May 12.

The team had 5 days to put the field hospital together with the

*Continued on following page*

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Boston Hope Medical Center, a 1,000-bed field hospital treated patients with COVID-19 shown.

*Continued from previous page*

help of the Army National Guard. “During that first week I was installing hand sanitizer dispensers and making [personal protective equipment] signs. Everyone here has had to do things like that,” Dr. Baughman said. “We’ve had to be incredibly creative in our staffing, using doctors from primary care and subspecialties including dermatology, radiology, and orthopedics. We had to fast-track trainings on how to use EPIC and to provide post-acute COVID care. How do you simultaneously build a medical facility and lead teams to provide high quality care?”

Dr. Baughman still works hospitalist shifts half-time at Massachusetts General. Her prior experience providing post-acute care in the VA system was helpful in creating the level of care at Boston Hope.

“My medical director role involves supervising, staffing, and scheduling. My co-medical director, Dr. Kerri

Palamara, and I also supervise the clinical care,” she said. “There are a lot of systems issues, like ordering labs or prescriptions, with couriers going back and forth. And we developed clinical pathways, such as for [deep vein thrombosis] prophylaxis or for COVID retesting to determine when it is safe to end a quarantine. We’re just now rolling out virtual specialist consultations,” she noted.

“It has gone incredibly well. So much of it has been about our ability and willingness to work hard, and take feedback and go forward. We don’t have time to harp on things. We have to be very solution oriented. At the same time, honestly, it’s been fun. Every single day is different,” Dr. Baughman said.

“It’s been an opportunity to use my skills in a totally new setting, and at a level of responsibility I haven’t had before, although that’s probably a common theme with COVID-19. I was put on this team because I am a hospitalist,” she said.

“I think hospitalists have been the backbone of the response to COVID in this country. It’s been an opportunity for our specialty to shine. We need to embrace the opportunity.”

### Expertise and supervision

Mount Sinai Hospital (MSH) in Manhattan is in the New York epicenter of the COVID-19 crisis and has mobilized large numbers of pulmonary critical care and anesthesia physicians to staff up multiple ICUs for COVID-19 patients, said Andrew Dunn, MD, chief of the division of hospital medicine at Mount Sinai School of Medicine.

“My hospitalist group is covering many step-down units, medical wards, and atypical locations, providing advanced oxygen therapies, [bilevel positive airway pressure], high-flow nasal cannulas, and managing some patients on ventilators,” he said.

MSH has teaching services with house staff and nonteaching services. “We combined them into a unified service with house staff dispersed across all of the teams. We drafted a lot of nonhospitalists from different specialties to be attendings, and that has given us a tiered model, with a hospitalist supervising three or four nonhospitalist-led teams. Although the supervising hospitalists carry no patient case-loads of their own, this is primarily a clinical rather than an administrative role.”

At the peak, there were 40 rounding teams at MSH, each with a typical census of 15 patients or more, which meant that 10 supervisory hospitalists were responsible for 300-400 patients. “What we learned first was the need to balance the level of expertise. For example, a team

may include a postgraduate year 3 resident and a radiology intern,” Dr. Dunn said. As COVID-19 census has started coming down, supervisory hospitalists are returning to direct care attending roles, and some hospitalists have been shared across the Mount Sinai system’s hospitals.

Dr. Dunn’s advice for hospitalists filling a supervisory role like this in a tiered model: Make sure you talk to your team the night before the first day of a scheduling block and try to address as many of their questions as possible. “If you wait until the morning of the shift to connect with them, anxiety will be high. But after going through a couple of scheduling cycles, we find that

things are getting better. I think we’ve paid a lot of attention to the risks of burnout by our physicians. We’re using a model of 4 days on/4 off.”



Dr. Dunn

Another variation on these

themes is Joshua Shatzkes, MD, assistant professor of medicine and cardiology at Mount Sinai, who practices outpatient cardiology at MSH and in several off-site offices in Brooklyn. He saw early on that COVID-19 would have a huge effect on his practice, so he volunteered to help out with inpatient care. “I made it known to my chief that I was available, and I was deployed in the first week, after a weekend of cramming webinars and lectures on critical care.”

Working as a temporary hospitalist with the arrival of COVID-19, Dr. Shatzkes has been invigorated and mobilized by the experience and reminded of why he went to medical school in the first place. “Each day’s shift went quickly but felt long. At the end of the day, when I walked out of a patient’s room, they could tell, ‘This is a doctor who cared for me,’” he said.

On his first morning as an inpatient doctor, he was still getting oriented when calls started coming from the nurses. “I had five patients struggling to breathe. Their degree of hypoxia was remarkable.”

When this is all over, Dr. Shatzkes would love to find a way to incorporate a hospital practice in his job.

“Joshua is not a hospitalist, but he went on service and felt so fulfilled, he asked me if he could stay on service,” Dr. Dunn said. “I also got an email from the nurse manager on the unit. They want him back.”

## Learning the ICU

Although deployment of hospitalists into ICUs during the COVID-19 crisis varies widely, in that sense it reflects the pre-COVID hospital landscape of variable involvement, in which many hospitalists pressed into this role expressed discomfort practicing critical care beyond their scope of training, according to a survey published in the *Journal of Hospital Medicine* in 2018.<sup>1</sup> “Hospitalists frequently deliver critical care services without adequate training or support, most prevalently in rural hospitals,” the authors concluded.

A Critical Care for the Hospitalist Series (<https://www.shmlearningportal.org/content/critical-care-hospitalist-series#group-tabs-node-course-default2>) of resources and lectures developed by Eric Siegal, MD, a pulmonologist in Milwaukee, and David Aymond, MD, a hospitalist in Alexandria, La., is available on the SHM website. They recommend that hospitalists trying to get oriented to working in the ICU start with the on-

line courses on fluid resuscitation, mechanical ventilation, and noninvasive ventilation.

“Ninety-five percent of management of COVID-19 patients is nothing other than practicing sound critical care medicine,” Dr. Siegal said. “If you want to take effective care of sick COVID patients, you need to develop good foundational critical care skills and knowledge. Without them, you’re doing stuff without understanding it.”

Dr. Aymond also encourages hospitalists to develop a stronger understanding of key physiological concepts by reviewing the critical care clinical topics compiled at SHM’s website: <https://www.hospitalmedicine.org/clinical-topics/critical-care/>.

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## Survey Insights

# Calculations of an academic hospitalist

A comparison of 'bottom line' academic and community metrics

By Romil Chadha, MD, MPH, SFHM;  
Elda Dede, MPA

The term "academic hospitalist" has come to mean more than a mere affiliation to an academic medical center (AMC). Academic hospitalists perform various clinical roles like staffing house staff teams, covering nonteaching services, critical care services, procedure teams, night services, medical consultation, and comanagement services.

Over the last decade, academic hospitalists have successfully managed many nonclinical roles in areas like research, medical unit leadership, faculty development, faculty affairs, quality, safety, informatics, utilization review, clinical documentation, throughput, group management, hospital administration, and educational leadership. The role of an academic hospitalist is as clear as a chocolate martini these days. Here we present some recent trends in academic hospital medicine.

## Compensation

From SHM's *State of Hospital Medicine* report (SoHM) 2014 to 2018 data, the median compensation for U.S. academic hospitalists has risen by an average of 5.15% every year, although increases vary by rank.<sup>1</sup> From 2016 to 2018, clinical instructors saw the most significant growth, 11.23% per year, suggesting a need to remain competitive for junior hospitalists. Compensation also varies by geographic area, with the Southern region reporting the highest compensation. Over the last decade, academic hospitalists received, on average, a 28%-35% lower salary, compared with community hospitalists.

## Patient population and census

Lower patient encounters and compensation of the academic hospitalists poses the chicken or the egg dilemma. In the 2018 SoHM report, academic hospitalists had an average of 17% fewer encounters. Of note, AMC patients tend to have higher complexity, as measured by the Case Mix Index (CMI – the average diagnosis-related group weight of a hospital).<sup>2</sup> A higher CMI is a surrogate

marker for the diagnostic diversity, clinical complexity, and resource needs of the patient population in the hospital.

## Productivity and financial metrics

The financial bottom line is a critical aspect, and as a report in the *Journal of Hospital Medicine* described, all health care executives look at business metrics while making decisions.<sup>3</sup> Below are some significant academic and community comparisons from SoHM 2018.

- Collections, encounters, and wRVUs (work relative value units) were highly correlated. All of them were lower for academic hospitalists, corroborating the fact that they see a smaller number of patients. Clinical full-time equivalents (cFTE) is a vernacular of how much of the faculty time is devoted to clinical activities. The academic data from SoHM achieves the same target, as it is standardized to 100% billable clinical activity, so the fact that many academic hospitalists do not work a full-time clinical schedule is not a factor in their lower production.
- Charges had a smaller gap, likely because of sicker patients in AMCs. The higher acuity difference can also explain 12% higher wRVU/encounter for academic hospitalists.
- The wRVU/encounter ratio can indicate a few patterns: high acuity of patients in AMCs, higher levels of evaluation and management documentation, or both. As the encounters and charges have the same percentage differences, we would place our bets on the former.
- Compensation per encounter and compensation per wRVU showed that academic hospitalists do get a slight advantage.

## CMI and wRVUs

Although the SoHM does not capture information on patient acuity or CMI, we speculate that the relationship between CMI and wRVUs may be more or less linear at lower levels of acuity. However, once level III E/M billing is achieved (assuming there is no critical care provided), wRVUs/encounter plateau, even as acuity continues to increase. This plateau effect may be seen more often in high-acuity AMC settings than in community hospitals.

So, in our opinion, compensation models based solely on wRVU production would not do justice for hospitalists in AMC settings since these models would fail to capture the extra work involved with very-high-acuity patients. SoHM 2018 shows the finan-



Dr. Chadha



Ms. Dede

Dr. Chadha is division chief for the division of hospital medicine at the University of Kentucky Healthcare, Lexington. He actively leads efforts of recruiting, scheduling, practice analysis, and operation of the group. He is a first-time member of the practice analysis committee. Ms. Dede is division administrator for the division of hospital medicine at the University of Kentucky Healthcare. She prepares and manages budgets, liaisons with the downstream revenue teams, and contributes to the building of academic compensation models. She is serving in the practice administrators committee for the second year and is currently vice chair of the Executive Council for the Practice Administrators special interest group.

cial support per wRVU for AMC is \$45.81, and for the community is \$41.28, an 11% difference. We think the higher financial support per wRVU for academic practices may be related to the lost wRVU potential of caring for very-high-acuity patients.

## Conclusion

In an academic setting, hospitalists are reforming the field of hospital medicine and defining the ways we could deliver care. They are the pillars of collaboration, education, research, innovation, quality, and safety. It would be increasingly crucial for academic hospitalist leaders to use comparative metrics from SoHM to advocate for their group. The bottom line can be explained by the title of the qualitative study in JHM referenced above: "Collaboration, not calculation."<sup>3</sup>

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SOHM 2018	Community	Academic	Difference
Compensation	\$289,151	\$226,245	-28%
Collections	\$199,958	\$169,203	-18%
Charges	\$479,285	\$439,424	-9%
Encounters	1,988	1,696	-17%
wRVUs	4,169	3,527	-18%
Compensation/Encounter	\$153.90	\$169.24	9%
Compensation/wRVU	\$70.77	\$72.04	2%
Charges/Encounter	\$95.10	\$99.77	5%
Collection/wRVU	\$49.00	\$49.05	None
wRVU/Encounter	1.98	2.26	12%

Financial and productivity metrics: Academic versus community hospitalists. Data from SHM's 2018 *State of Hospital Medicine* Report.

# New CEO

Continued from page 1

and Senior Fellow in Hospital Medicine (FHM and SFHM) designations. We have gone from a small national association in Philadelphia to create 68 active chapters and more than 20 Special Interest Groups. In my time at SHM I have attended more than 75 chapter meetings and met with thousands of hospitalists in 46 states. We now have over 20,000 members at SHM, making us the fastest growing medical specialty ever.

When I started at the National Association of Inpatient Physicians (NAIP) our only meeting was an annual CME meeting for about 150-200 people. We now hold a national meeting every year for more than 4,000 attendees that is the "Center of the Universe for Hospital Medicine." Understanding that we needed to educate the people who will lead change in our health care system, we developed from scratch a set of Leadership Academies that has already educated more than 2,500 hospitalist leaders. To train the educators in quality improvement in medical education, we developed our Quality and Safety Educator Academy (QSEA) programs, and to promote career development of academic hospitalists, we created our Academic Hospitalist Academy.

SHM is the leader in adult in-practice learning, specifically designed for hospitalists. SHM members have access to a state-of-the-art comprehensive hospitalist-based online education system as well as board review and maintenance of certification (MOC) review tools in our SPARK program, specifically for hospital medicine.

In the area of quality improvement, most medical societies convene a panel of experts, develop guidelines, publish them, and hope that change will occur. SHM has been much more proactive, creating the Center for Quality Improvement

that has raised more than \$10 million and developed Quality Improvement programs in more than 400 hospitals over the years, winning the prestigious Eisenberg Award along the way.

When I started at NAIP in 2000, our only communication tools were a 4-page newsletter and an email listserv. Along the way we have developed a broadly read newsmagazine (*The Hospitalist*), a well-recognized peer-reviewed journal (*Journal of Hospital Medicine*), a robust website, and a significant social media presence.

From the very early days we knew that our specialty would not be totally successful by facing only inward. Change was coming to our health care system and hospitalists were going to be right in the middle. Despite our young age and limited resources, we have always hit above our weight class in advocacy. We actively participated in the development of the Affordable Care Act (Obamacare), making suggestions in payment reform, expanding the workforce with visa reform, and expanding the team of clinicians. Along the way SHM members rose to run the Centers for Medicare & Medicaid Services and the Food and Drug Administration, and serve as U.S. Surgeon General.

Today in these troubled times, SHM continues to be a positive voice in promoting the use of personal protective equipment, the need for increased COVID-19 testing, and the recognition of our nation's 60,000 hospitalists as essential frontline workers in the COVID-19 pandemic. With its longstanding role in promoting diversity and overcoming social injustice, SHM has had a positive national voice during the protests over police brutality.

We have proved to be a good partner with many other organizations and consistently were invited

to partner in coalitions with the ED physicians (ACEP), the critical care docs (SCCM), the hospitals (AHA), the house of medicine (AMA), other internists (ACP), surgeons (ACS), and pediatricians (AAP), and so many other much more established societies, because we could be an active, flexible, and knowledgeable partner for more than 20 years.

Today, SHM and hospital medicine are clearly recognized as a force in the rapidly evolving health care system. With this comes not only influence but also responsibility, and I am certain the SHM Board, membership, and staff are ready for this challenge. The economic toll of our current pandemic will see colleges and other major companies and institutions go out of business and leave the landscape. SHM has a deep foundation and a well of strength to call on and will survive and thrive into the future.

SHM has been a good fit for me professionally and personally. Many of my skills and strengths have served SHM in our "early" years. I am very proud of what we have been able to accomplish TOGETHER. In the end it is the people I have been fortunate enough to meet and work with throughout these past 20 years that will stay with me, many of whom are lifelong friends. My mother, even today at 93, has always asked me to leave anything I do better off than when I came in the door. As I look back at my time helping to shape and lead SHM, I am sure I have answered my mother's challenge and more.

I look forward to seeing many of you at a future SHM meeting and reveling in the way that hospitalists will actively play an important role in shaping our health care system in the future.

*Dr. Wellikson is retiring as CEO of SHM.*

## Live long and prosper

by Eric E. Howell, MD, MHM

Back in 2000, I was extremely fortunate to land my dream job as a hospitalist at Johns Hopkins Bayview in Baltimore. That dream exceeded my wildest aspirations. During my 20-year career as faculty in the Johns Hopkins School of Medicine I grew our tiny, 4-physician hospitalist group at Johns Hopkins Bayview into a multihospital program, complete with more than 150 physicians. That exceedingly rewarding work helped to shape the field of hospital medicine nationally and provided the foundation for my promotion to professor of medicine at Johns Hopkins in 2016.

Most professionals are lucky if they find one inspiring institution; I have found two. SHM has been my professional home since I became a hospitalist in 2000, and in that time I have

dedicated as much creative energy to SHM as I have at Johns Hopkins.

Even at this time when the medical profession, and the entire world, has been rocked by the coronavirus, the fundamentals that have made SHM



Dr. Howell

so successful will serve us well through the effects of this pandemic and beyond. It takes a skilled leader to nurture a professional society through the growth from only a few hundred members to thousands upon thousands, and at the same time crafting the profession into one of quality and high impact. These past 22 years Larry Wellikson, MD, MHM, our retiring CEO, has skillfully accomplished just that by building lasting programs and people.

