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Lewis J. Kaplan, MD, FCCP, said, "One of the unanticipated casualties of the pandemic is the patients who don't have it. It will take a whole lot of work and coordinated effort to re-engage with those patients."

Courtesy Dr. Lewis Kaplan

Unanticipated consequence of the pandemic: Empty ED beds

BY BRUCE JANCIN
MDedge News

The COVID-19 pandemic is fraught with unexpected twists, among them a dramatic plunge in emergency department patient volumes, according to an expert panel on unanticipated consequences of pandemic care hosted by the presidents of the Society of Critical Care Medicine and the American College of Emergency Physicians.

"At the peak of exposure to COVID-19 illness or infection, ED volumes in my system, which are really not much different from others across the country, were cut in half, if not more. And those changes happened across virtually every

form of ED presentation, from the highest acuity to the lowest. We're now beyond our highest level of exposure to COVID-19 clinically symptomatic patients in western Pennsylvania, but that recovery in volume hasn't occurred yet, although there are some embers," explained Donald M. Yealy, MD, professor and chair of the department of emergency medicine at the University of Pittsburgh.

He and other panelists also addressed some of the other unanticipated developments in the COVID-19 pandemic, including a recently recognized childhood manifestation called for now COVID-associated pediatric multisystem inflammatory syndrome; an anticipated mas-

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COVID-19: What will happen to physician income this year?

BY LEIGH PAGE

In recent weeks, physicians have gotten the first hints of how much income they could lose in the COVID-19 crisis.

"At a combined system and hospital board meeting yesterday, there was a financial presentation," said a cardiologist in Minnesota, who declined to be named. "We have 'salary support' through May 16, which means we will be receiving base pay at our 2019 level. After May 16, I think it's fairly certain salaries will be decreased."

An internist in the same area added: "The system has decided to pay physicians and other employees for 8 weeks, until May 15, and they are borrowing about \$150 million to do this."

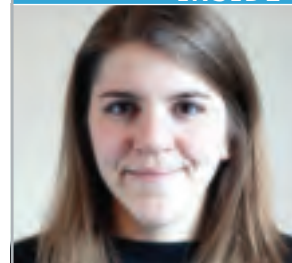
Many aspects of physician income are discussed in Medscape's Physician Compensation Report 2020.

The worst may be yet to come

Of all the categories of physicians, "I am worried about private practices the most," said Travis Singleton, senior vice president at Merritt Hawkins, a physician search firm. "They don't have a

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CMS loosens telehealth rules during COVID-19 crisis

BY KEN TERRY

To boost the capacity of frontline clinicians and facilities to fight COVID-19, the Centers for Medicare & Medicaid Services on

April 9 announced it is temporarily suspending rules to allow physicians to provide telehealth services across state lines, and will permit midlevel practitioners to provide as much care as their state licenses allow.

Physicians can now care for patients at rural hospitals across state lines via phone, radio, or online communications without having to be physically present. “Remotely located physicians, co-

ordinating with nurse practitioners at rural hospitals, will provide staffs at such facilities additional flexibility to meet the needs of their patients,” a CMS news release said. At skilled nursing facilities, nurse

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practitioners will now be able to perform some medical exams that doctors normally conduct on Medicare patients, whether they are COVID-19-related or not, CMS said.

Occupational therapists from home health agencies can now perform initial assessments on certain homebound patients, allowing home

health services to start sooner and freeing home health nurses to do more direct patient care.

In addition, hospice nurses will be relieved of hospice aide in-service training tasks so they can spend more time with patients.

“It’s all hands on deck during this crisis,” said CMS Administrator Seema Verma in the press release.

“All frontline medical professionals need to be able to work at the highest level they were trained for. CMS is making sure there are no regulatory obstacles to increasing the medical workforce to handle the patient surge during the COVID-19 pandemic.”

The announcement did not directly address the question of whether

CMS’s new telemedicine and scope-of-practice policies override state laws. The agency said, “CMS sets and enforces essential quality and safety standards that supplement state scope-of-practice and licensure laws for health care workers. CMS has continuously examined its regulations to identify areas where federal requirements may be more stringent than state laws and requirements.”