As you might imagine, my approach will work to add onto the legacy that Larry has left us. Yes, we will have to adapt SHM to the realities of the near future: virtual meetings, in-person events (yes, those will return one day) with

appropriate social distancing until the coronavirus has faded, modified chapter meetings, and more.

Someday the world will find a new normal, and SHM will evolve to meet the needs of our members and the patients we serve.

Through this pandemic and beyond, my vision – in partnership with the Board of Directors – will be to

- Continue the work to enhance member engagement. We are primarily a membership organization, after all.
- Maintain our profession's leadership role in the care continuum, particularly acute care.
- Be a deliberate sponsor of diversity and inclusion. I believe social justice is a moral imperative.
- Invest in teams: Chapters, special interest groups, and committees are key to success.
- Be financially prudent, so that this organization can serve its members through the best of times and those most challenging times.

Back in 2000 I joined my dream society, the Society of Hospital

Medicine. That society exceeded my wildest aspirations. During my 20-year membership I started an SHM Chapter, was a leader in the Leadership Academies, joined the Board of Directors, participated in Annual Conferences, and helped lead the SHM Center for Quality Improvement. That exceedingly rewarding partnership helped shape the field of hospital medicine nationally and provided the foundation for my next role at SHM. I am excited and grateful to be the CEO of SHM.

I'll end with something I use every day – "Eric E. Howell's Core Values":

- Make the world a better place.
- Invest in people.
- Be ethical and transparent.
- Do what you love.
- Try to use Star Trek references whenever possible. (Okay, this last one is not really a core value, but maybe a character trait?). At least the Vulcan greeting is appropriate for our times: Live long and prosper.

*Dr. Howell is the new CEO for SHM as of July 1, 2020.*

# Should health care workers wear masks when at home?

By Jake Remaly  
MDedge News

**W**earing a mask at home, even when everyone is feeling fine, might reduce the risk of frontline health care workers transmitting SARS-CoV-2 infection to their families, a recent study from China suggests. But the benefits might not outweigh the costs, according to several physicians interviewed.

“My gut reaction is that home mask use for health care workers would place an inordinately high burden on those health care workers and their families,” said Jeanne Noble, MD, an emergency care physician at the University of California, San Francisco. “Wearing a mask for a 10-hour shift already represents significant physical discomfort, causing sores across the nose and behind the ears. The emotional toll of the physical distance that comes with mask use, with limited facial expression, is also quite real.”

The suggested benefit of home mask use comes from research published online May 28 in *BMJ Global Health* (doi: 10.1136/bmjgh-2020-002794). To assess predictors of household transmission of SARS-CoV-2 infection, Yu Wang, MD, of the Beijing Center for Disease Prevention and Control and colleagues conducted a retrospective study of 124 families in Beijing in which there was a confirmed case of COVID-19 as of Feb. 21.

The researchers surveyed family members by telephone about household hygiene and behaviors during the pandemic to examine risk factors for transmission.

During the 2 weeks following onset of the primary case, secondary transmission occurred in 41 families. Overall, 77 of 335 family members developed COVID-19.

A multivariable logistic regression analysis found that, in households in which family members wore masks at home before the first person became ill, there was less likelihood of transmission of disease to a family member, compared with families in which no one wore a mask prior to illness onset.

“Facemasks were 79% effective and disinfection was 77% effective in preventing transmission,” the researchers report, “whilst close frequent contact in the household increased the risk of transmission 18 times, and diarrhea in the index patient increased the risk by four times.”

However, wearing masks after symptom onset was not protective, according to the analysis. The findings support “universal face mask use, and also provides guidance on risk reduction for families living with someone in quarantine or isolation, and families of health workers, who may face ongoing risk,” the authors write.

Still, other precautions may be more important, experts say.

“I think by far the best way for health care professionals to protect their families is to carefully employ appropriate infection prevention measures at work,” said Mark E. Rupp, MD, chief of the Division of Infectious Diseases at Nebraska Medical Center in Omaha. “The

combination of administrative interventions, engineering improvements, and personal protective equipment is very effective in preventing SARS-CoV-2 acquisition in the workplace.”

Many physicians already wear masks at home, and this study “only reempha-

sized the importance of doing so,” said Raghavendra Tirupathi, MD, medical director of Keystone Infectious Diseases in Chambersburg, Pa., who recently reviewed studies about masks and COVID-19.

Home mask use provides “one more layer of protection that might help mitigate the risk of transmission to family members,” Dr. Tirupathi said. But it does not obviate the need to follow other preventive measures, such as social distancing and proper hygiene.

But Dr. Rupp, whose advice on how health care workers can protect their families was recently highlighted by the American Medical Association, isn’t convinced. He said he won’t be adding home mask use to his list of recommendations.

“It would be intrusive, cumbersome, and impractical to wear a mask in the home setting,” Dr. Rupp

said in an interview.

However, when out in the community, all family members must protect one another by practicing social distancing, wearing masks, and practicing proper hand hygiene.

“I also think that it is a good idea to have some masks on hand in case anyone does develop symptoms in the household and to wear them if a family member falls ill – at least until testing can confirm COVID-19,” Dr. Rupp said. “If a family member does fall ill, masks for the ill person as well as the well persons would be indicated along with other home quarantine measures.”

For her part, Dr. Noble, who has provided guidance about proper mask use, said that targeted use of masks at home, such as around older visiting relatives or other more vulnerable family members, may be more realistic than continuous in-home use.

When a household member becomes ill, recommendations for preventing disease spread include

having a sick family member sleep in a separate bedroom, using a separate bathroom, and wearing a mask when within 6 feet of other household members. They also should avoid sharing meals.

“For a household member who is a medical provider, to follow these self-isolation precautions while at home for months on end would have a significant emotional toll,” Dr. Noble said in an email. “With no end in sight for the pandemic, perpetual mask use in both the private and public sphere strikes me as overwhelming – I write this near the end of my 10-hour shift wearing both an N95 and surgical mask and counting the minutes before I can take them off!”

A limitation of the study was its reliance on telephone interviews, which are subject to recall bias, the authors note.

The study was funded by the Beijing Science and Technology Planning Project. The researchers have disclosed no relevant financial relationships.



Dr. Tirupathi

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# Changes in nursing home infection control

SARS-CoV-2 has prompted LTC facilities to overhaul processes

By Christine Kilgore

MDedge News

**T**he toll that COVID-19 has taken on nursing homes and their postacute and long-term care residents has a multilayered backstory involving underresourced organizational structures, inherent susceptibilities, minimally trained infection prevention staff, variable abilities to isolate and quarantine large numbers of patients and residents, and a lack of governmental support.

“Nursing homes have been trying their best to combat this pandemic using the best infection control procedures they have, but blindfolded and with their hands tied behind their backs,” said Joseph G. Ouslander, MD, professor of geriatric medicine at Florida Atlantic University, Boca Raton, which has teaching affiliations with three senior communities.

Nursing home leaders are debating how to best use testing to guide transmission-based precautions and isolation strategies and how to keep residents safe while allowing some socialization after months of conflicting guidance from public health officials (on testing and on sites of care for patients discharged from the hospital, for instance), with a lack of adequate personal protective equipment (PPE) and testing supplies, and with nursing home resident deaths estimated to account for at least one-quarter of the total COVID-19–related mortality in the United States.

“COVID is not going away [over the next couple of years],” said Michael Wasserman, MD, medical director of the Eisenberg Village at the Los Angeles Jewish Home and president of the California Association of Long-Term Care Medicine.

Dr. Wasserman and other experts in both long-term care and infectious disease said in interviews that, through the rest of the pandemic and beyond, nursing homes need the following:

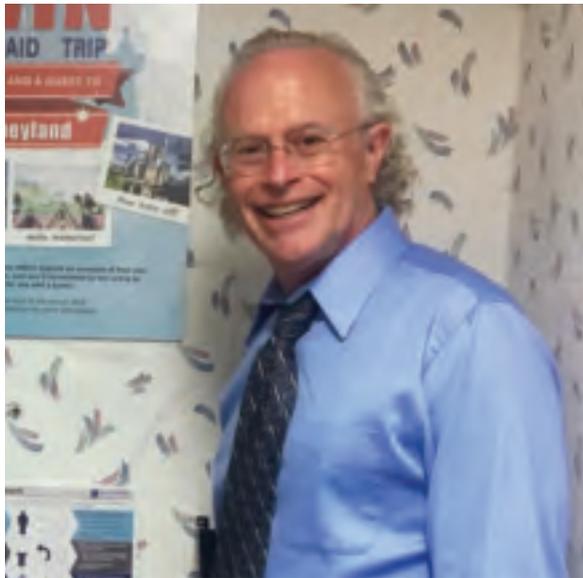
- Full-time, well-trained “infection preventionists” – infection prevention managers, in essence – who can lead improvements in emergency preparedness and infection prevention and control (IPC)
- Medical directors who are well qualified and engaged
- A survey/inspection process that is educational and not solely punitive
- More resources and attention to structural reform

“If this pandemic doesn’t create significant change in the nursing home industry, nothing ever will,” Dr. Wasserman said.

## Prepandemic experience

When Ghinwa Dumyati, MD, began working with nursing homes in early March to prevent and contain COVID-19 outbreaks, her focus was on PPE.

Nursing home staff were intimately familiar with standard precautions, and many had used contact precautions to prevent transmission of infections like *Clostridioides difficile* and *Candida auris*, as well as droplet precautions for influenza.



Dr. Michael Wasserman is president of the California Association of Long-Term Care Medicine.

With the threat of COVID-19, nursing homes “had a brand-new requirement to do both contact and droplet precautions – with a new need for eye protection – and in some situations, respiratory precautions with N95 masks,” said Dr. Dumyati, professor of medicine and director of communicable disease surveillance and prevention at the University of Rochester (N.Y.) Medical Center. “And on top of that, [staff] had to learn to conserve and reuse PPE.”

Staff had not been fit-tested for use of N95 respirators, she noted. “The only time an N95 was used in the nursing home prior to COVID-19,” she said, “was for a suspected tuberculosis patient [before hospital admission].”

Similarly, nursing homes had experience in quarantining units to prevent transmission of illnesses like influenza or norovirus – keeping residents in their rooms with no visitations or social activity, for instance – but never did they have to arrange “massive movements of residents to completely new units or parts of a unit,” said Dr. Dumyati, who also has led hospital and nursing home collaborative programs in Rochester to beat back *C. difficile*, and is now helping to formulate COVID-19 recommendations and guidance for members of AMDA – The Society for Post-Acute and Long-Term Care.

As the SARS-CoV-2 virus began its spread through the United States, efforts to strengthen IPC programs in nursing homes in Rochester and elsewhere had been focused largely on multidrug resistant organisms (MDROs) and antibiotic stewardship – not on pandemic preparedness.

Reducing antibiotic use had become a national priority, and a 2016 rule by the Centers for Medicare & Medicaid Services required nursing homes to develop, over a 3-year period, an IPC program that included an antibiotic stewardship component and employment of a trained infection preventionist on at least a half-time basis. Emergency preparedness (e.g., having alternate energy sources for a facility) was also included in the rule, but it was only in 2019 that CMS updated its

“Requirements for Participation” rule to stipulate that emergency preparedness included planning for “emerging infectious diseases.”

“The 2016 regulations came about because infections were so problematic in nursing homes,” especially urinary tract infections, *C. difficile*, and drug-resistant infections, said Patricia Stone, PhD, RN, of the Center for Health Policy at the Columbia University School of Nursing, New York, who has published widely on infection prevention and control in nursing homes.

An analysis (J Am Med Dir Assoc. 2020 Jan;21[1]:97-103) of IPC practices in 2014 and in 2018 suggests that the IPC-focused rules were helping, mainly with antibiotic stewardship programs but also with respect to some of the practices aimed at outbreak control, such as having policies in place for grouping infected residents together, instructing infected staff to stay home, and quarantining units on which outbreaks occur, Dr. Stone said. Policies for confining residents to rooms were reported by approximately 74% of nursing homes in 2014, and by approximately 87% in 2018, for instance. Overall, nursing homes were “getting better policies in place,” she said. The analysis compared data from two cross-sectional surveys of nursing homes conducted in 2014 and 2018 (945 and 888 facilities, respectively).

Nursing homes “have a long way to go,” however, with respect to the training of infection preventionists, Dr. Stone said.



Dr. Dumyati

In 2014, her analysis shows, almost 65% of infection preventionists had no specific infection-control training and less than 3% were Certified in Infection Control (CIC) – a credential awarded by the Certification Board of Infection Control & Epidemiology. Of the 35% who

had some form of official training, most completed state or local training courses.

The numbers improved slightly in 2018, with 7% of nursing homes reporting their infection preventionists had the highest-level certification, and 44% reporting that their infection preventionists had no specific infection-control training. Research has shown that infection-control training of any kind has a “strong effect” on IPC-related outcomes. While not demonstrated in research thus far, it seems plausible that “facilities with certified [infection preventionists] will have better processes in place,” said Dr. Stone, whose research has documented the need for more monitoring of staff compliance with hand-washing and other IPC procedures.

Infection preventionists in nursing homes typically have been directors of nursing or assistant directors of nursing who fold IPC responsibilities into a multitude of other responsibilities. Before the 2016 rules, some smaller facilities hired off-site consultants to do the job.

CMS upped the ante after several months of COVID-19, recommending in mid-May that nurs-

ing homes assign at least one individual with training in infection control “to provide on-site management of the IPC program.” The infection preventionists should be a “full-time role” in facilities that have more than 100 residents, the CMS guidance said. (Prior to the pandemic, CMS issued proposed regulations in 2019 that would modify the time an infection preventionist must devote to a facility from “part time” to “sufficient time.”)

However, neither the 2016 rule nor the most recent guidance on infection preventionists define the length or content of training.

Swati Gaur, MD, chair of the Infection Advisory Committee of AMDA and a certified medical director of two skilled nursing facilities in Gainesville, Ga., said that the pandemic “has really started to crystallize some of the limitations of having a very vague role, not just in terms of what an [infection preventionist] does [in the nursing home] but also the training.”

Fortunately, Dr. Gaur said, when SARS-CoV-2 struck, she had just transitioned her facilities’ designated infection preventionist to work full-time on the role. She had worked closely with her infection preventionist on IPC issues but wishes she had arranged for more rigorous independent training. “The role of the [infection preventionist] is huge and complicated,” now involving employee health, contract tracing, cohorting, isolation, and compliance with precautions and use of PPE, in addition to surveillance, data reporting, and communication with public health officials, she said.

“Facilities are finding out now that [the infection preventionist] cannot be an afterthought. And it won’t end with COVID. We have other respiratory illnesses like flu and other viruses that we struggle with all the time,” said Dr. Gaur, who is working alongside Dr. Dumyati and two other long-term care experts on AMDA’s COVID-19 guidance. The nursing homes that Dr. Gaur directs are part of the Northeast Georgia Health Care System and together include 271 beds.

### The future

IPC practices often collide with facilities’ role as a home, especially to those receiving long-term care. “We always have to measure what we do [to prevent and control infections] against patient autonomy and residents’ rights,” said Dr. Gaur. “We have struggled with these issues, prior to the pandemic. If patients are positive for multidrug-resistant organisms [for instance], how long can they be isolated in their own rooms? You can’t for days and months put someone in a single room and create isolation. That’s where the science of infection prevention can collide with residents’ rights.”

Over the years, the Centers for Disease Control and Prevention has acknowledged this discordance, leaving it to facilities to decide, for instance, whether to actively screen for colonization with MDROs. In 2019, to help nursing homes prevent the transmission of MDROs from residents who are colonized but not actively infected, the CDC introduced new “enhanced barrier precautions” that require the use of gowns and gloves for specific resident activities identified as having a high risk of MDRO transmission. The new category of precautions is less restrictive than traditional contact precautions, which keep residents in their rooms.

Infection control in nursing homes “isn’t where

it needs to be ... but we’re always going to have in nursing homes a situation where there’s a high potential for rapid transmission of infectious disease,” said Christopher Crnich, MD, PhD, an infectious disease specialist at the University of Wisconsin–Madison who chairs the long-term care special interest group of the Society of Healthcare Epidemiology of America and has offered COVID-19 advice to his state’s department of public health.

“Anytime you have a congregative community, particularly one that involves susceptible hosts, there will be an intrinsically susceptible environment ... I’m a bit disturbed by the emphasis on saying, ‘This nursing home had a COVID-19 outbreak, therefore this nursing home did something wrong,’” Dr. Crnich said.

“How we mitigate the size of the outbreaks is where we need to focus our attention,” he said. The goal with SARS-CoV-2, he said, is to recognize its introduction “as rapidly as possible” and stop its spread through empiric symptom- and expo-



Dr. Patricia Stone of the Center for Health Policy at the Columbia University School of Nursing.

sure-based isolation, multiple waves of targeted testing, widespread use of contact and droplet precautions, and isolating staff as necessary.

As awareness grew this year among long-term care leaders that relying too heavily on symptom-based strategies may not be effective to prevent introduction and transmission of SARS-CoV-2, a study published in April in the *New England Journal of Medicine* (2020;382(22):2081-90) cemented the need for a testing strategy not limited to symptomatic individuals.

The study documented that more than half of residents in a nursing home who had positive polymerase chain reaction (PCR) test results were asymptomatic at the time of testing, and that most went on to develop symptoms.

Some states issued calls this spring for “universal testing” of all nursing home patients and staff, and the CMS recommendations issued to state and local officials in mid-May for phased nursing home “reopening” call for baseline testing of all residents and staff, followed by retesting all residents weekly until all residents test negative and by retesting all staff continuing every week.

However, the experts contacted for this story said that, without a highly accurate and accessible point-of-care test (and even with one, considering the virus’s incubation period), a universal approach that includes all nursing home residents may have more limited value than is being

touted. In many scenarios, they said, it is most meaningful to focus still-limited testing supplies on the staff, many of whom work at more than one facility and are believed to be primary vectors of SARS-CoV-2.

Dr. Ouslander, Dr. Wasserman and other long-term care leaders have been discussing testing at length, trying to reach consensus on best policies. “I don’t think there’s any uniform approach or uniform agreement,” said Dr. Ouslander. “For me, under ideal circumstances what needs to be done to protect older people in nursing homes is to get access to as many accurate viral tests as possible and test staff at least once a week or every 10 days.”

In some facilities, there may be an unspoken barrier to the frequent testing of staff: Fear that staff who test positive will need to be quarantined, with no one to take their place on the front line. Dr. Ouslander said he knows of one county health department that has discouraged nursing homes from testing asymptomatic staff. “It’s insane and truly shocking,” he said.

At the University of Rochester Medical Center, Dr. Dumyati said, staffing agencies are running short of nurse aide substitutes, and staffing issues have become the “biggest challenge” facing a regional group of medical directors, hospital leaders, and health department officials who are working to troubleshoot COVID-19 issues.

Currently in the state of New York, she noted, COVID-19 patients may not be discharged to nursing homes until they test negative for the virus through PCR testing. “And some people don’t clear by PCR for 4-6 weeks.”

### The barriers

Staffing shortages – real in some locales, and anticipated in others as economic reopening grows – are reflective of underlying structural and financial factors that work against optimal IPC, experts said. It’s not uncommon for certified nurse assistants (CNAs) to be assigned to 10-15 residents. And according to AMDA, 30%-46% of CNAs are reported to receive some form of public assistance. Low wages force many CNAs to work other jobs, including shifts at other nursing homes.

Turnover of nursing home leadership also creates problems. Dr. Crnich calls it “one of the biggest barriers” to effective IPC in nursing homes. “Facilities can tolerate some turnover in their frontline staff,” he said, “as long as their leadership structure remains relatively stable.” Dr. Stone and her coinvestigators have documented at least yearly turnover in top positions: They found that, in 2018, approximately one-quarter of facilities reported employing three or more infection preventionists, three or more administrators, and three or more directors of nursing during the prior 3 years.

Medical directors, moreover, are not uniformly qualified, engaged with their facilities, or supported by nursing home administrators. “It’s an open secret, I think, that a lot of facilities want a medical director who is a good referral source,” said Dr. Gaur. “A medical director needs to be completely engaged in [quality improvement and] infection control practices.”

Some nursing home chains, she noted, “have realized the value of the medical director, and have changed the way they’re paying them. They’re ac-

*Continued on following page*

# Elevated inflammation in kids with COVID-19

Most children have a mild course, but some become very ill

By Heidi Splette  
MDedge News

**P**ediatric patients hospitalized with more severe COVID-19 had higher levels of several inflammatory markers than did those with less severe disease, according to data from 50 patients at a single tertiary care center.

“Risk factors for severe disease in pediatric populations have not been clearly identified and the high prevalence of SARS-CoV-2 in NYC offers an opportunity to describe severe pediatric disease in more detail,” wrote Philip Zachariah, MD, of New York–Presbyterian Hospital, New York, and colleagues.

In a retrospective case series published in *JAMA Pediatrics*, the researchers reviewed data from 50 patients: 41 classified as severe and 9 classified as nonsevere. Among the patients, 27 were male and 25 were Hispanic. The patient population had a median of 2 days from symptom onset to hospital admission. The most common symptoms were fever (80%) and respiratory symptoms (64%). Seventy-six percent of patients had a median length of stay of 3 days (range 1-30 days).

At hospital admission, children with severe disease had significantly higher levels of several inflammatory markers compared with those without severe disease, notably C-reactive protein (median 8.978 mg/dL vs. 0.64 mg/dL) and procalcitonin (median 0.31 ng/mL vs. 0.17 ng/mL,

$P < .001$  for both). High mean peak levels of C-reactive protein, procalcitonin, interleukin 6, ferritin, and D-dimer were seen among the nine children (16%) who required mechanical ventilation, Dr. Zachariah and associates said.

None of the 14 infants and 1 of the 8 immunocompromised children in the study had severe disease, the researchers wrote.

Bacterial coinfections detected while patients were hospitalized were bacteremia in 6%, suspected bacterial pneumonia in 18%, urinary tract infections in 10%, skin and soft tissue infections in 6%, and streptococcus pharyngitis in 2%, Dr. Zachariah and associates reported.

Overall, 61% of the children had comorbidities identified in previous COVID-19 studies, of which obesity was the most common (22%); other comorbidities included asthma, sickle cell disease, cardiac disease, and diabetes. Obesity also was significantly associated with the need for mechanical ventilation in children aged 2 years and older (67%). A total of 16 patients required respiratory support, 9 of these were placed on mechanical ventilation; 6 of these 9 children were obese.

Fifteen patients (30%) who met criteria for increased oxygen requirements and respiratory distress received hydroxychloroquine, but the small sample size did not allow for assessment of treatment efficacy, the researchers said.

“Expanding our knowledge of

COVID-19 [disease] in children will potentially permit early recognition of SARS-CoV-2 infection, understanding of the natural history of disease, and potential complications, said Stephen I. Pelton, MD, professor of pediatrics and epidemiology at Boston



Dr. Pelton

University and senior attending physician at Boston Medical Center. This review of 50 SARS-CoV-2–infected children (less than 21 years of age) “provides insight into the short period of symptoms prior to hospitalization, challenges the concept that infants less than 1 year are at greatest risk of severe disease (as from the experience in China), and suggests rapid recovery in many children, as median length of stay was 3 days.

“The review revealed two findings that were surprising to me: First, the median length of stay of 3 days. As nearly 20% of the children required mechanical ventilation, it suggests many of the children were discharged quickly after evaluation, suggesting that we need to identify markers of severity to predict those children likely to have progressive disease and require respiratory support,” Dr. Pelton noted.

“The second observation suggests high rates of bacterial infection (bacteremia, pneumonia, UTI, and skin and soft tissue infection). I do not

think this has been widely reported in adults, and may represent a difference between child and adult disease. More studies such as this will be required to identify how common coinfection with bacteria is,” he said.

“The take-home message is that although most children with COVID-19 have a mild or even asymptomatic course, some become severely ill requiring ventilator support and potentially ECMO [extracorporeal membrane oxygenation]. Potential predictors of severity include high C-reactive protein, obesity, and older age, said Dr. Pelton, who was not involved in the study.

What additional research is needed? Dr. Pelton said that better markers of severe disease are needed, as well as an understanding of why obesity is a risk factor for severe disease in both children and adults. Are these prediabetic patients? he asked.

The study findings were limited by the small sample size and high proportion of Hispanic patients, which may limit generalizability, and some symptoms and comorbidities may have been missed because of the retrospective nature of the study. However, the results support the need for hospitals to remain vigilant to the variable presentations of COVID-19 infections in children.

“Therapeutic considerations need to [include] the risk of toxicity, control of antiviral replication, and early recognition and management of immune dysregulation,” the investigators concluded.

Continued from previous page

usually holding them accountable [for quality and outcomes].”

Medical directors such as Dr. Wasserman, who previously oversaw a 74-facility nursing home chain in California as chief medical officer and then chief executive officer and has worked on nursing home quality improvement processes for his state, said there is much that can be done clinically to prevent the spread of infections, such as more frequent use of telemedicine, more attention to “deprescribing” unnecessary medications (which reduces the number of medication passes and, thus, the number of “transmission opportunities”), and the use of continuous remote monitoring. He has been trying to secure Bluetooth-enabled pulse oximetry and temperature monitoring for the Los Angeles Jewish Home and other facilities.

Dr. Wasserman and other long-term care leaders believe that a more educational inspection process would also lead to improvements in IPC. “The punitive nature of the survey process is

morally deflating to frontline staff [and] penalties take money away from operations,” Dr. Wasserman said. “It’s not a productive approach to quality improvement.”



Dr. Gaur

Dr. Stone agreed. Infection control is now the primary focus of CMS’s inspection process, and she said that increased regulatory scrutiny of IPC beyond COVID-19 is a “good thing.” Her research has shown that most deficiencies identified by inspectors are infection control deficiencies, and that in 2014 and 2018, approximately one-third of nursing homes had infection control citations. (CMS recently increased penalties and fines for identified deficiencies.)

“But my hope would be that the survey process would be more educational [as it is for hospitals],” she said. “We need to be supporting nursing homes to do a better job.”

A silver lining of the COVID-19 pandemic, as Dr. Stone sees it, is that nursing homes may be more engaged with data reporting and infection surveillance going forward. Nursing homes are now required to report their COVID-19 cases to the CDC through its hospital-dominant National Healthcare Safety Network, and the CDC has made technical changes that now make it “easier for nursing homes to join and participate,” she said. “Now that all nursing homes are engaged, will they be engaged post-COVID, too? I hope so. Surveillance is a first step toward better outcomes.”

For now, said Dr. Crnich, the intensive prevention and mitigation efforts that are being required of nursing homes to minimize COVID-19’s impact is “a big deal and will tax the resources of many” without outside support, Dr. Crnich said. “This has been the most illuminating part of all this, and will probably require us to reconsider how we’re resourcing our nursing homes moving forward into the future.”

# Fatalities in heart transplant recipients

Extra precautions may be required, study suggests

By **Batya Swift Yasgur, MA**

**C** OVID-19 infection is associated with a high risk for mortality in heart transplant (HT) recipients, a new case series suggests.

Investigators looked at data on 28 patients with a confirmed diagnosis of COVID-19 who received a HT between March 1, 2020, and April 24, 2020 and found a case-fatality rate of 25%.

"The high case fatality in our case series should alert physicians to the vulnerability of heart transplant recipients during the COVID-19 pandemic," senior author Nir Uriel, MD, MSc, professor of medicine at Columbia University, New York, said in an interview.

"These patients require extra precautions to prevent the development of infection," said Dr. Uriel, who is also a cardiologist at New York Presbyterian/Columbia University Irving Medical Center.

The study was published online May 13 in *JAMA Cardiology* (2020. doi: 10.1001/jamacardio.2020.2159).

## Similar presentation

HT recipients can have several comorbidities after the procedure, including hypertension, diabetes, cardiac allograft vasculopathy, and ongoing immunosuppression, all of which can place them at risk for infection and adverse outcomes with COVID-19 infection, the authors wrote.

The researchers therefore embarked on a case series looking at 28 HT recipients with COVID-19 infection (median age, 64.0 years; interquartile range, 53.5-70.5; 79% male) to "describe the outcomes of recipients of HT who are chronically immunosuppressed and develop COVID-19 and raise important questions about the role of the immune system in the process."

The median time from HT to study period was 8.6 (IQR, 4.2-14.5) years. Most patients had numerous comorbidities.

"The presentation of COVID-19 was similar to nontransplant patients with fever, dyspnea, cough, and GI symptoms," Dr. Uriel reported.

## No protective effect

Twenty-two patients (79%) required admission to the hospital, seven of whom (25%) required admission to the ICU and mechanical ventilation.

Despite the presence of immu-

nosuppressive therapy, all patients had significant elevation of inflammatory biomarkers (median peak high-sensitivity C-reactive protein [hs-CRP], 11.83 mg/dL; IQR, 7.44-19.26; median peak interleukin [IL]-6, 105 pg/mL; IQR, 38-296).

Three-quarters had myocardial injury, with a median high-sensitivity troponin T of 0.055 (0.0205 - 0.1345) ng/mL.

Treatments of COVID-19 included hydroxychloroquine (18 patients; 78%), high-dose corticosteroids (eight patients; 47%), and IL-6 receptor antagonists (six patients; 26%).

Moreover, during hospitalization, mycophenolate mofetil was discontinued in most (70%) patients, and one-quarter had a reduction in their calcineurin inhibitor dose.

"Heart transplant recipients generally require more intense immunosuppressive therapy than most other solid-organ transplant recipients, and this high baseline immunosuppression increases their propensity to develop infections and their likelihood of experiencing severe manifestations of infections," Dr. Uriel commented.

"With COVID-19, in which the body's inflammatory reaction appears to play a role in disease severity, there has been a question of whether immunosuppression may offer a protective effect," he continued.

"This case series suggests that this is not the case, although this would need to be confirmed in larger studies," he said.

## Low threshold

Among the 22 patients who were admitted to the hospital, half were discharged home and four (18%) were still hospitalized at the end of the study.

Of the seven patients who died, two died at the study center, and five died in an outside institution.

"In the HT population, social distancing (or isolation), strict use of masks when in public, proper handwashing, and sanitization of surfaces are of paramount importance in the prevention of COVID-19 infection," Dr. Uriel stated.

"In addition, we have restricted these patients' contact with the hospital as much as possible during the pandemic," he said.

However, "there should be a low threshold to hospitalize heart transplant patients who develop infec-

tion with COVID-19. Furthermore, in our series, outcomes were better for patients hospitalized at the transplant center; therefore, strong consideration should be given to transferring HT patients when hospitalized at another hospital," Dr. Uriel added.

The authors emphasized that COVID-19 patients "will require ongoing monitoring in the recovery phase, as an immunosuppression regimen is reintroduced and the consequences to the allograft itself become apparent."

## Vulnerable population

Commenting on the study, Mandeep R. Mehra, MD, MSc, William Harvey Distinguished Chair in Advanced Cardiovascular Medicine at Brigham and Women's Hospital, Boston, suggested that "in epidemiological terms, [the findings] might not look as bad as the way they are reflected in the paper."

Given that Columbia is "one of the larger heart transplant centers in the U.S., following probably 1,000 pa-

tients, having only 22 out of perhaps thousands whom they transplanted or are actively following would actually represent a low serious infection rate," said Dr. Mehra, who is also the executive director of the Center for Advanced Heart Disease at Brigham and Women's Hospital and a professor of medicine at Harvard Medical School, also in Boston.

"We must not forget to emphasize that, when assessing these case fatality rates, we must look at the entire population at risk, not only the handful that we were able to observe," explained Dr. Mehra, who was not involved with the study.

Moreover, the patients were "older and had comorbidities, with poor underlying kidney function and other complications, and underlying coronary artery disease in the transplanted heart," so "it would not surprise me that they had such a high fatality rate, since they had a high degree of vulnerability," he said.

*A version of this article originally appeared on Medscape.com.*



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# Hospitalist well-being during the pandemic

Navigating the pandemic requires self-care

By Sarah Ludwig Rausch

The global COVID-19 pandemic has escalated everyone's stress levels, especially clinicians caring for hospitalized patients. New pressures have added to everyday stress, new studies have revised prior patient care recommendations, and the world generally seems upside down. What can a busy hospitalist do to maintain a modicum of sanity in all the craziness?

## The stressors facing hospitalists

### Uncertainty

Of all the burdens COVID-19 has unleashed, the biggest may be uncertainty. Not only is there unease about the virus itself, there also is legitimate concern about the future of medicine, said Elizabeth Harry, MD, SFHM, a hospitalist and senior director of clinical affairs at the University of Colorado Hospital in Aurora.

"What does it look like after an event like this, particularly in areas like academic medicine and teaching our next generation and getting funding for research? And how do we continue to produce physicians that can provide excellent care?" she asked.

There is also uncertainty in the best way to care for patients, said Eileen Barrett, MD, MPH, SFHM, a hospitalist at the University of New Mexico, Albuquerque.

"There are some models that are emerging to predict who will have a worse outcome, but they're still not great models, so we have uncertainty for a given patient." And, she noted, as the science continues to evolve, there exists a constant worry that "you might have inadvertently caused someone harm."

The financial implications of the pandemic are creating uncertainty too. "When you fund a health care system with elective procedures and you can't do those, and instead have to shift to the most essential services, a lot of places are seeing a massive deficit, which is going to affect staff morale and some physician offices are going to close," said Elisabeth Poorman, MD, MPH, a primary care and internal medicine physician and chair of the King County Medical Society Physician Wellness Committee in Seattle.