On March 20, Vice President Pence announced that physicians would be allowed to practice across state lines during the COVID-19 crisis. Until now, however, CMS had not changed its regulations to allow doctors to conduct telehealth consultations in states other than the ones in which they are licensed.

Other changes

As part of other rule changes to support the health care workforce, CMS said on March 30 that it will pay for more than 80 additional services when furnished via telehealth.

These include emergency department visits, initial skilled nursing facility and discharge visits, and home visits. In addition, the agency said it would cover phone visits with Medicare beneficiaries.

Moreover, while virtual “check-in” visits had previously been limited to established patients, CMS said that doctors would be able to provide these services to both new and established patients.

Among its other regulatory changes in recent weeks, CMS has also temporarily:

- Permitted physicians whose privileges will expire to continue practicing at a hospital and allowed new physicians to begin working prior to full hospital medical staff/governing body review and approval.
- Lifted regulatory requirements regarding hospital personnel qualified to perform specific respiratory care procedures, allowing these professionals to operate to the fullest extent of their licensure.
- Waived federal minimum personnel qualifications for clinical nurse specialists, nurse practitioners, and physician assistants so they can work at rural hospitals as long as they meet state licensure requirements.
- Allowed physicians and nonphysician practitioners to use telehealth to care for patients at long-term care facilities, rather than having to treat patients at those facilities in person

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sive second wave of non-COVID patients expected to present late to EDs and primary care clinics after having avoided needed medical care out of fear of infection; and the pandemic's negative impact upon medical education.

Those not showing up in the ED

Dr. Yealy said that, across the country, the number of patients arriving in EDs with acute ST-elevation MI, stroke, trauma, and other highest-acuity presentations is down substantially. But the volume of patients with more routine, bread-and-butter conditions typically seen in EDs is down even more.

"You might say, if I was designing from the insurance side, this is exactly what I'd hope for. I've heard that some people on the insurance-only side of the business really are experiencing a pretty good deal right now: They're collecting premiums and not having to pay out on the ED or hospital side," he said.

The public health message revised

"One of the unanticipated casualties of the pandemic is the patients who don't have it. It will take a whole lot of work and coordinated effort to re-engage with those patients," predicted SCCM President Lewis J. Kaplan, MD, FCCP, professor of surgery at the University of Pennsylvania, Philadelphia.

Evie G. Marcolini, MD, described what she believes is necessary now: "We need to have a big focus on getting the word out to the public that acute MI, stroke, and other acute injuries are still a time-sensitive problem and they warrant at least a call to their physician or consideration of coming in to the ED.

"I think when we started out, we were telling people, 'Don't come in.' Now we're trying to dial it back a little bit and say, 'Listen, there are things you really do need to come in for. And we will keep you safe,'" said Dr. Marcolini, an emergency medicine and neurocritical care specialist at Dartmouth-Hitchcock Medical Center, Hanover, N.H.

"It is safe," Dr. Yealy agreed. "The safest place in the world to be right now is the ED. Everybody's cordoned off. There's way more PPE [personal protective equipment]. There's a level of precision now that should have existed but never did in our previous influenza seasons. So we have some-

thing very unique to offer, and we can put people's minds at rest."

He spoke of a coming "tsunami of untreated illness."

"My concern is there is a significant subset of people who are not only eschewing ED care but staying away from their primary care provider. My fear is that we're not as well aware of this," he said. "Together with our primary care partners, we have to figure out ways to reach the people who are ignoring illness-



Dr. Yealy

es and injuries that they're making long-term decisions about without realizing it. We have to find a way to reach those people and say it's okay to reach for care."

SCCM Immediate Past President Heatherlee Bailey, MD, also sees a problematic looming wave.

"I'm quite concerned about the coming second wave of non-COVID patients who've sat home with their worsening renal failure that's gone from 2 to 5 because they've been taking a lot of NSAIDs, or the individual who's had several TIAs [transient ischemic attacks] that self-resolved, and we've missed an opportunity to prevent some significant disease. At some point they're going to come back, and we need to figure out how to get these individuals hooked up with care, either through the ED or with their primary care provider, to prevent these potential bad outcomes," said Dr. Bailey of the Durham (N.C.) Veterans Affairs Medical Center.