### Fear

When the pandemic began in the United States, "fear of the unknown was perhaps the scariest part, particularly as it pertained to personal protective equipment," said Mark Rudolph, MD, SFHM, chief experience officer and vice president of patient experience and physician development at Sound Physicians in Tacoma, Wash. "For most clinicians, this is the first time that they are themselves in harm's way while they do their jobs. And worse, they risk bringing the virus

home to their families. That is the concern I hear most."

### Anxiety

Worrying about being able to provide excellent patient care is a big stressor, especially since this is the heart and soul of why most hospitalists have gone into their line of work.

"Part of providing excellent care to your patients is providing excellent supportive care to their families," Dr. Harry said. "There's some dissonance there in not being able to allow the family to come visit, but wanting to keep them safe, and it feels really hard to support your patients and support their families in the best way. It can feel like you're just watching and waiting to see what will happen, and that we don't have a lot of agency over which direction things take."

There is concern for health care team members as well, Dr. Harry added. "Physicians care a lot about their teams and how they're doing. I think there's a sense of esprit de corps among folks and worry for each other there."

### Guilt

Although you may be at the hospital all day, you may feel guilty when you are not providing direct patient care. Or maybe you or someone on your team has an immunodeficiency and can't be on the front line. Perhaps one of your team members contracted COVID-19 and you did not. Whatever the case, guilt is another emotion that is rampant among hospitalists right now, Dr. Barrett said.

### Burnout

Unfortunately, burnout is a potential reality in times of high stress. "Burnout is dynamic," said Dr. Poorman. "It's a process by which your emotional and cognitive reserves are exhausted. The people with the highest burnout are the ones who are still trying to provide the standard of care, or above the standard of care in dysfunctional systems."

Dr. Harry noted that burnout presents in different ways for different people, but Dr. Rudolph added that it's crucial for hospitalist team members to watch for signs of burnout so they can intervene and/or get help for their colleagues.

Warning signs in yourself or others that burnout could be on the horizon include:

- **Fatigue/exhaustion** – Whether emotional or physical (or both), this can become a problem if it "just doesn't seem to go away despite rest and time away from work," said Dr. Rudolph.
- **Behavioral changes** – Any behavior that's out of the ordinary may be a red flag, like lashing out at someone at work.
- **Overwork** – Working too much can be caused by an inability to let go of patient care, Dr. Barrett said.
- **Inability to work** – This may include avoiding

tasks and having difficulty meeting deadlines.

- **Maladaptive coping behaviors** – Excessive consumption of alcohol or drugs is a common coping mechanism. "Even excessive consumption of news is something that people are using to numb out a little bit," said Dr. Harry.
- **Depersonalization** – "This is where you start to look at patients, colleagues, or administrators as 'them' and you can't connect as deeply," Dr. Harry said. "Part of that's protective and a normal thing to do during a big trauma like this, but it's

*"What does it look like after an event like this, particularly in areas like academic medicine and teaching our next generation and getting funding for research? And how do we continue to produce physicians that can provide excellent care?"*

also incredibly distancing. Any language that people start using that feels like 'us' or 'them' is a warning sign."

- **Disengagement** – Many people disengage from their work, but Dr. Poorman said physicians tend to disengage from other parts of their lives, such as exercise and family interaction.

### Protect yourself while supporting others

Like the illustration of putting the oxygen mask on yourself first so you can help others, it's important to protect your own mental and physical health as you support your fellow physicians. Here's what the experts suggest.

### Focus on basic needs

"When you're in the midst of a trauma, which we are, you don't want to open all of that up and go to the depths of your thoughts about the grief of all of it because it can actually make the trauma worse," said Dr. Harry. "There's a lot of literature that debriefing is really helpful after the event, but if you do it during the event, it can be really dangerous."

Instead, she said, the goal should be focusing on your basic needs and what you need to do to get through each day, like keeping you and your family in good health. "What is your purpose? Staying connected to why you do this and staying focused on the present is really important," Dr. Harry noted.

Do your best to get a good night's sleep, exercise as much as you can, talk to others, and see a mental health provider if your anxiety is too high, advises Dr. Barrett. "Even avoiding blue light from phones and screens within 2 hours of bedtime, parking further away from the hospital and walking, and taking the stairs are things that add up in a big way."

### Keep up your normal routine

"Right now, it's really critical for clinicians to keep up components of their routine that feel



Dr. Harry



Dr. Poorman



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'normal,' Dr. Rudolph said. "Whether it's exercise, playing board games with their kids, or spending time on a hobby, it's critical to allow yourself these comfortable, predictable, and rewarding detours."

#### Set limits

People under stress tend to find unhealthy ways to cope. Instead, try being intentional about what you are consuming by putting limits on things like your news, alcohol consumption, and the number of hours you work, said Dr. Harry.

#### Implement a culture of wellness

Dr. Barrett believes in creating the work culture we want to be in, one that ensures people have psychological safety, allows them to ask for help, encourages them to disconnect completely from work, and makes them feel valued and listened to. She likes the example of "the pause," which is called by a patient member right after a patient expires.

Dr. Barrett

"It's a 30-second moment of silence where we reflect on the patient, their loved ones, and every member of the health care team who helped support and treat them," said Dr. Barrett. "At the conclusion, you say: 'Thank you. Is there anything you need to be able to go back to the care of other patients?' Because it's unnatural to have this terrible thing that happened and then just act like nothing happened."

#### Target resources

Be proactive and know where to find resources before you need them, advised Dr. Harry. "Most institutions have free mental health resources, either through their employee assistance programs or HR, plus there's lots of national organizations that are offering free resources to health care providers."

#### Focus on what you can control

Separating what is under your control from what is not is a struggle for everyone, Dr. Poorman said, but it's helpful to think about the ways you can have an impact and what you're able to control.

"There was a woman who was diagnosed with early-onset Parkinson's that I heard giving an interview at the beginning of this pandemic," she said. "It was the most helpful advice I got, which was: 'Think of the next good thing you can do.' You can't fix everything, so what's the next good thing you can do?"

#### Maintain connectivity

Make sure you are utilizing your support circle and staying connected. "That sense of connection is incredibly protective on multiple fronts for depression, for burnout, for suicide ideation, etc.," Dr. Harry said.

"It doesn't matter if it's your teammates at work, your family at home, your best friend from medical school – whomever you can debrief with, vent with, and just share your thoughts and feelings with, these outlets are critical for all of us to process our emotions and diffuse stress and anxiety," said Dr. Rudolph.

Dr. Poorman is concerned that there could be a spike in physician suicides caused by increased stress, so she also encourages talking openly about what is going on and about getting help when it's necessary. "Many of us are afraid to seek care because we can actually have our ability to practice medicine questioned, but now is not the time for heroes. Now is the time for people who are willing to recognize their own strengths and limitations to take care of one another."

#### Be compassionate toward others

Keep in mind that everyone is stressed out and offer empathy and compassion. "I think everybody's struggling to try to figure this out and the more that we can give each other the benefit of the doubt and a little grace, the more protective that is," said Dr. Harry.

Listening is meaningful too. "Recognizing opportunities to validate and acknowledge the feelings that are being shared with you by your colleagues is critical," Dr. Rudolph said. "We all need to know that we're not alone, that our thoughts and feelings are okay, and when we share a difficult story, the value of someone saying something as simple as, 'wow, that sounds like it was really hard,' is immense."



Dr. Rudolph

#### Be compassionate toward yourself

Try to give yourself a break and be as compassionate with yourself as you would with others. It's okay that you're not getting in shape, publishing prolifically, or redesigning your house right now.

"There's a lot of data linking lack of self-compassion to burnout," said Dr. Harry. She says there are courses on self-compassion available that help you work on being kinder to yourself.

#### Get a "battle buddy"

The American Medical Association has a free "buddy system" program called PeerRx to help physicians cope during the pandemic. Dr. Rudolph said that now is a great time to use this military-developed intervention in which each team member checks in with a chosen partner at agreed-upon intervals.

For example, "You can tell that person: 'If I don't call my family for a week that's a red flag for me.' And then you hold each other accountable to those things," Dr. Harry said.

The buddy system is another way to harness that sense of connection that is so vital to our health and well-being.

"The simple act of showing that you care ... can make all the difference when you're doing this kind of work that is both challenging and dangerous," said Dr. Rudolph.

# #WhiteCoats4BlackLives: A 'platform for good'

A statement that health care workers 'are committed to being anti-racist.'

By Alicia Ault

Participants in the growing #WhiteCoats4BlackLives protest against racism say it is a chance to use their status as trusted messengers, show themselves as allies of people of color, and demonstrate that they are intimately familiar with how racism has contributed to health disparities, like those on vivid display during the COVID-19 pandemic.

Sporadic protests – with participants in scrubs or white coats kneeling for 8 minutes and 46 seconds in memory of George Floyd – have quickly grown into organized, ongoing, large-scale events at hospitals, medical campuses, and city centers in New York, Indianapolis, Atlanta, Austin, Houston, Boston, Miami, Portland, Sacramento, Los Angeles, Philadelphia, and Albuquerque, among others.

The group WhiteCoats4BlackLives began with a “die-in” protest in 2014, and the medical student-run organization continues to organize, with a large number of protests scheduled to occur simultaneously on June 5 at 1:00 p.m. Eastern Time.

“It’s important to use our platform for good,” said Danielle Verghese, MD, a first-year internal medicine resident at Thomas Jefferson University Hospital in Philadelphia, who helped recruit a small group of students, residents, and pharmacy school students to take part in a kneel-in on May 31 in the city’s Washington Square Park.

“As a doctor, most people in society regard me with a certain amount of respect and may listen if I say something,” Dr. Verghese told this news organization.

Crystal Nnenne Azu, MD, a third-year internal medicine resident at Indiana University, Indianapolis, who has long worked on increasing diversity in medicine, said she helped organize a march and kneel-in at the school’s Eskenazi Hospital campus on June 3 to educate and show support.

Some 500-1,000 health care providers in scrubs and white coats turned out, tweeted one observer. “Racism is a public health crisis,” Dr. Azu said. “This COVID epidemic has definitely raised that awareness even more for many of our colleagues.”

Disproportionate death rates in blacks and Latinos are “not just related to individual choices but also systemic racism,” she said.

The march also called out police brutality and the “angst” that many people feel about it, said Dr. Azu. “People want an avenue to express their discomfort, to raise awareness, and also show their solidarity and support for peaceful protests,” she said.

A June 4 protest and “die-in” – held to honor black and indigenous lives at the University of New Mexico Health Sciences campus in Albuquerque – was personal for Jaron Kee, MD, a first-year family medicine resident. He was raised on the Navajo reservation in Crystal, New Mexico, and has watched COVID-19 devastate the tribe, adding insult to years of health disparities, police brutality, and neglect of thousands of missing and murdered indigenous women, he said.

Participating is a means of reassuring the community that “we’re allies and that their suf-



Despite COVID-19, health care professionals have made the White Coat protests a priority.

fering and their livelihood is something that we don’t underrecognize,” Dr. Kee said. These values spurred him to enter medicine.

Eileen Barrett, MD, MPH, SFHM, a hospitalist and assistant professor at the University of New Mexico, Albuquerque, who also attended the “die-in,” said she hopes that peers, in particular people of color, see that they have allies at work “who are committed to being anti-racist.”

It’s also “a statement to the community at large that physicians and other health care workers strive to be anti-racist and do our best to support our African American and indigenous peers, students, patients, and community members,” she said.

## Now is different

Some residents said they felt particularly moved to act now – as the country entered a second week of protests in response to George Floyd’s death and as the COVID-19 pandemic highlighted the devastating toll of health disparities.

“This protest feels different to me,” said Ian Fields, MD, a urogynecology fellow at Oregon Health & Science University, Portland. “The events over the last couple of weeks were just a big catalyst for this to explode,” he said.

“I was very intent, as a white male physician, just coming to acknowledge the privilege that I have, and to do something,” Dr. Fields said, adding that as an obstetrician-gynecologist, he sees the results of health disparities daily. He took part in a kneel-in and demonstration with OHSU colleagues on June 2 at Portland’s Pioneer Courthouse Square.

It’s okay to be sad and mourn, Dr. Fields said, but, he added, “nobody needs our tears necessarily right now. They need us to show up and to speak up about what we see going on.”

“It feels like it’s a national conversation,” said Dr. Verghese. The White Coats movement is “not an issue that’s confined to the black community – this is not an issue that’s a ‘black thing’ – this is a humanitarian thing,” she said.

Dr. Verghese, an Indian American who said that no one would mistake her for being white, said she still wants to acknowledge that she has privilege, as well as biases. All the patients in the COVID-19 unit where she works are African American, but she said she hadn’t initially noticed.

“What’s shocking is that I didn’t think about it,” she said. “I do have to recognize my own biases.”

## Protesting during a pandemic

Despite the demands of treating COVID-19 patients, health care professionals have made the White Coat protests a priority, they said. Most – but not all – of the White Coats protests have been on medical campuses, allowing health care professionals to quickly assemble and get back to work. Plus, all of the protests have called on attendees to march and gather safely – with masks and distancing.

“Seeing that we are working in the hospital, it’s important for us to be wearing our masks, to be social distancing,” Dr. Azu said. Organizers asked attendees to ensure that they protested in a way that kept them “from worsening the COVID epidemic,” said Dr. Azu.

Unlike many others, the first protest in Portland was in conjunction with a larger group that assembles every evening in the square, said Dr. Fields. The physician protesters were wearing masks and maintaining distance from each other, especially when they kneeled, he said.

The protests have provided an escape from the futility of not being able to do anything for COVID-19 patients except to provide support, said Dr. Verghese. “In so many ways, we find ourselves powerless,” she said.

Protesting, Dr. Verghese added, was “one tiny moment where I got to regain my sense of agency, that I could actually do something about this.”

A version of this article originally appeared on [Medscape.com](#).

# FDA says clinicians should use CURE ID app to report COVID-19 cases

By Doug Brunk  
MDedge News

Federal health officials are encouraging clinicians to use the free CURE ID mobile app and web platform as a tool to collect cases on the treatment of patients with COVID-19, in conjunction with ongoing clinical trial efforts.

“By utilizing the CURE ID platform now for COVID-19 case collection – in conjunction with data gathered from other registries, EHR systems, and clinical trials – data collected during an outbreak can be improved and coordinated,” Heather A. Stone, MPH, said during a June webinar sponsored by the Food and Drug Administration. “This may allow us to find possible treatments to help ease this pandemic, and prepare us better to fight the next one.”

During the hour-long webinar, Ms. Stone, an analyst in the office of medical policy at the FDA’s Center for Drug Evaluation and Research, demonstrated CURE ID, an Internet-based data repository first developed in 2013 as a collaboration between the FDA and the National Center for Advancing Translational

Sciences, a part of the National Institutes of Health (NCATS/NIH). It provides licensed clinicians worldwide with an opportunity to report novel uses of existing drugs for patients with difficult-to-treat infectious diseases, including COVID-19, through a website, a smartphone, or other mobile device.

The app can be downloaded for free at <http://cure.ncats.io>. It can also be downloaded from the Apple app store or the Google Play store by searching “CURE ID.”

According to Ms. Stone, the platform’s three main goals are to enhance the understanding of new uses of approved medical products, to facilitate clinical trials and drug development, and to serve as a resource for physicians to share information where no FDA-approved product (which has been proven to be safe and effective) exists for the new use. CURE ID enables users to report their own cases as well as read cases of neglected infectious diseases with no sufficient approved therapies from other clinicians around the world.

“It also enables clinicians to engage directly with communities of disease experts around the world,

breaking down geographic and specialty silos,” Ms. Stone said. “The CURE ID app also enables them to access information on approved therapies for each disease and as well on active clinical trials.”

To date, CURE-ID contains information on 325 infectious diseases, including 1,580 case reports and 18,907 clinical trials. Initial pilot priority diseases include COVID-19, mycetoma, atypical mycobacteria, drug-resistant gonorrhea, and rare and resistant fungal infections, as well as multidrug resistant gram-negative bacteria.

As of June 9, COVID-19-related data on the platform includes 151 case reports that have been extracted from the published literature or entered by clinician users, 80 discussion posts, and links to 694 clinical trials, 303 journal articles, 212 news articles, and 34 events. A total of 65 repurposed drugs have been identified as potential treatments for the virus, including 15 drugs with 10 or more cases.

“This facilitates clinicians report-

ing their real-world experiences treating COVID-19 patients, when patients are unable to be enrolled in a clinical trial,” Ms. Stone said. “It includes an updated case report form tailored to COVID-19 and data fields that have been harmonized with other real-world data and clinical trial platforms.” She pointed out that voluntary submission of cases to CURE ID is not a substitute for filing information with regulatory and public health authorities. The platform enables data to be entered and adverse events to be automatically shared with the FDA’s MedWatch Adverse Event Reporting System.