Interim guidance for pediatricians

Edward E. Conway Jr., MD, recalled that, early in the U.S. pandemic, pediatricians felt a sense of relief that children appeared to be spared from severe COVID-19 disease. But, in just the past few weeks, a new syndrome has emerged. New York City has recorded more than 100 cases of what's provisionally being called COVID-associated pediatric multisystem inflammatory syndrome. Dr. Conway and others are working with the Centers for Disease Control and Prevention to develop a case definition for the syndrome, first reported by pediatricians in Italy and the United Kingdom.

"We're trying to get the word out to general pediatricians as to the common signs and symptoms that should prompt parents to bring their children in for medical care,"

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financial cushion, and will start seeing big drops in revenue at the end of May.”

“A lot of the A/R [accounts receivables] for practices come within 30 days, and very little comes in after 90 days,” said Terrence R. McWilliams, MD, chief clinical consultant at HSG Advisors, a consultancy for not-for-profit hospitals and their employed physician networks around the country. “So private practices are reaching the point where prior A/R will start to dwindle and they will start feeling the decline in new claims submissions.”

Large practices may have a bigger financial cushion, but in many cases, they also have more liabilities. “We don’t know the financial loss yet, but I think it’s been devastating,” said Paul M. Yonover, MD, a urologist at UroPartners, a large single-specialty practice in Chicago with 62 urologists. “In fact, the financial loss may well be larger than our loss in volume, because we have to support our own surgery center, pathology lab, radiation center, and other in-house services.”

Employed physicians in limbo

In contrast to physicians in private practices, many employed physicians at hospitals and health systems have been shielded from the impact of COVID-19 – at least for now.

“The experiences of employed physicians are very mixed,” said Mr. Singleton at Merritt Hawkins. “Some health systems have reduced physicians’ pay by 20%, but other systems have been putting off any reductions.”

Hospitals and health systems are struggling. “Stopping elective surgeries deeply affected hospitals,” said Ryan Inman, founder of Physician Wealth Services in San Diego. “With fewer elective surgeries, they have much less income coming in. Some big hospitals that are pillars of their community are under great financial stress.”

“Hospitals’ patient volumes have fallen by 50%-90%,” Mr. McWilliams reported. “Lower volume means lower pay for employed physicians, who are paid by straight productivity or other models that require high volumes.”

Base pay is often safe for now, but quarterly bonuses are on the chopping block. “Employed physicians are often getting a guaranteed salary for a month or two, but no bonuses or extra distributions,” said Joel Greenwald, MD, a financial adviser for physicians in St. Louis Park, Minn., a state mecca for physician employment. “They’ve been told that they will continue to get their base salary but forget about the quarterly bonuses. This amounts to salary reductions of 10%-30%.”

Ensuring payment for these doctors means lowering their productivity benchmarks, but the benchmarks might still be too high for these times. An internist at a large health system in Minneapolis–St. Paul reports that, at a lunch meeting, employed doctors learned that payment benchmarks will be reduced to 70% of their 2019 monthly average.

“I am seeing nowhere near 70% of what I was seeing last year,” he said in an interview, asking that his name not be used. “Given how slow things have been, I am probably closer to 30%, but have not been given any data on this, so I am guessing at this point.”

A brave new world challenges practice

Even as they face a dark financial future, physicians have had to completely revamp the way they practice medicine – a cumbersome process that, in itself, incurred some financial losses. They had to obtain masks and other PPE, reposition or even close down their waiting rooms, cut back on unneeded staff, and adapt to telemedicine.

“It’s been an incredibly challenging time,” said

Dr. Yonover, the Chicago urologist. “As a doctor, I cannot avoid contact, and it’s not totally clear yet how the virus spreads. But I don’t have the option of closing the door. As a practice owner, you’re responsible for the health and well-being of employees, patients, and the business.”

“A practice’s daily routine is somewhat slower and costlier,” said David N. Gans, MSHA, senior fellow at the Medical Group Management Association, which represents group practices. “Between each patient, you have to clean a lot more than previously, and you have to stock up on PPE such as masks and gowns. PPE used to be limited to infectious patients, but now it’s universal.”