Ms. Stone concluded the webinar by announcing the formation of a new private-public partnership between the Critical Path Institute and the FDA and NCATS/NIH known as the CURE Drug Repurposing Collaboratory. The effort will begin with a pilot project focused on furthering drug development for COVID-19 through use of the CURE ID platform.



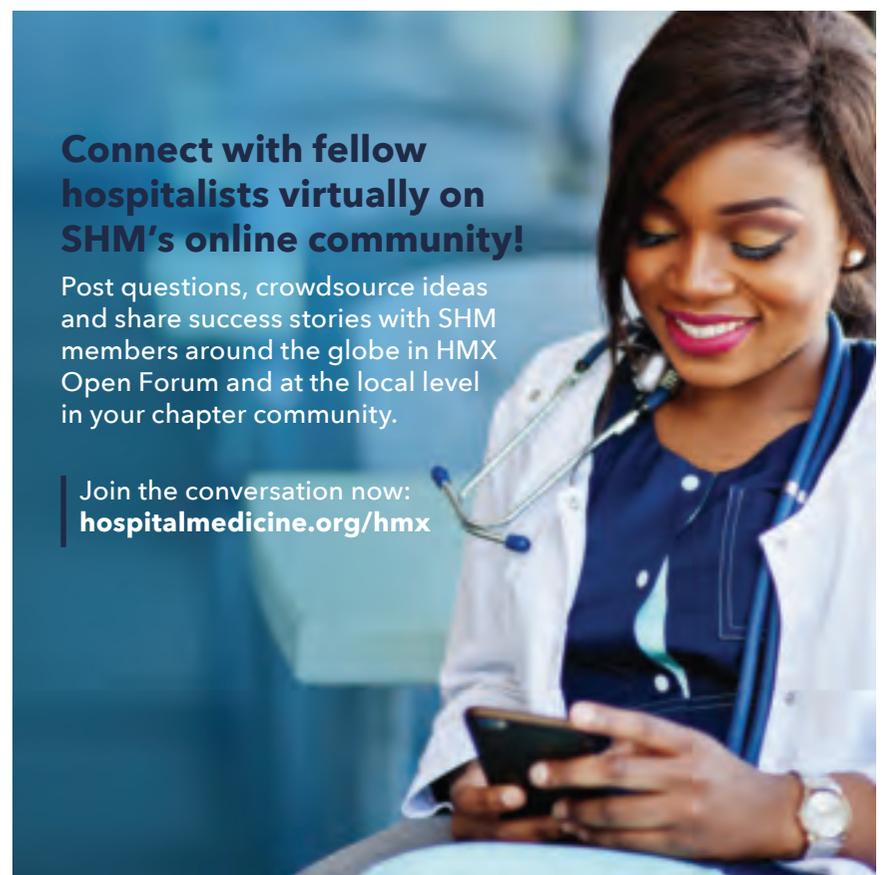
The CUREID site is shown in a screen shot.

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# New York City inpatient detox unit keeps running: A hospitalist explains how

By Keji Fagbemi, MD

Substance use disorder and its daily consequences take no breaks even during a pandemic. The stressors created by COVID-19, including deaths of loved ones and the disruptions to normal life from policies aimed at flattening the curve, seem to have increased substance use.

I practice as a hospitalist with an internal medicine background and specialty in addiction medicine at BronxCare Health System's inpatient detoxification unit, a 24/7, 20-bed medically supervised unit in South Bronx in New York City. It is one of the comprehensive services provided by the BronxCare's life recovery center and addiction services, which also includes an outpatient clinic, opioid treatment program, inpatient rehab, and a half-way house. Inpatient detoxification units like ours are designed to treat serious addictions and chemical dependency and prevent and treat life-threatening withdrawal symptoms and signs or complications.

Our patients come from all over the city and its adjoining suburbs, including from emergency room referrals, referral clinics, courts and the justice system, walk-ins, and self-referrals. At a time when many inpatient detoxification units within the city were temporarily closed due to fear of inpatient spread of the virus or to provide extra COVID beds in anticipation for the peak surge, we have been able to provide a needed service. In fact, several other inpatient detoxification programs within the city have been able to refer their patients to our facility.

Individuals with substance use disorder have historically been a vulnerable and underserved population and possess high risk for multiple health problems as well as preexisting conditions. Many have limited life options financially, educationally, and with housing, and encounter barriers to accessing primary health care services, including preventive services. The introduction of the COVID-19 pandemic into these patients' precarious health situations only made things worse as many of the limited resources for patients with substance use disorder were diverted to battling the pandemic. Numerous inpatient and outpatient addiction services, for example, were temporarily shut down. This has led to an increase in domestic violence, and psychiatric decompensation, including psychosis, suicidal attempts, and worsening of medical comorbidities in these patients.

Our wake-up call came when the first case of

COVID-19 was confirmed in New York in early March. Within a short period of time the state became the epicenter for COVID-19. With the projection of millions of cases being positive and the number of new cases doubling every third day at the onset in New York City, we knew we had a battle brewing and needed to radically transform our mode of operation fast.

Our first task was to ensure the safety of our patients and the dedicated health workers attending to them. Instead of shutting down we decided to focus on education, screening, mask usage, social distancing, and intensifying hygiene. We streamlined the patient point of entry through



Dr. Keji Fagbemi works at his desk at BronxCare Health System's inpatient detoxification unit.



New York-based hospitalist Dr. Keji Fagbemi wears PPE to treat COVID-19 patients.

PHOTOS COURTESY: DR. KEJI FAGBEMI

one screening site, while brushing up on our history-taking to intently screen for COVID-19. This included focusing not just on travels from China, but from Europe and other parts of the world.

Yes, we did ask patients about cough, fever, shortness of breath or difficulty breathing, feeling fatigued, severe body ache, and possible contact with someone who is sick or has traveled overseas. But we were also attuned to the increased rate of community spread and the presentation of other symptoms, such as loss of taste and smell, early in the process. Hence we were able to triage patients with suspected cases to the appropriate sections of the hospital for further screening, testing, and evaluation, instead of having those patients admitted to the detox unit.

Early in the process a huddle team was instituted with daily briefing of staff lasting 30 minutes or less. This team consists of physicians, nurses, a physician assistant, a social worker, and a counselor. In addition to discussing treatment plans for the patient, they deliberate on the public health information from the hospital's COVID-19 command center, N.Y. State Department of Health, the Office of Mental Health, and the Centers for Disease Control and Prevention concerning the latest evidence-based information. These discussions helped us modify our policies and practices.

We instituted a no-visiting rule during a short hospital stay of 5-7 days, and this was initiated weeks in advance of many institutions, including nursing homes with vulnerable populations.

Our admitting criteria was reviewed to allow for admission of only those patients who absolutely needed inpatient substance use disorder treatment, including patients with severe withdrawal symptoms and signs, comorbidities, or neuropsychiatric manifestations that made them unsafe for outpatient or home detoxification. Others were triaged to the outpatient services which was amply supported with telemedicine. Rooms and designated areas of the building were earmarked as places for isolation/quarantine if suspected COVID-19 cases were identified pending testing. To assess patients' risk of COVID-19, we do point-of-care nasopharyngeal swab testing with polymerase chain reaction.

Regarding face masks, patients and staff were fitted with ones early in the process. Additionally, staff were trained on the importance of face mask use and how to ensure you have a tight seal around the mouth and nose and were provided with other appropriate personal protective equipment. Concerning social distancing, we reduced the patient population capacity

for the unit down to 50% and offered only single room admissions. Social distancing was encouraged in the unit, including in the television and recreation room and dining room, and during small treatment groups of less than six individuals. Daily temperature checks with noncontact handheld thermometers were enforced for staff and anyone coming into the life recovery center.

Patients are continuously being educated on the presentations of COVID-19 and encouraged to report any symptoms. Any staff feeling sick or having symptoms are encouraged to stay home. Rigorous and continuous cleaning of surfaces, especially of areas subjected to common use, is done frequently by the hospital housekeeping and environmental crew and is the order of the day.

Even though we seem to have passed the peak of the pandemic curve for the city, we know that we are not out of the woods yet. We feel confident that our experience has made us better prepared going forward. The changes we have implemented have become part and parcel of daily caring for our patient population. We believe they are here to stay for a while, or at least until the pandemic is curtailed as we strive toward getting an effective vaccine.

*Dr. Fagbemi is a hospitalist at BronxCare Health System, a not-for-profit health and teaching hospital system serving South and Central Bronx in New York. He has no conflicts of interest to disclose.*

# Neurologic effects of COVID-19

Does the virus directly attack the brain?

By Sue Hughes

**N**eurologic effects can be a significant part of COVID-19, but does the SARS-CoV-2 virus directly damage the central nervous system or are the neurologic symptoms attributable to secondary mechanisms? A new review article summarizes what is known so far, and what clinicians need to look out for.

“We frequently see neurological conditions in people with COVID-19, but we understand very little about these effects. Is it the virus entering the brain/nerves or are they a result of a general inflammation or immune response – a bystander effect of people being severely ill. It is probably a combination of both,” said senior author Serena Spudich, MD, Gilbert H. Glaser Professor of Neurology; division chief of neurological infections & global neurology; and codirector of the Center for

*“Reports from China suggested that serious neurologic effects were present in about one-third of hospitalized COVID-19 patients. I would say in our experience the figure would be less than that.”*

Neuroepidemiology and Clinical Neurological Research at Yale University, New Haven, Conn.

“Our message is that there are fairly frequent neurological sequelae of COVID-19 and we need to be alert to these, and to try to understand the potential long-term consequences,” she said.

The review was published online May 29 in JAMA Neurology.

## Brain changes linked to loss of smell

In a separate article also published online in JAMA Neurology the same day, an Italian group describes a COVID-19 patient with anosmia (loss of sense of smell) who showed brain abnormalities on MRI in the areas associated with smell – the right gyrus rectus and the olfactory bulbs. These changes were resolved on later scan and the patient recovered her sense of smell.

“Based on the MRI findings, we can speculate that SARS-CoV-2 might invade the brain through the olfactory pathway,” conclude the researchers, led by first author Letterio S. Politi, MD, of the department of neuroradiology at IRCCS Istituto Clinico Humanitas and Humanitas University, Milan, Italy.

## Can coronaviruses enter the CNS?

Dr. Spudich described this case report as “compelling evidence suggesting that loss of smell is a neurologic effect.”

“Loss of smell and/or taste is a common symptom in COVID-19, so this may suggest that an awful lot of people have some neurological involvement,” Dr. Spudich commented. “While a transient loss of smell or taste is not serious, if

the virus has infected brain tissue the question is could this then spread to other parts of the brain and cause other more serious neurological effects,” she added.

In their review article, Dr. Spudich and colleagues present evidence showing that coronaviruses can enter the CNS.

“We know that SARS-1 and MERS have been shown to enter the nervous system and several coronaviruses have been shown to cause direct brain effects,” she said. “There is also some evidence that SARS-CoV-2 can do this too. As well as these latest MRI findings linked to loss of smell, there is a report of the virus being found in endothelial cells in the brain and a French autopsy study has also detected virus in the brain.”

## Complications of other systemic effects?

Dr. Spudich is a neurologist specializing in neurologic consequences of infectious disease. “We don’t normally have such vast numbers of patients but in the last 3 months there has been an avalanche,” she says. From her personal experience, she believes the majority of neurologic symptoms in COVID-19 patients are most probably complications of other systemic effects, such as kidney, heart, or liver problems. But there is likely also a direct viral effect on the CNS in some patients.

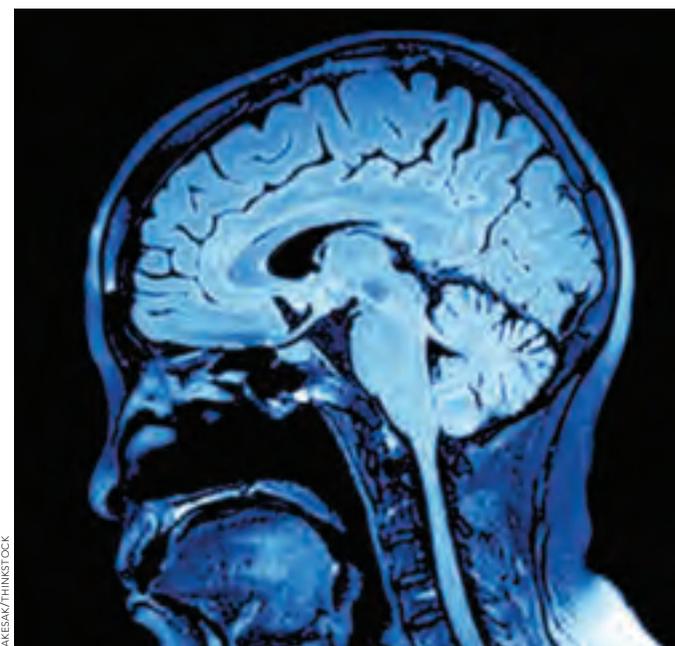
“Reports from China suggested that serious neurologic effects were present in about one-third of hospitalized COVID-19 patients. I would say in our experience the figure would be less than that – maybe around 10%,” she noted.

Some COVID-19 patients are presenting with primary neurologic symptoms. For example, an elderly person may first develop confusion rather than a cough or shortness of breath; others have had severe headache as an initial COVID-19 symptom, Dr. Spudich reported. “Medical staff need to be aware of this – a severe headache in a patient who doesn’t normally get headaches could be a sign of the virus.”

Some of the neurologic symptoms could be caused by autoimmunity. Dr. Spudich explained that, in acute HIV infection a small proportion of patients can first present with autoimmune neurologic effects such as Guillain-Barré syndrome, an autoimmune condition of the nerves which causes a tingling sensation in the hands and feet. “This is well described in HIV, but we are also now seeing this in COVID-19 patients too,” she said. “A panoply of conditions can be caused by autoimmunity.”

On the increase in strokes that has been reported in COVID-19 patients, Dr. Spudich said, “this could be due to direct effects of the virus (e.g., causing an increase in coagulation or infecting the endothelial cells in the brain) or it could just be the final trigger for patients who were at risk of stroke anyway.”

There have been some very high-profile reports of younger patients with major strokes, she said, “but we haven’t seen that in our hospital. For the most part in my experience, strokes are happening in older COVID-19 patients with stroke risk fac-



AKESAK/THINSTOCK

tors such as AF [atrial fibrillation], hypertension, and diabetes. We haven’t seen a preponderance of strokes in young, otherwise healthy people.”

Even in patients who have neurologic effects as the first sign of COVID-19 infection, it is not known whether these symptoms are caused directly by the virus.

“We know that flu can cause people to have headaches, but that is because of an increase in inflammatory cytokines. On the other hand, patients with acute HIV infection often have headaches as a result of the virus getting into the brain. We don’t know where in this [cluster] COVID-19 virus falls,” Dr. Spudich said.

## Much is still unknown

“The information we have is very sparse at this point. We need far more systematic information on this from CSF samples and imaging,” Dr. Spudich urged clinicians to try to collect such information in patients with neurologic symptoms.

Acknowledging that fewer such tests are being done at present because of concerns over infection risk, Dr. Spudich suggested that some changes in procedure may help. “In our hospital we have a portable MRI scanner which can be brought to the patient. This means the patient does not have to move across the hospital for a scan. This helps us to decide whether the patient has had a stroke, which can be missed when patients are on a ventilator.”

It is also unclear whether the neurologic effects seen during COVID-19 infection will last long term.

Dr. Spudich noted that there have been reports of COVID-19 patients discharged from intensive care having difficulty with higher cognitive function for some time thereafter. “This can happen after being in ICU but is it more pronounced in COVID-19 patients? An ongoing study is underway to look at this,” she said.

*A version of this article originally appeared on Medscape.com.*

# Scientific doubt tempers industry optimism about COVID-19 vaccine

By Marcia Frellick

**U.S.** government and industry projections that a COVID-19 vaccine will be ready by this fall or even January would take compressing what usually takes at least a decade into months, with little room for error or safety surprises.

"If all the cards fall into the right place and all the stars are aligned, you definitely could get a vaccine by December or January," Anthony Fauci, MD, director of the National Institute of Allergy and Infectious Diseases, said in May.

But Dr. Fauci said a more realistic timeline is still 12-18 months, and experts agree. They say that, although recent developments are encouraging, history and scientific reason say the day when a COVID-19 vaccine is widely available will not come this year and may not come by the end of 2021.

The encouraging signals come primarily from two recent announcements: the \$1.2 billion U.S. backing last week of one vaccine platform and the announcement on May 18 that the first human trials of another have produced some positive phase 1 results.