At PA Clinical Network, a clinically integrated network in Pennsylvania, volume fell 40%-50% and income fell 30%-50% from late March to late April, according to Jaan Sidorov, MD, an internist who is CEO of the network, which has 158 physicians in a variety of specialties working in 54 practices around the state.

“Revenue went down but it didn’t crash,” he said. “And our physicians pivoted very quickly. They adapted to telehealth and applied for the federal loan programs. They didn’t use waiting rooms. In some cases, staff was out in the parking lot, putting stethoscopes through patients’ windows.”

“None of the practices closed, not even temporarily,” Dr. Sidorov said. “But clearly this cannot go forever without having serious consequences.”

Telemedicine can help

Telemedicine has been a lifeline for many struggling practices. “As much as 20%-40% of a practice’s losses can be recouped through telemedicine, depending on variables like patients’ attitudes,” said Mr. Singleton at Merritt Hawkins.

The rise in telemedicine was made possi-

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according to Dr. Conway, chief of pediatric critical care medicine and vice-chair of pediatrics at Jacobi Medical Center in New York.

Ninety percent of affected children have abdominal symptoms early on, including abdominal pain, diarrhea, emesis, or enteritis upon imaging. A nondescript rash, headache, conjunctivitis, and irritability are common, cough much less so – under 25%.

“The thought is that if any one of these is associated with a fever lasting more than 4 days, we suggest these children be brought in and seen by a pediatrician. We don’t have a formal guideline – we’re working on that – but basically the current recommendation is to screen them initially with a CBC with differential, a chem 10, and liver function tests, but also to look for inflammatory markers that we see in our COVID patients. We’ve been quite surprised: These patients have C-reactive proteins of about 240 mg/L on average, ferritin is quite

high at around 1,200 ng/mL, and D-dimers of 2,300 ng/mL. We’ve also found very high brain natriuretic peptides and troponins in these patients,” according to Dr. Conway.

Analogies have been made between this COVID-19 pediatric syndrome and Kawasaki disease. Dr. Conway is unconvinced.

“This is quite different from Kawasaki in that these children are usually thrombocytopenic and usually present with DIC [disseminated intravascular coagulation], and the D-dimers are extraordinarily high, compared to what we’re used to seeing in pediatric patients,” he said.

Symptomatic children with laboratory red flags should be hospitalized. Most of the affected New York City children have recovered after 5 or 6 days in the pediatric ICU with empiric treatment using intravenous immunoglobulin (IVIG), corticosteroids, and/or interleukin-6 inhibitors. However, five recent deaths are now under study.

Dr. Yealy commented that this new pediatric syndrome is “really

interesting,” but to date, it affects only a very small percentage of children, and children overall have been much less affected by the pandemic than are adults.

“The populations being disproportionately impacted are the elderly, the elderly, the elderly, and then other vulnerable populations, particularly congregants and the poor,” he said. “At my site, three-quarters of the patients coming in are either patients at assisted-living facilities or work at one of those congregant facilities.”

The pandemic’s impact on medical education

In many hospitals, grand rounds are being done virtually via videoconferencing, often with attendant challenges in asking and answering questions. Hospital patient volumes are diminished. Medical students aren’t coming in to do clinical rotations. Medical students and res-

idents can’t travel to interview for future residencies or jobs.

“It’s affecting education across all of the components of medicine.

It’s hard to say how long this pandemic is going to last. We’re all trying to be innovative in using online tools, but I believe it’s going to have a long-lasting effect on our education system,” Dr. Marcolini predicted.

Remote interface while working from home has become frustrating, especially during peak Internet use hours.

“It’s staggering how slow my home system has become in comparison to what’s wired at work. Now many times when you try to get into your work system from home, you time out while you’re waiting for the next piece of information to come across,” Dr. Kaplan commented.

All panel participants reported having no financial conflicts of interest.

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Dr. Marcolini

Pre-COVID-19, pulmonology earnings were increasing

BY RICHARD FRANKI

MDedge News

Medscape's latest physician survey, conducted from Oct. 4, 2019, to Feb. 10, 2020, shows how pulmonology and critical care looked before the coronavirus arrived.

Back then, earnings were up. Average compensation reported by pulmonologists was up from \$331,000 in 2019 to \$342,000 this year, a 3.3% increase. For intensivists, earnings rose from \$349,000 to \$355,000, or 1.7%. Average income for all specialists was \$346,000 in this year's survey – 1.5% higher than the \$341,000 earned in 2019.

Prospects for the next year, however, are grim. "We found out that we have a 10% salary decrease effective May 2 to Dec. 25. Our bonus will be

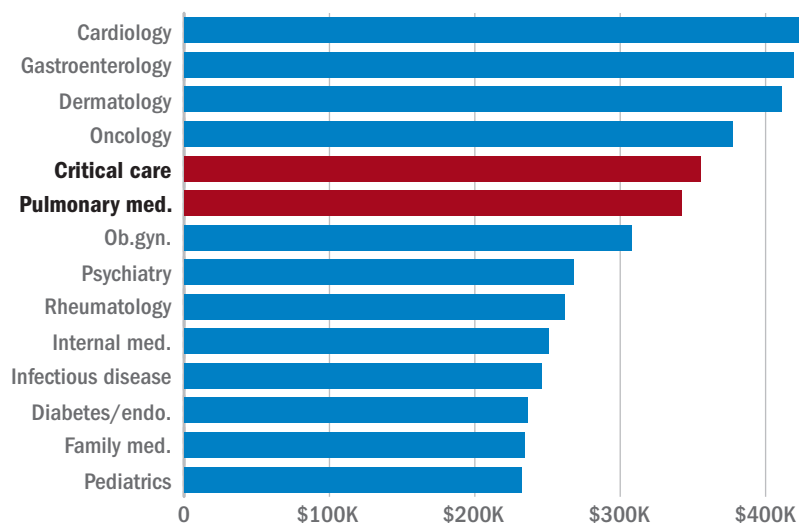
based on clinical productivity, and since our numbers are down, that is likely to go away," a pediatric emergency physician said in an interview.

In the end, though, it looks like you can't keep a good pulmonologist or intensivist down. When asked if they would choose medicine again, 83% of pulmonologists said yes, just 1 percentage point behind a three-way tie for first. Intensivists were just a little further down the list at 81%, according to the survey.

The respondents were Medscape members who had been invited to participate. The sample size was 17,461 physicians, and compensation was modeled and estimated based on a range of variables across 6 years of survey data. The sampling error was $\pm 0.74\%$.

rfranki@mdedge.com

Survey: Physician compensation by specialty



Note: Earnings modeled and estimated across 6 years of survey data. The latest online survey, conducted Oct. 4, 2019, to Feb. 10, 2020, involved 17,461 physicians.

Source: Medscape

Continued from previous page

ble by a temporary relaxation of the limits on telemedicine payments by Medicare and many private payers. Medicare is currently paying the same rates for telemedicine as it does for in-office visits.

In a recent MGMA Stat survey, 97% of practices reported that they had taken up telemedicine, according to Mr. Gans. He estimates that 80% of primary care could be converted to telemedicine, including medication refills, ongoing care of chronic patients, and recording patients' vital signs from home.

Some primary care physicians are now using telemedicine for 100% of their visits. "I voluntarily closed my practice weeks ago except for virtual visits due to the risk of exposure for my patients," a doctor in South Carolina told the Primary Care Collaborative in mid-April. "I continue to pay my staff out of pocket but have reduced hours and am not receiving any income myself."

However, Mr. Inman of Physician Wealth Services said family medicine clients using telemedicine for all of their patients are earning less per visit, even though the Medicare reimbursement is the same as for an office visit. "They earn less because they cannot charge for any ancillaries, such as labs or imaging," he said.

"Telemedicine has its limits," Mr. Singleton said. It cannot replace elective surgeries, and even in primary care practices, "there is a lot of work for which patients have to come in, such as physicals or providing vaccines," he said. "I know of one doctor who has refrigerator full of vaccines to give out. That pays his bills."

In many cases, "telemedicine" simply means using the phone, with no video. Many patients can use only the phone, and Medicare now reimburses for some kinds of phone visits. In a mid-April survey of primary care providers, 44% were using the telephone for the majority of their visits, and 14% were not using video at all. Medicare recently decided to pay physicians the same amount for telephone visits as in-person visits.