## Recent developments

On May 21, the U.S. Department of Health and Human Services (HHS) under "Operation Warp Speed" announced that the United States will give AstraZeneca \$1.2 billion "to make available at least 300 million doses of a coronavirus vaccine called AZD1222, with the first doses delivered as early as October 2020."

On May 18, the Massachusetts-based biotechnology company Moderna announced that phase 1 clinical results showed that its vaccine candidate, which uses a new messenger RNA (mRNA) technology, appeared safe. Eight participants in the human trials were able to produce neutralizing antibodies that researchers believe are important in developing protection from the virus.

Moderna Chief Medical Officer Tal Zaks, MD, PhD, told CNN that if the vaccine candidate does well in phase 2, "it could be ready by January 2021."

The two candidates are among 10 in clinical trials for the SARS-CoV-2 virus, according to the World Health Organization. The AstraZeneca/

AZD1222 candidate (also called ChAdOx1 nCoV-19, in collaboration with the University of Oxford [England]) has entered phase 2/3.

Moderna's candidate and another being developed in Beijing, are in phase 2, WHO reported. As of late May, 115 other candidates were in preclinical evaluation.

Maria Elena Bottazzi, PhD, associ-



ate dean of the National School of Tropical Medicine at Baylor College of Medicine in Houston, said it's important to realize that, in the case of the \$1.2 billion U.S. investment, "what they're talking about is manufacturing."

The idea, she said, is to pay AstraZeneca up front so that manufacturing can start before it is known whether the vaccine candidate is safe or effective, the reverse of how the clinical trial process usually works.

That way, if the candidate is deemed safe and effective, time is not lost by then deciding how to make it and distribute it.

By the end of this year, she said, "Maybe we will have many vaccines made and stored in a refrigerator somewhere. But between now and December, there's absolutely no way you can show efficacy of the vaccine at the same time you confirm that it's safe."

## "Take these things with a grain of salt"

Animal testing for the AstraZeneca candidate, made in partnership with the University of Oxford, has yielded lackluster results, according to results on the preprint server BioRxiv, which have not been peer-reviewed.

"The results were not bad, but they were not gangbusters," Dr. Bottazzi said. The results show the vaccine offered only partial protection.

"Partial protection is better than no protection," she noted. "You have to take these things with a grain of salt. We don't know what's going to happen in humans."

As for the Moderna candidate, Dr.

Dr. Lurie and her colleagues write that "it's far from certain that these new platforms will be scalable or that existing capacity can provide sufficient quantities of vaccine fast enough."

On a call with reporters, leaders of some of the world's largest pharmaceutical companies said that one of the key bottlenecks is the sheer number of vials needed in order to distribute billions of doses of a successful vaccine.

Pfizer CEO Albert Bourla, DVM, PhD, said, "Typically we are producing vaccines in single-dose vials. We are exploring with governments right now if it would be more convenient if there were 5-dose vials or 10-dose vials. I think we can resolve a significant part of the bottleneck."

Despite the challenges, experts interviewed for this article agree that it will be possible to make a vaccine for COVID-19. They don't expect attempts to meet the same complications that HIV researchers have seen over decades as the virus continues to confound with mutations.

According to Fred Ledley, MD, director of the Center for Integration of Science and Industry at Bentley University in Waltham, Mass., "There doesn't appear to be anything terribly diabolical about this virus. The mutation rate doesn't appear to be anything like HIV. It appears to have some big, ugly proteins on the surface, which is good for vaccines – proteins with a lot of physical features look distinguishable from healthy cells. Signs all point to that it should be possible to make a vaccine."

## History and safety concerns

However, Dr. Ledley said, "The idea of doing it in 6 months is largely unrealistic."

He says 18 months is more realistic, primarily because of the sheer number of people that would have to be enrolled in a phase 3 study to truly test whether the endpoints are being met.

Vaccines are given to healthy volunteers. If safety signals arise, they may not be apparent until massive numbers of people are tested in phase 3.

"You're never going to see the rates cut to 0%, but to see the difference between 10 people getting sick and

7 people getting sick, takes very, very large numbers," Dr. Ledley said. "There's no way that can be done in 6 months. You're talking about tens of thousands of people enrolled."

He notes at this point it's unclear what the endpoints will be and what the safety thresholds will be after consideration of risks and benefit.

Another big question for Dr. Ledley: "We don't know what type of immunity we need to protect us against the virus. Do you just need the antibodies in your blood or do you need cells that are primed to attack the virus? Is it more of a chemical clearance or do the cells need to physically go in and digest the virus?"

History also points to the need for rigorous safety precautions that scientists fear could be compromised as trial phases overlap and processes are run in parallel instead of one step at a time.

An early batch of the Salk vaccine for polio in 1955, for example, turned out to be contaminated and caused paralysis in some children and 10 deaths, he points out.

CEPI's Dr. Lurie adds that early candidates for another coronavirus, severe acute respiratory syndrome (SARS), "caused a reaction in the lungs that was very dangerous" before development was halted.

She also pointed to previous findings that a vaccine for dengue fever

could worsen the disease in some people through a phenomenon called antibody-dependent enhancement.

Dr. Lurie and colleagues write in their paper that "it's critical that vaccines also be developed using the tried-and-true methods, even if they may take longer to enter clinical trials or to result in large numbers of doses."

### Live attenuated vaccine

Raul Andino, PhD, a virologist at the University of California San Francisco, is among the scientists working with a tried-and-true method – a live attenuated vaccine – and he's predicting it will take 2 years to develop.

He said it is cheaper to produce because scientists just have to learn how to grow the virus. Because the technology is already proven, a live attenuated vaccine could be rapidly produced on a worldwide scale.

The hope is also that a live attenuated vaccine would be given once in a lifetime and therefore be more affordable, especially in poorer countries.

"While a Moderna vaccine might be good for Europe and the United States," he said, "It's not going to be good for Africa, India, Brazil."

Dr. Andino said, "I would bet money" that the front-runner vaccines so far will not be one-time vaccines.

He points out that most of the vaccine candidates are trying to

protect people from disease. While there's nothing wrong with that, he said, "In my opinion that is the lower-hanging fruit."

"In my mind we need something that interrupts the chain of transmission and induces protection," Dr. Andino said, important for developing herd immunity.

The reason this type of approach takes longer is because you are introducing a weakened form of the virus to the body and you have to make sure it doesn't cause disease, not just in a small test population, but in populations who may be more susceptible to the disease, Dr. Andino said.

### A call for unified strategies

Universities, countries, international consortiums, and public-private partnerships are all racing to find several safe and effective vaccines as no one entity will likely be able to provide the global solution.

Some of the efforts involve overlap of entities but with different focuses.

Along with "Operation Warp Speed" and CEPI, other collaborations include Gavi the Vaccine Alliance, whose core partners include WHO, UNICEF, the World Bank, and

the Gates Foundation; and "Accelerating Therapeutic Interventions and Vaccines (ACTIV) partnership," led by the National Institutes of Health.

Industry partners in ACTIV (18 biopharmaceutical companies), according to a May 18 article published online in the Journal of the American Medical Association, have said they will contribute their respective clinical trial capacities, regardless of which agent is studied.

Some, however, have called for more streamlining of efforts.

"Ideally we'd be working together," Dr. Lurie said.

"I'm hopeful we will find ways to collaborate scientifically," she said. "The U.S. government's responsibility is to make doses for the U.S. CEPI's responsibility is to make doses for the world. A big focus of CEPI is to make sure we have manufacturing capacity outside of the U.S. so those doses can be available to the world and they don't get seized by wealthy countries."

Dr. Bottazzi, Dr. Ledley, Dr. Lurie, and Dr. Andino report no relevant financial relationships.

*A version of this article originally appeared on Medscape.com.*

## Half of Americans would get COVID-19 vaccine

About half of Americans say they would get a COVID-19 vaccine if one is available, according to the Associated Press.

The poll, conducted by the AP-NORC Center for Public Affairs Research, also found that 31% said they weren't sure if they'd get a vaccine, and 20% said they'd refuse to get one. The poll was conducted May 14-18 and released May 27.

A massive national and international effort is underway to develop a vaccine for the coronavirus. According to the poll, 20% of Americans believe a vaccine will be available before the end of 2020.

"It's always better to under-promise and over-deliver," William Schaffner, MD, an infectious disease specialist at Vanderbilt University Medical Center, Nashville, Tenn., told the AP.

Americans over age 60 were more

likely to say they'll get a coronavirus vaccine when it's available. Those who worry that they or someone in their household could become infected with the virus were also more likely to say they'll get a vaccine. However, Black Americans were more likely than were Hispanic or white responders to say that they don't plan to get a vaccine.

Among those who don't plan to get a vaccine, 70% said they're concerned about side effects, and 42% are worried about getting the coronavirus from the vaccine. Others say they are not concerned about getting seriously ill from the coronavirus, they don't think vaccines work well, the COVID-19 outbreak is not serious, or they don't like needles.

*A version of this article originally appeared on WebMD.com.*



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## Commentary

## Exposing hospital gowns

Bare bottoms, bare minimum

By Christy M. Lucas, MD, and Cheryl Dellasega, CRNP, PhD, MFA

“Don’t let the gown get you down,” was the advice a 26-year-old gentleman with leukemia offered in a study investigating the psychosocial impact of hospital gowns on patients and providers.<sup>1</sup> Patients were found to be resigned to their “uncomfortable,” “expos[ing],” “nightmare-[ish]” “uniform,” afraid to even ask to wear more dignifying attire for fear of seeming difficult to providers and potentially harming the therapeutic relationship; one 64-year-old woman with terminal cancer detailed, “I have my own pajamas at home, but I don’t bring them because you can’t wear them here. [Wearing a gown] is really not fun, but hey, this is what [providers] have to do, so it’s what you have to do.”<sup>1-3</sup>

Research has consistently shown that patients are vulnerable to dehumanization and loss of identity in the hospital, often exacerbated by wearing the standard hospital gown.<sup>3-8</sup> Case in point, a mixed-methods study revealed that

hospital gowns may lead to an increased sense of exposure, discomfort, disempowerment, and embarrassment for patients during a period of potential vulnerability while undergoing medical intervention.<sup>8</sup>

Hospital gowns strip autonomy from individuals humbly coming to the hospital for help. The gown has become a linchpin of change, initiating the dehumanizing process of “person” to “patient.” One of the main problems with the hospital gown is its exposing nature, often made light of on the wards with the joke, “Do you know who invented the hospital gown? ... See-more Hiney!” The joke continued in two Super Bowl LIII commercials for a large academic health care system and insurance provider in Pennsylvania, depicting a construction worker and businessman clad in hospital gowns, mooning their less-than-pleased coworkers, to inform patients of expanded insurance coverage, i.e., “completely covered.” Hospital gowns are also a source of comedic fodder on sitcoms, including “It’s Always Sunny in Philadelphia,” “Man with a Plan,” and “Carol’s Second Act.”

It is common knowledge that hospital gowns are flawed, but very little has been done to change them. Little is known about the origin of hospital gowns, and like their design, their history has many gaps. PubMed, Google, and Wikipedia yield no fruitful insight into the evolution of the hospital gown, and perhaps the best way to understand the hospital gown over time is to watch depictions of patients in television sitcoms, dramas, and movies, ranging from the days of black-and-white into the modern era, and view artistic depictions of hospitals across eras. Case in point, depictions of fourteenth century hospital wards in art show that all patients wore night shirts, under which they also wore some type of underclothing.<sup>9</sup> By the end of the 1800s and beginning of the 1900s, pajamas for men became more common as hospital attire.<sup>9</sup> Although it is not known who originally invented the traditional hospital gown, the original gown was designed around a century ago with an open back for use on patients admitted the night prior to surgery, who were sedated prior to transfer to the anesthetic room while half-asleep.<sup>10</sup>

In general, the most com-



Dr. Lucas

Dr. Dellasega

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mon reason that hospitals began to provide, require, or offer clothing to patients was to reduce infection and improve hygiene, as clothing can be ruined by leakage of bodily fluids from various examinations, treatments, and procedures.<sup>9</sup> In addition, in certain settings, lifesaving measures require access to the naked body to allow equipment, like a defibrillator, to be connected to the patient; a gown can theoretically be removed quickly.<sup>9</sup> For some reason along the way, the simple, open-backed “johnny” gown of the early 20th century became standard of care with minimal meaningful modifications in the last hundred years. One possible explanation for the persistence of the “johnny” gown is that in past eras of medicine, patients in gowns were expected to be bedbound for recovery, keeping their bare bottom under wraps, and this norm became the status quo. Today, ambulation is encouraged in patients as part of venous thromboembolism (VTE) prophylaxis but the gown design has fallen behind.

Modern medicine emphasizes, values, and even advertises evidence-based medicine, patient-centered care, and high-quality care, yet the hospital gown stands as a stark contrast to this pledge to move forward as beacons of change. Hospital gowns have fallen outside of the scope of evidence-based research.<sup>11</sup> One may ask why the gown remains decades behind modern medicine, and it appears that this apathy stems from (1) accepting “medical tradition” and choosing to overlook the flaws of the current hospital gown, and (2) believing that changing the hospital gown would cost money, affronting an institution’s almighty bottom line. Still, several institutions have attempted change, including Hackensack (N.J.) University Medical Center partnering with Cyn-



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# Clinician reviews of HM-centric research

By Ihab M. Almagdub, MD; Celia Castellanos, MD; Padmaja Gaddam, MD; Hanesh Kumar, MD; Hannah J. Mastbergen, MD; Anna Rogozinska, MD; Ivan E. Saraiva, MD; Daniel T. Weaver, MD; and Pradeep Yarra, MD

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By Ihab M. Almagdub, MD

### 1 Apixaban more effective, safer than rivaroxaban for Afib patients

**CLINICAL QUESTION:** Is apixaban more effective and safer than rivaroxaban in patients with atrial fibrillation?

**BACKGROUND:** Direct oral anti-coagulants have proven to be more efficacious, safe, and easy to use, compared with warfarin, in patients with atrial fibrillation (Afib). An indirect comparison showed apixaban to be more effective and safer than rivaroxaban. But randomized controlled trials and head-to-head comparison data regarding the same have been lacking until now.

**STUDY DESIGN:** Retrospective cohort study.

**SETTING:** A U.S. nationwide commercial health care claims database was searched for persons older than 18 years, with a new diagnosis of atrial fibrillation or flutter who were started on apixaban or rivaroxaban from Dec. 28, 2012, to Jan. 1, 2019.

**SYNOPSIS:** Optum Clinformatics was used to identify a total of 99,878 patients who were eligible for the analysis. Of these patients, 39,531 newly prescribed apixaban patients were propensity score matched to 39,351 newly prescribed rivaroxaban patients. After propensity score matching, the study found ischemic stroke or systemic embolism rate for new apixaban users to be 6.6 events per 1,000 person-years versus 8.0 events

per 1,000 person-years for new rivaroxaban users (hazard ratio, 0.82; 95% confidence interval, 0.68-0.98). The rate of major bleeding after propensity score matching was 12.9 per 1,000 person-years for new apixaban users versus 21.9 per 1,000 person-years for new rivaroxaban users (HR, 0.58; 95% CI, 0.52-0.66).



Dr. Almagdub

This observational study has several limitations including an inability to balance unmeasured confounding factors, both ICD-9 and ICD-10 codes being used for defined outcomes, an inability to account for time-varying confounders for stroke or bleeding, an inability to capture patients from locations other than primary internist and cardiologists, and a shorter follow-up period, compared with that of clinical trials.

**BOTTOM LINE:** In routine practice, apixaban is more effective and safer than rivaroxaban with a lower rate of strokes, systemic embolism, and major bleeding.

**CITATION:** Fralich M et al. Effectiveness and safety of apixaban compared with rivaroxaban for patients with atrial fibrillation in routine practice: a cohort study. *Ann Intern Med.* 2020 Apr 7. doi: 10.7326/M19-2522.

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By Celia Castellanos, MD

### 2 CRP as a biomarker for community-acquired pneumonia

**CLINICAL QUESTION:** Can biomarkers such as C-reactive protein (CRP) or procalcitonin be used as tools in diagnosis of outpatient CAP (community-acquired pneumonia)?

**BACKGROUND:** In the United States, CAP was responsible for nearly 50,000 deaths in 2017. Prompt and accurate diagnosis promotes early treatment and avoids unnecessary antibiotic treatment for nonpneumonia lower respiratory tract infection patients. Diagnosis is based on signs and symptoms, as well as available imaging. Inflammatory markers such as CRP, white blood cell count, and procalcitonin are readily available in the ED and outpatient settings.

**STUDY DESIGN:** Bivariate meta-analysis.

**SETTING:** A systematic review of literature was done via PubMed search to identify prospective studies evaluating the accuracy of biomarkers in patients with cough or suspected CAP.