Financial boosts will run out soon

Many private practices are surviving only because they have managed to tap into new federal programs that can finance them for the short term. Here are the main examples:

- **Advance Medicare payments.** Through the Medicare Accelerated and Advance Payment Program, physicians can be paid up to 3 months of their average Medicare reimbursement in advance. However, repayment starts 120 days after receiving the money and must be completed within 210 days.

- **Federal loans.** Under the Paycheck Protection Program (PPP), which is available to all kinds of small businesses, practices can apply for up to 2.5 times their average monthly payroll costs.

PPP money can be used for payroll, rent, mortgage interest, or utility payments for up to 8 weeks. The loan will be entirely forgiven as long as the rules are followed. For example, three-quarters of the money must go to payroll, and laid-off employees must be rehired by June 30.

There was such a rush for the first round of PPP loans that many physicians failed to get the loan. "Many of my physician clients applied for the loan as soon as they could, but none of them got it," said Mr. Inman, the San Diego financial adviser. "We are hoping that the next round of funding will provide them some relief." The second round started on April 27.

Physicians who have already obtained the PPP loan are very relieved. "This loan made it possible for us to pay our employees," said George W. Monks, MD, a dermatologist in Tulsa, Okla., and president of the Oklahoma Medical Association.

- **Staff benefiting from higher unemployment payments.** Many practices and hospitals are laying off their staff so that they can collect unemployment benefits. This is a good time to do that because the federal government has boosted unemployment payments by \$600 a week, creating a total benefit that is greater than many people earned at their regular jobs.

This extra boost ends in July, but practices with PPP loans will have to rehire their laid-off workers a

month before that. Getting laid-off staffers to come back in is going to be critical, and some practices are already having a hard time convincing them to come back, said Michael La Penna, a physician practice manager in Grand Rapids, Mich.

"They are finding that those people don't want to come back in yet," he said. "In many cases they have to care for children at home or have been getting generous unemployment checks."

The problem with all these temporary financial boosts is that they will disappear within weeks or months from now. Mr. La Penna is concerned that the sudden loss of this support could send some practices spinning into bankruptcy. "Unless volume gets better very soon, time is running out for a lot of practices," he said.

Hospitals, which also have been depending on federal assistance, may run out of money, too. Daniel Wrenne, a financial planner for physicians in Lexington, Ky., said smaller hospitals are particularly vulnerable because they lack the capital. In a survey of doctors by the Physicians Foundation and Merritt Hawkins, released on April 21, 18% planned to retire, temporarily close their practices, or opt out of patient care, and another 14%, presumably employed physicians, planned to change jobs.

Mr. Wrenne advises his physician clients that a financial recovery will take months. "I tell them to plan for 6 months, until October, before income returns to pre-COVID-19 levels. Reimbursement lags appointments by as much as 3 months, plus it will probably take the economy 2-3 months more to get back to normal."

Gary LeRoy, MD, president of the American Academy of Family Physicians, said it's not possible to predict how the COVID-19 crisis will play out. "What will the future be like? I don't know the answer," he said. "The information we learn in next hours, days, or months will probably change everything."

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Bronchoscopy guideline for COVID-19: Use sparingly

BY RICHARD MARK KIRKNER

MDedge News

FROM THE JOURNAL CHEST® ■

With little evidence available on the role of bronchoscopy during the COVID-19 pandemic, an expert panel has published a guideline recommending it to be used sparingly in COVID-19 patients and those with suspected COVID-19 infection.

The panel stated that, in the context of the COVID-19 crisis, bronchoscopy and other aerosol-generating procedures put health care workers (HCWs) at particularly high risk of exposure and infection. They recommended deferring bronchoscopy in nonurgent cases, and advised practitioners to wear personal protective equipment when performing bronchoscopy, even on asymptomatic patients.

The guideline and expert panel report have been published in *Chest*. CHEST and the American Association for Bronchology and Interventional Pulmonology participated in selecting the 14 panelists. “The recommendation and suggestions outlined in this document were specifically created to address what were felt to be clinically common and urgent questions that frontline clinicians

are likely to face,” wrote lead author and panel cochair Momen M. Wahidi, MD, MBA, of Duke University, Durham, N.C., and colleagues.