**SYNOPSIS:** Fourteen studies met the criteria to be included in the meta-analysis. Summary receiver operating characteristic (ROC) curves generated reported area under the curve of 0.802 for CRP (95% confidence interval, 0.78-0.85), 0.777 for leukocytosis (95% CI, 0.74-0.81), and 0.771 for procalcitonin (95% CI, 0.74-0.81). The combination of CRP greater than 49.5 mg/L and procalcitonin greater than 0.1 mcg/L had a positive likelihood ratio of 2.24 and a negative likelihood ratio of 0.44.

The study had a some of limitations. The blinding of the person performing the index test to the reference standard and vice versa was not clear. Further, it was unclear if the person interpreting the reference standard was blinded to the index

test in five studies and absent in one. Other limitations were inconsistent reporting of abnormal post hoc cut-offs and only two biomarkers being reported in a single study.

Combining a biomarker with signs and symptoms has the potential to improve diagnostic accuracy in the outpatient setting further. CRP was found to be most accurate regardless of the cutoff used; however, further studies without threshold effect will prove beneficial.

**BOTTOM LINE:** CRP is a more accurate and useful biomarker for outpatient CAP diagnosis than procalcitonin or leukocytosis.

**CITATION:** Ebell MH et al. Accuracy of biomarkers for the diagnosis of adult community-acquired pneumonia: A meta-analysis. *Acad Emerg Med.* 2020;27(3):195-206.

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By Padmaja Gaddam, MD

### 3 Efficacy of gabapentin for treatment of alcohol use disorders

**CLINICAL QUESTION:** Can gabapentin be used in the treatment of alcohol use disorder (AUD) to reduce heavy drinking and maintain abstinence?

**BACKGROUND:** Up to 30 million people in the United States meet criteria for alcohol use disorder. Gabapentin addresses symptoms of protracted withdrawal such as insomnia, irritability, difficulty with attention, dysphoria, and anxiety. It does that by acting on voltage-gated calcium channels and, in turn, influencing GABA and glutamate tone and activity.

**STUDY DESIGN:** Double-blind, placebo-controlled, randomized clinical trial.

**SETTINGS:** Academic ambulatory setting at the Medical University of South Carolina.



Dr. Gaddam

**SYNOPSIS:** A total of 96 community-recruited participants were randomly assigned to gabapentin and placebo arm then treated and followed for a total of 16 weeks. The gabapentin arm received gradual increments of gabapentin reaching up to 1,200 mg/day by day 5. The control group received placebo in blister packs. Individuals in the gabapentin arm, compared with those in the placebo arm, showed 18.6% ( $P = .02$ ) more no heavy-drinking days, with a number needed to treat (NNT) of 5.4, and 13.8% ( $P = .04$ ) more total abstinence days, with an NNT of 6.2. The prestudy high-alcohol withdrawal group in particular had significantly less relapse to heavy drinking ( $P = .02$ ; NNT, 3.1) and more total abstinence ( $P = .03$ ; NNT, 2.7) when treated with gabapentin.

A couple of study limitations were a significant noncompletion rate (30% in gabapentin arm and 39% in the placebo arm) and self-reported alcohol withdrawal symptoms prior to entry into the study.

**BOTTOM LINE:** Gabapentin helps in reducing drinking and maintaining alcohol abstinence in individuals with alcohol use disorder, especially those with high-alcohol withdrawal symptoms.

**CITATION:** Anton RF et al. Efficacy of gabapentin for the treatment of alcohol use disorder in patients with alcohol withdrawal symptoms: A randomized clinical trial. *JAMA Intern Med.* 2020 Mar 9;180(5):728-36.

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By Hanesh Kumar, MD

## 4 ACE-I or ARB therapy in patients with low eGFR

**CLINICAL QUESTION:** Is it safe to continue angiotensin-converting enzyme inhibitor (ACE-I) or angiotensin II receptor blocker (ARB) therapy in patients whose estimated glomerular filtration rate (eGFR) has decreased to below 30 mL/min per 1.73 m<sup>2</sup>?

**BACKGROUND:** ACE-I and ARB therapy is widely used for hypertension, albuminuric chronic kidney disease, heart failure with reduced ejection fraction, and coronary artery disease. They are known to potentially cause hemodynamic reductions in eGFR, hyperkalemia, and acute kidney injury. We know to temporarily discontinue ACE-I or ARB in patients with eGFR less than 60 mL/

min per 1.73 m<sup>2</sup> who have serious intercurrent illness that increases the risk of acute kidney injury, but existing literature evaluating the risks and benefits of using ACE-I and ARBs in individuals with advanced chronic kidney disease is conflicting.

**STUDY DESIGN:** Retrospective, propensity score-matched cohort study. **SETTING:** Geisinger Health System, serving central and northeastern Pennsylvania.

**SYNOPSIS:** Total of 3,909 individuals were included in the study who were receiving ACE-I or ARB and experienced eGFR below 30 mL/min per 1.73 m<sup>2</sup>. Of these 1,235 discontinued ACE-I or ARB therapy within 6 months after the eGFR decrease and 2,674 did not. At median 2.9 years' follow-up, 434 (35.1%)



Dr. Kumar

patients who discontinued ACE-I or ARB therapy had died versus 786 (29.1%) who did not discontinue. Similarly, the risk of MACE (major adverse cardiovascular events) was higher among those who discontinued therapy ( $n = 494$ ; 40.0%) than it was among those who did not discontinue therapy ( $n = 910$ ; 34.0%). Among those who discontinued, 87 individuals (7.0%) developed end-stage kidney disease, compared with the 176 (6.6%) who did not discontinue. Additionally, in individuals with an eGFR decrease by 40% or more for 1 year while receiving ACE-I or ARB therapy, discontinuing therapy was associated with higher risk of mortality (32.6% vs. 20.5%).

Although this study is observational it has a large sample size and confounding factors have been accounted for by propensity score matching. The results are clinically relevant in daily practice.

**BOTTOM LINE:** Continuing ACE-I or ARB after an eGFR decrease to below 30 mL/min per m<sup>2</sup> is associated with lower risk of mortality and MACE without significant increased risk of end-stage kidney disease.

**CITATION:** Qiao Y et al. Association between renin-angiotensin system blockade discontinuation and all-cause mortality among persons with low estimated glomerular filtration rate. *JAMA Intern Med.* 2020 Mar 9;180(5):718-26.

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By Hannah J. Mastbergen, MD

## 5 Optimizing screening for asymptomatic Afib

**CLINICAL QUESTION:** How can we optimize screening for patients with asymptomatic atrial fibrillation (Afib)?

**BACKGROUND:** Afib is often asymptomatic until a patient presents with an acute stroke. Current screening strategies for Afib fail to detect a large portion of patients, especially since most Afib is paroxysmal. Better screening strategies that increase diagnostic yield are needed.

**STUDY DESIGN:** Randomized controlled trial (part of the LOOP trial).

**SETTING:** Four centers in Denmark.

**SYNOPSIS:** Patients over the age of 70 years, with at least one stroke risk factor, were monitored over the course of 3 years using an implantable loop recorder to obtain complete heart rhythm histories and to monitor for the development of Afib. Researchers then applied different sampling strategies to simulate different Afib screening scenarios on this set of rhythm data. A single 10-second EKG yielded a sensitivity of 1.5% for Afib detection and a negative predictive value (NPV) of 66%, increasing to 2.3%

and 71% for annual EKGs during 3 years. Twice-daily 30-second EKGs during 14 consecutive days yielded a sensitivity of 8.3%, while a single 24-h monitoring yielded a sensitivity of 11%, increasing to 13%, 15%, and



Dr. Mastbergen

21% for a 48-hour, 72-hour, and 7-day monitoring, respectively. The highest performance was achieved with annual 30-day monitoring which had a sensitivity of 34%-55% and a

NPV of 74%-84% over 1-3 years.

The authors acknowledged many limitations including: The algorithm used had a sensitivity of 95%, there is no valid cutoffs for time-in-Afib, and the simulations assumed 100% patient compliance.

**BOTTOM LINE:** Screening for atrial fibrillation improves by increasing the duration of, spacing between, and number of screenings.

**CITATION:** Diederichsen SZ et al. Comprehensive evaluation of rhythm monitoring strategies in screening for atrial fibrillation: Insights from patients at risk long-term monitored

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with implantable loop recorder. Circulation. 2020 May 12;141(19):1510-22.

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By Anna Rogozinska, MD

## 6 ICU infections and all-cause hospital mortality rate

**CLINICAL QUESTION:** Was prevalence of infection associated with outcomes among ICU patients in 2017?

**BACKGROUND:** Many articles have been published on sepsis and mortality in ICUs, but there are not many analyzing outcomes in patients with infections, nor types of infections. More information on the infection rate, types of infection, and possible impact on mortality should heighten awareness of infection effects, as well as guide resource allocation and help direct policy development for diagnosis and treatment.

**STUDY DESIGN:** 24-hour point-prevalence study with longitudinal follow-up.

**SETTING:** ICUs in 1,150 centers in 88 countries.

**SYNOPSIS:** The study included 15,202 patients who were aged 18 or older (mean, 61.6) within a 24-hour time period on Sept. 13, 2017, who were admitted to the ICU in participating centers and had documented, confirmed, or suspected infection. The investigators looked at prevalence of infection and antibiotic exposure on the study day and the main outcome measure was all cause in-hospital mortality, which was compiled 60 days later. The prevalence of suspected or proven infection in ICUs was 54% (8,135) and that of ICU-acquired infection was 22%. Of confirmed or suspected infection, 65% (5,259) had at least one positive microbiology culture. Of those cultures, 67% were gram-negative and 37% gram-positive bacteria, and 16% were fungal. 70% of ICU patients received at least one antibiotic. The in-hospital mortality rate with proven or suspected infection was 30% (2,404 of 7,936). Multilevel analysis disclosed two independent risk factors for mortality, which were ICU-acquired infections and antibiotic-resistant organisms, specifically, vancomycin-resistant *Enterococcus*, *Klebsiella* resistant to

beta-lactam antibiotics, and carbapenem-resistant *Acinetobacter*.

Despite limitations related to being an observational study, 24-hour point evaluation, a centrally controlled database, and different geographic locations, this study elucidated the world-wide prevalence of ICU infection and high hospital-in mortality in those patients. **BOTTOM LINE:** There is a high prevalence of infection in ICUs: 43%-60% depending on location. This is associated with 30% in-hospital mortality.

**CITATION:** Vincent J-L et al. Prevalence and outcomes of infection among patients in intensive care units in 2017. JAMA. 2020 Mar 24;323(15):1478-87.

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By Ivan E. Saraiva, MD

## 7 Early end for trial of experimental oxygenation strategies in ARDS

**CLINICAL QUESTION:** Does a conservative oxygenation strategy improve mortality in patients with acute respiratory distress syndrome (ARDS)?

**BACKGROUND:** Both observational studies and clinical trials have found that a liberal oxygenation strategy in multiple inpatient settings may be harmful. Furthermore, a conservative strategy is what has been recommended in guidelines. Conversely, the relevance of this recent concept

has been challenged in a large trial of a critically ill population (ICU-ROX).

**STUDY DESIGN:** Randomized clinical trial, unblinded.

**SETTING:** Thirteen sites in France.

**SYNOPSIS:** In a multicenter randomized clinical trial, investigators enrolled patients with ARDS to either a liberal oxygenation group (PaO<sub>2</sub> target 90-105 mm Hg or SpO<sub>2</sub> of 96% or greater) or a conservative oxygenation group (PaO<sub>2</sub> target 55-70 mm Hg or SpO<sub>2</sub> 88%-92%). The trial was planned for inclusion of 850 patients, but the data and safety monitoring board decided to stop the trial after inclusion of 205 patients. Although the primary outcome (28-day all-cause mortality) was not significantly different between groups (34.3% vs 26.5%; absolute difference, 7.8%; 95% confidence

interval, -4.8 to 20.6), the direction was signaling possible harm and there were five episodes of mesenteric ischemia in the conservative oxygenation group (none in the liberal oxygenation group).

**BOTTOM LINE:** A conservative oxygenation strategy cannot be currently recommended to patients with ARDS in the ICU. A minimum SpO<sub>2</sub> of 90% was suggested in an accompanying editorial.

**EDITORIAL COMMENTARY:** Interestingly, the supplemental results of the article show that prone positioning was used much less frequently in the conservative oxygenation group (34.3 vs 51.0%). If the impressive results of Guerin (2013) would be repeated in this population, this difference could help explain the higher observed mortality in the conservative oxygenation group. It is possible that, by aiming to be less aggressive in improving the PaO<sub>2</sub>, clinicians inadvertently withheld effective treatments for ARDS. The results of this trial bring up several interesting questions, but provide the bedside clinician with few answers. The complex interplay of treatment factors needs to be dissected in future trials.

**CITATION:** Barrot L et al. Liberal or conservative oxygen therapy for acute respiratory distress syndrome. N Eng J Med. 2020;382:999-1008.

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By Daniel T. Weaver, MD

## 8 Limited evidence for interventions to reduce post-op pulmonary complications

**CLINICAL QUESTION:** Do perioperative interventions reduce postoperative pulmonary complications

(PPCs) in patients undergoing noncardiac surgery?

**BACKGROUND:** Despite advances in perioperative care, postoperative pulmonary complications

represent a leading cause of morbidity and mortality that are associated with increased risk of admission to critical care and prolonged length of hospital stay. There are multiple interventions that are used, despite there being no consensus guidelines aimed at reducing the risk of PPCs. **STUDY DESIGN:** Systemic review and meta-analysis of randomized controlled trials.

**SETTING:** Literature search from Medline, Embase, CINAHL, and the Cochrane Central Register of Controlled Trials from January 1990 to December 2017, including trials investigating short-term, protocolized medical interventions around noncardiac surgeries with clinical diagnostic criteria for PPC outcomes.

**SYNOPSIS:** The authors reviewed 117 trials that included 21,940 participants. The meta-analysis comprised 95 randomized controlled trials with 18,062 patients. The authors identified 11 categories of perioperative care interventions that were tested to reduce PPCs. None of the interventions evaluated was supported by high-quality evidence. There were seven interventions that showed a probable reduction in PPCs. Goal-directed fluid therapy was the only one that was supported by both moderate quality evidence and trial sequential analysis. Lung protective intraoperative ventilation was supported by moderate quality evidence, but not trial sequential analysis. Five interventions had low-quality evidence of benefit: enhanced recovery pathways, prophylactic mucolytics, postoperative continuous positive airway pressure ventilation, prophylactic respiratory physiotherapy, and epidural analgesia.

Unfortunately, only a minority of the trials reviewed were large, multi-center studies with a low risk of bias. The studies were also heterogeneous, posing a challenge for meta-analysis.

**BOTTOM LINE:** There is limited evidence supporting the efficacy of any intervention preventing postoperative pulmonary complications, with moderate-quality evidence supporting intraoperative lung protective ventilation and goal-directed hemodynamic strategies reducing PPCs.

**CITATION:** Odor PM et al. Perioperative interventions for prevention of postoperative pulmonary complication: Systemic review and meta-analysis. BMJ. 2020 Mar 11. doi: 10.1136/bmj.m540.

Dr. Weaver is a hospitalist and assistant professor of medicine at UK HealthCare, Lexington, Ky.

By Pradeep Yarra, MD

## 9 High prevalence of Fall Risk-Increasing Drugs in older adults after falls

**CLINICAL QUESTION:** Are we reducing use of Fall Risk-Increasing Drugs (FRIDs) after a fall, and if so, does it alone reduce fall risk?

Continued on following page



Dr. Rogozinska



Dr. Saraiva



Dr. Weaver

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**BACKGROUND:** Falls are the leading cause of unintentional injuries and injury-related deaths among adults aged 65 years and older. FRIDs (such as antidepressants, sedatives-hypnotics, and opioids) continue to be a major contributor for risk of falls. At the same time, little is known about prevalence of use or interventions directed toward reduction of use in older adults presenting with fall.

**STUDY DESIGN:** Systematic review.



Dr. Yarra

**SETTING:** PubMed and Embase databases were used to search for studies published in English on or before June 30, 2019. Search terms included older adults, falls, medication classes, and hospitalizations among other related terms.

**SYNOPSIS:** The review included a total of 14 articles (10 observational studies and 4 prospective intervention studies). High prevalence of FRID use (65%-93%) was seen in older adults with fall-related injury. Use of FRIDs continued to remain high at 1 month and 6 months follow-up after a fall. Antidepressants, sedative-hypnotics, opioids, and antipsychotics were the most commonly used FRIDs. Three random-

ized controlled trials showed no effect of reducing FRID use on reduction in falls. An outpatient clinic pre-post assessment study based on intervention by geriatrician and communication with prescribing physicians led to reduction in FRID use and falls.

Limitations of this review included high risk of bias in observational studies and unclear timeline definitions of interventions or outcome measurements in the intervention studies. In conclusion, there is a significant need for well-designed interventions targeted at reducing FRID use in conjunction with other risk factors to decrease the incidence of falls comprehensively. An

aggressive approach directed toward patient education along with primary care communication may be the key to reducing FRID use in this population.

**BOTTOM LINE:** With limited evidence, there is a high prevalence of FRID use in older adults presenting with falls and no reduction in FRID use following the encounter.

**CITATION:** Hart LA et al. Use of fall risk-increasing drugs around a fall-related injury in older adults: A systematic review. *J Am Geriatr Soc.* 2020 Feb 17. doi: 10.1111/jgs.16369.

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## SHORT TAKES

### Screen all adults aged 18-79 years for HCV infection

The U.S. Preventative Services Task Force concludes with moderate certainty that screening for HCV infection in adults aged 18-79 has substantial net benefit (B recommendation).

**CITATION:** U.S. Preventive Services Task Force. Screening for hepatitis C virus infection in adolescents and adults: U.S. Preventive Services Task Force recommendation statement. *JAMA.* 2020;323(10):970-5.

### Serious behavior and mood-related changes with montelukast

The Food and Drug Administration has released a boxed warning for montelukast of elevated risk of mental health side effects including suicidal thoughts or actions. Providers should ask patients about history of psychiatric illness prior to initiating montelukast and monitor them for neuropsychiatric symptoms.

**CITATION:** Food and Drug Administration.

Singulair (montelukast) and All Montelukast Generics: Strengthened Boxed Warning - Due to Restricting Use for Allergic Rhinitis. Medical Product Safety Information. 2020 Mar 4.

### Topical wound oxygen device may make hyperbaric obsolete for diabetic foot ulcers

In the largest clinical trial to date, topical wound oxygen home care therapy, delivered by the Advanced Oxygen Therapy (Oceanside, Calif.) HyperBox device, led to drastically improved diabetic foot ulcer healing, compared with sham therapy at 12 weeks (41.7% vs. 13.5%). The trial was interrupted early in the first prespecified interim analysis with 73 enrolled patients. This therapy is simpler and more convenient than hyperbaric oxygen therapy, being delivered by a small device connected to an oxygen concentrator and an inflatable single-use extremity chamber. Patients can apply the treatment themselves at home for 90 min,

5 days a week. The trial was sponsored by the manufacturer.

**CITATION:** Frykberg RG et al. A multinational, multicenter, randomized, double-blinded, placebo-controlled trial to evaluate the efficacy of cyclical Topical Wound Oxygen (TWO2) therapy in the treatment of chronic diabetic foot ulcers: The TWO2 Study. *Diabetes Care.* 2020 Mar;43(3):616-24.

### Penicillin allergy clinical decision rule

A diagnostic study of 622 patients has developed a penicillin allergy decision rule, PEN-FAST (penicillin allergy, 5 or fewer years ago, anaphylaxis/angioedema or severe cutaneous adverse reaction, treatment required for an allergy episode). After being subjected to internal and external validation, it was found to have a negative predictive value of 96.3%.

**CITATION:** Trubiano JA et al. Development and validation of a penicillin allergy clinical decision rule. *JAMA Intern Med.* 2020 Mar 16;180(5):1-9.

# Limit Foley catheters in older trauma patients

Quality initiative improved outcomes

By Ted Bosworth

MDedge News

A quality initiative to restrict the use of Foley catheters in middle-aged and geriatric trauma patients with hip fracture reduced the risk of urinary tract infections (UTI) and led to earlier discharge, findings from a study revealed. The results of the study were reported in an abstract scheduled for release at the annual meeting of the American Academy of Orthopaedic Surgeons. The meeting was canceled because of COVID-19.

"We reduced the use of Foley

catheters in our target population by more than 50%, which led to a decrease in the rate of hospital-acquired UTI and positively affected other perioperative outcomes," reported Sanjit R. Konda, MD, an orthopedic surgeon with New York University Langone Health.

The quality initiative was introduced about 2 years ago specifically to reduce the risk of UTI in older patients admitted for femur or hip fractures. Previously at the level 1 trauma center where this quality initiative was introduced, placement of Foley catheters in these types of patients had been routine.

After the policy change, Foley

catheters were offered to these trauma patients 55 years of age or older only when more than three episodes of urinary retention had been documented with a bladder scan. Urinary retention was defined as a volume of at least 600 mL.

When outcomes in 184 patients treated in the 15 months after the policy change were compared with 393 treated in the prior 38 months, Foley catheter use was substantially and significantly reduced (43.5% vs. 95.5%;  $P < .001$ ), Dr. Konda said in an interview.

Although the lower rate of UTI following the policy change fell short of statistical significance

(10.33% vs. 14.5%;  $P = .167$ ), the policy change was associated with a decreased time to surgery (33.27 vs. 38.54 hours;  $P = .001$ ), shorter length of stay (6.89 vs. 8.34 days;  $P < .001$ ), and higher rate of home discharge (22.8% vs. 15.6%;  $P = .038$ ).

When those who avoided a Foley catheter were compared with those who did not after the policy change, there was a significant reduction in UTI (4.81% vs. 17.4%;  $P = .014$ ). In addition, patients who avoided a Foley catheter had a decreased time to surgery ( $P = .014$ ), shorter length of stay ( $P < .001$ ), and an almost 900% greater likelihood of home discharge (odds ratio, 9.9;  $P < .001$ ).

# PHM fellowship changes in response to the COVID-19 pandemic

By Anika Kumar, MD, FHM, FAAP

The COVID-19 surge and pandemic have changed many things in medicine, from how we round on the wards to our increased use of telemedicine in outpatient and inpatient care. This not only changed our interactions with patients, but it also changed our learners' education. From March to May 2020 during the COVID-19 pandemic, many Pediatric Hospital Medicine (PHM) fellowship directors were required to adjust clinical responsibilities and scholarly activities. These changes led to unique challenges and learning opportunities for fellows and faculty.

Many fellowships were asked to make changes for patient and provider safety. Because of low censuses, the University of Pittsburgh Medical Center's Pittsburgh Children's Hospital closed their observation unit; as a result, Elise Lu, MD, PhD, PHM fellow, spent time rounding on inpatient units instead. At the Children's Hospital of Los Angeles, PHM fellow Brandon Palmer, MD, said his in-person child abuse elective was switched to a virtual elective. Adam Cohen, MD,

chief PHM fellow at Baylor College of Medicine/Texas Children's Hospital, both in Houston, offered to care for adult patients and provide telehealth services to pediatric patients, but was never called to participate.

At other programs, fellows experienced greater changes to patient care and systems-based practice. Carlos Plancarte, MD, PHM fellow at Children's Hospital of Montefiore, New York, provided care for patients up to the age of 30 years as his training hospital began admitting adult patients. Jeremiah Cleveland, MD, PHM fellowship director at Maimonides Children's Hospital, New York, said his fellow's "away elective" at a pediatric long-term acute care facility was canceled. Dr. Cleveland changed the fellow's rotation to an infectious disease rotation, giving her a unique opportunity to evaluate the clinical and nonclinical aspects of pandemic and disaster response.

PHM fellows also experienced changes to their scholarly activities. Matthew Shapiro, MD, a fellow at Anne and Robert H. Lurie Children's Hospital in Chicago, had to place his quality improvement research on hold and is writing a commentary with his mentors. Marie Pfarr, MD, a fellow at Cincinnati Children's Hos-

pital and Medical Center, changed her plans from a simulation-based research project to studying compassion fatigue. Many fellows had workshops, platforms, and/or poster presentations at the Pediatric Academic Societies Meeting and/or the Pediatric Hospital Medicine Conference, both of which were canceled.

Some fellows felt the pandemic provided them an opportunity to learn communication and interpersonal skills. Dr. Shapiro observed his mentors effectively communicating while managing a crisis. Dr. Plancarte shared that he learned that saying "I don't know" can be helpful when effectively leading a team.

Despite the changes, the COVID-19 pandemic's most important lesson was the creation of a supportive community. Across the country, PHM fellows were supported by faculty, and faculty by fellows. Dr. Plancarte observed how his colleagues united during a challenging situation to support each other. Ritu Patel, MD, PHM fellowship director at Kaiser Oakland (Calif.) said her fellowship's weekly informal meetings helped bring the fellows and faculty closer. Joel Forman, MD, PHM fellowship director and vice chair of education at Mount Sinai Kravis Children's Hospital in



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New York stressed the importance of camaraderie amongst faculty and learners.

While the pandemic continues, and long after it has passed, fellowship programs have learned that fostering community across training lines is important for both fellows and faculty.

## The plague of racism in our society

By Jordan Messler, MD

Here we are, faced with history in real time. A plague upon a plague. A new one and a longstanding one. COVID-19 and racial injustice. Both are plagues upon our medical house, and it's time for some spring cleaning.

Initially, COVID-19 concerns brought news of an infection coming for anyone and everyone. Like the Black Death, it was supposedly "the great equalizer," the "Triumph of Death," regardless of station in life.

Yet, as the COVID-19 story unfurls, it is clear that minorities are disproportionately affected, just as they always seem to be. In Chicago, for example, African Americans make up 70% of the COVID-19 deaths, yet only 29% of the population. Similar results have been found in Milwaukee and Louisiana, and other parts of the country. As an article in the *Journal of Law and the Biosciences* (doi: 10.1093/jlb/lisaa036) indicated, "These racial and ethnic disparities in COVID-19

infections and deaths are a result of historical and current practices of racism that cause disparities in exposure, susceptibility and treatment."

People of color are disproportionately affected, an outcome of racial health disparities. And these disparities are a public health crisis. Disparities continue to exist in national infant mortality, maternal health, and deaths from premature heart disease and stroke. They exist in access to care and are playing out in real time during this pandemic.

COVID-19 and racial injustice, in addition to being sociological and economic crises, are both public health crises that are plaguing African American communities. Consider the case of police violence as a public health issue. Black males are three times more likely to be killed by police than are non-Hispanic white males.

It's not easy speaking up and speaking out. Yet, this is our foundation, our call, our professional obligation. We must remember George Floyd, Breonna Taylor, Sandra Bland, Eric Garner, Tamir

Rice, Trayvon Martin, and too many others. To recognize the humanity behind the injustices, and to call out their names.

This is lesson 101 on the wards. It's not the heart failure in bed 1 or the sepsis in bed 2, but the mother, brother, father, and sister who seek out just care. Humanity reaching out their hand, and we must grab it.

I came to medicine for the compassion, for the love, for the comforting hand offered to our patients. That compassion, by definition, requires action.

In his book "Altruism: The Power of Compassion to Change Yourself and the World," Matthieu Ricard wrote "If compassion without wisdom is blind, compassion without action is hypocritical." Silence is inaction. Let's act.

Dr. Messler is the executive director, quality initiatives, at Glytec and works as a hospitalist at Morton Plant Hospitalist group in Clearwater, Fla. This essay is an excerpt from a longer article that appeared first at *The Hospital Leader*, the official blog of SHM.



Dr. Messler



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# 'I can't breathe': Health inequity and state-sanctioned violence

By Khaalisha Ajala, MD, MBA

One might immediately think of the deaths of Eric Garner, George Floyd, or even the fictional character Radio Raheem from Spike Lee's critically acclaimed film, "Do the Right Thing," when they hear the words "I can't breathe." These words are a cry for help. The deaths of these unarmed black men are devastating and have led to a state of rage, palpable pain, and protest across the world.

However, in this moment, I am talking about the health inequity exposed by the COVID-19 pandemic. Whether it be acute respiratory distress syndrome (ARDS) secondary to severe COVID-19, or the subsequent hypercoagulable state of COVID-19 that leads to venous thromboembolism, many black people in this country are left breathless.

Many black patients who had no employee-based health insurance also had no primary care physician to order a SARS-CoV2 polymerase chain reaction (PCR) lab test for them. Many of these patients have preexisting conditions, such as asthma from living in redlined communities affected by environmental racism. Many grew up in food deserts, where no fresh-produce store was interested enough to set up shop in their neighborhoods. They have been eating fast food since early childhood, as a fast-food burger is still cheaper than a salad. The result is obesity, an epidemic that can lead to diabetes mellitus, hypertension that can lead to coronary artery disease, stroke, and end-stage renal disease.

Earlier in my career, I once had a colleague gleefully tell me that all black people drank Kool-Aid while in discussion of the effects of high-sugar diets in our patients; this colleague was sure I would agree. Not all black people drink Kool-Aid. Secondary to my fear of the backlash that can come from the discomfort of "white fragility" that Robin DiAngelo describes in her New York Times bestseller by the same name, "White Fragility: Why It's So Hard for White People to Talk About Racism," I refrained from expressing my own hurt, and I did not offer explicit correction. I, instead, took a serious

pause. That pause, which lasted only minutes, seemed to last 400 years. It was a brief reflection of the 400 years of systemic racism seeping into everyday life. This included the circumstances that would lead to the health inequities that result in the health disparities from which many black patients suffer.

It is that same systemic racism that could create two Americas in which my colleague might not have to know the historic context in which that question could be hurtful. I retorted with modified shock and a chuckle so that I could muster up enough strength to repeat what

*"Whether we know it or not, we all carry some form of implicit bias, regardless of race, class, gender, ethnicity, sexual preference, or socioeconomic status."*

was said and leave it open for reflection. The goal was for my colleague to realize the obvious implicit bias that lingered, despite intention. The chuckle was also to cover my pain.

Whether we know it or not, we all carry some form of implicit bias, regardless of race, class, gender, ethnicity, sexual preference, or socioeconomic status. In this case, it is the same implicit bias that causes physicians to ignore some black patients when they have said that they are in pain.

A groundbreaking April 2016 article in Proceedings of the National Academy of Sciences, "Racial Bias in Pain Assessment and Treatment Recommendations, and False Beliefs about Biological Differences Between Blacks and Whites" (doi: 10.1073/pnas.1516047113), revealed that racial disparities in pain assessment and treatment recommendations can be directly connected to the racial bias of the provider. It could be possible that this phenomenon has affected black patients who have walked into clinics and emergency departments and said, "I'm short of breath. I think that I might have coronavirus and need to be test-

ed." It may be that same implicit bias that has cut the air supply to a patient encounter. Instead of inquiring further, a patient might be met with minimum questions while their provider obtains their history and physical. Assumptions and blame on behavior and lack of personal responsibility secretly replace questions that could have been asked. Differentials between exacerbations and other etiologies are not explored. Could that patient have been sent home without a SARS-CoV-2 PCR test? Well, what if the tests were in short supply? Sometimes they may have been sent home without a chest x-ray. In most cases, there are no funds to send them home with a pulse oximeter.

The act of assuming a person's story that we consider to be one dimensional is always dangerous – and even more so during this pandemic. That person we can relate to – secondary to a cool pop culture moment, a TikTok song, or a negative stereotype – is not one dimensional. That assumption and that stereotype can make room for implicit bias. That same implicit bias is the knee on a neck of any marginalized patient. Implicit bias is the choke hold that slowly removes the light and life from a person who has a story, who has a family, and who has been an essential worker who can't work from home. That person is telling us that they can't breathe, but sometimes the only things seen are comorbidities through a misinformed or biased lens that suggest an assumed lack of personal responsibility.

In a May 2020 New England Journal of Medicine perspective, "Racial health disparities and Covid-19" (doi: 10.1056/NEJMp2012910), Merlin Chowkwanyun, PhD, MPH, and Adolph L. Reed Jr., PhD, caution us against creating race-based explanations for presumed behavioral patterns.

Systemic racism has created the myth that the playing field has been leveled since the end of enslavement. It hasn't. That black man, woman, or nonbinary person is telling you "I can't breathe. I'm tired. I'm short of breath ... I have a cough ... I'm feeling weak these days, Doc." However, implicit bias is still that



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knee that won't let up. It has not let up. Communities with lower-income black and Hispanic patients have already seen local hospitals and front-line workers fight to save their lives while losing their own to COVID-19. We all witnessed the battle for scarce resources and PPE (personal protective equipment). In contrast, some wealthy neighborhoods have occupants who most likely have access to a primary care physician and more testing centers.

As we reexamine ourselves and look at these cases of police brutality against unarmed black men, women, and children with the appropriate shame and outrage, let us reflect upon the privileges that we enjoy. Let us find our voice as we speak up for black lives. Let us look deeply into the history of medicine as it relates to black patients by reading "Medical Apartheid: The Dark History of Medical Experimentation on Black Americans from Colonial Times to the Present" by Harriet A. Washington. Let us examine that painful legacy, which, while having moments of good intention, still carries the stain of indifference, racism, neglect, and even experimentation without informed consent.

Why should we do these things? Because some of our black patients have also yelled or whispered, "I can't breathe," and we were not always listening either.

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