Only one of the six recommendations is based on graded evidence; the remainder are ungraded consensus-based statements. The guideline consists of the following recommendations for performing or using bronchoscopy:

- HCWs in the procedure or recovery rooms should wear either an N-95 respirator or powered air-purifying respirator (PAPR) when performing bronchoscopy on patients suspected or confirmed to have COVID-19. They should wear personal protective equipment (PPE) that includes a face shield, gown, and gloves, and they should discard N-95 respirators after performing bronchoscopy.
- A nasopharyngeal specimen in COVID-19 suspects should be obtained before performing bronchoscopy. If the patient has severe or progressive disease that requires intubation but an additional specimen is needed to confirm COVID-19 or another diagnosis that could change the treatment course, an option would be low-

er-respiratory specimen from the endotracheal aspirate or bronchoscopy with bronchoalveolar lavage.

- HCWs should wear an N-95 or PAPR when doing bronchoscopy on asymptomatic patients in an

“We would like to stress that these protective strategies can be rendered completely ineffective if proper training on donning and doffing is not provided to [health care workers].”

area with community spread of COVID-19 – again, with the PPE designated in the first recommendation.

- COVID-19 testing should be done before bronchoscopy on asymptomatic patients. Defer nonurgent bronchoscopy if the test is positive. If it’s negative, follow the recommendations regarding respirators and PPE when doing bronchoscopy.
- Timely bronchoscopy should be performed when indicated even in an area with known community spread of COVID-19. This is the only graded recommendation

among the six (Grade 2C) and may be the most nuanced. Local teams should develop strategies for using bronchoscopy in their setting, taking into account local resources and availability of PPE, and they should send noninfected cancer patients from resource-depleted hospitals to other centers.

- Timing of bronchoscopy in patients recovering after COVID-19 should be based on the indication for the procedure, disease severity, and time duration since symptoms resolved. The recommendation noted that the exact timing is still unknown, but that a wait of at least 30 days after symptoms recede is “reasonable.”

The expert panel added a noteworthy caveat to the recommendations. “We would like to stress that these protective strategies can be rendered completely ineffective if proper training on donning and doffing is not provided to HCW,” they wrote.

Dr. Wahidi and colleagues have no financial relationships to disclose.

chestphysiciannews@chestnet.org

SOURCE: Wahidi MM et al. *CHEST*. 2020 Apr 30. doi: 10.1016/j.chest.2020.04.036.

NIH study shows how to sanitize N95 masks for reuse

BY MARCIA FRELLICK

Exposing contaminated N95 respirators to vaporized hydrogen peroxide (VHP) or ultraviolet light appears to eliminate the SARS-CoV-2 virus from the material and preserve the integrity of the masks fit for up to three uses, a National Institutes of Health study shows.

Dry heat (70° C) was also found to eliminate the virus on masks but was effective for two uses instead of three.

Robert Fischer, PhD, with the National Institute of Allergy and Infectious Diseases in Hamilton, Mont., and colleagues posted the findings on a preprint server on April 15. The paper has not yet been peer reviewed.

Four methods tested

Dr. Fischer and colleagues compared four methods for decontaminating the masks, which are designed for one-time use: UV radiation (260-285 nm); 70° C dry heat; 70% ethanol spray; and VHP.

For each method, the researchers compared the rate at which SARS-CoV-2 is inactivated on N95 filter fabric to that on stainless steel.

All four methods eliminated detectable SARS-CoV-2 virus from the fabric test samples, though the time needed for decontamination varied.

VHP was the quickest, requiring 10 minutes. Dry heat and UV light each required approximately 60 minutes. Ethanol required an intermediate amount of time.

To test durability over three uses, the researchers treated intact, clean masks with the same decontamination method and assessed function via quantitative fit testing.

Volunteers from the Rocky Mountain laboratory wore the masks for 2 hours to test fit and seal.

The researchers found that masks that had been decontaminated with ethanol spray did not function effectively after decontamination, and they did not recommend use of that method.

By contrast, masks decontaminated with UV and VHP could be used up to three times and function properly. Masks decontaminated with dry heat could be used two times before function declined.

“Our results indicate that N95 respirators can be decontaminated and reused in times of shortage for up to three times for UV and HPV, and up to two times for dry heat,” the authors write. “However, utmost care should be given to ensure the proper functioning of the N95 respirator after each decontamination using readily available qualitative fit testing tools and to ensure that treatments are carried out for suffi-

cient time to achieve desired risk-reduction.”

Clinicians reassured

The results will reassure clinicians, many of whom are already using these decontamination methods, Ravina Kullar, PharmD, MPH, an infectious disease expert with the Infectious Diseases Society of America, said in an interview.

UV light has been used for years to decontaminate rooms, she said. She also said that, so far, supplies of hydrogen peroxide are adequate.

A shortcoming of the study, Dr. Kullar said, is that it tested the masks for only 2 hours, whereas in clinical practice, they are being worn for much longer periods.

So far, she noted, the Centers for Disease Control and Prevention has not approved any method for decontaminating masks, “but it has said that it does not object to using these sterilizers, disinfectants, devices, and air purifiers for effectively killing this virus.”

The study was supported by the National Institutes of Health; the Defense Advanced Research Projects Agency; the University of California, Los Angeles; the U.S. National Science Foundation; and the U.S. Department of Defense.

A version of this article first appeared on Medscape.com.



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Evidence links anticoagulation to COVID-19 survival

BY PATRICE WENDLING

Use of systemic anticoagulation may improve the chance of survival in patients hospitalized with the COVID-19 virus, a large study from the epicenter of the U.S. outbreak suggests.

Among nearly 3,000 patients with COVID-19 admitted to New York City's Mount Sinai Health System beginning in mid-March, median survival increased from 14 days to 21 days with the addition of anticoagulation.

The results were particularly striking among sicker patients who required mechanical ventilation, in whom in-hospital mortality fell from 62.7% to 29.1% and median survival jumped from 9 days to 21 days.

Interestingly, the association with anticoagulation and improved survival remained even after adjusting for mechanical ventilation, the authors reported May 6 in the *Journal of the American College of Cardiology* (doi: 10.1016/j.jacc.2020.05.001).

"It's important for the community to know, first of all, how this should be approached and, second, it's really opening a door to a new reality," senior corresponding author Valentin Fuster, MD, PhD, director of Mount Sinai's Zena and Michael A. Wiener Cardiovascular Institute and JACC editor-in-chief.

"I can tell you any family of mine who will have this disease absolutely will be on antithrombotic therapy and, actually, so are all of the patients at Mount Sinai now," he said in an interview. COVID-19 is thought to promote thrombosis but the exact role of anticoagulation in the management of COVID-19 and optimal regimen are unknown.

ISTH recommendations

In late March, the International Society on Thrombosis and Haemostasis recommended that all hospitalized COVID-19 patients, even those not in the ICU, should receive prophylactic-dose low-molecular-weight heparin (LMWH), unless they have contraindications.

Last month, international consensus-based recommendations were published for the diagnosis and management of thrombotic disease in patients with COVID-19.

In early March, however, data were scarce and only a minimal number of patients were receiving anticoagulants at Mount Sinai.

"But after a few weeks, we reached

an intuitive feeling that anticoagulation was of benefit, and at the same time, the literature was beginning to say clots were important in this disease," Dr. Fuster said. "So we took a very straightforward approach and set up a policy in our institution that all COVID-19 patients should be on antithrombotic therapy. It was a decision made without data, but it was a feeling."

Study findings

For the present study, the researchers examined mortality and bleeding among 2,773 patients



Dr. Fuster

hospitalized at Mount Sinai with confirmed COVID-19 between March 14 and April 11. Of these, 786 (28%) received systemic anticoagulation including subcutaneous heparin, LMWH, fractionated heparin, and the novel oral anticoagulants apixaban and dabigatran, for a median of 3 days (range, 2-7 days). Tissue plasminogen activator was also used in some ICU cases.

Major bleeding was defined as hemoglobin less than 7 g/dL and any red blood cell transfusion; at least 2 units of red blood cell transfusion within 48 hours; or a diagnosis code for major bleeding, notably including intracranial hemorrhage.

Patients treated with anticoagulation were more likely to require invasive mechanical ventilation (29.8% vs. 8.1%) and to have significantly increased prothrombin time, activated partial thromboplastin time, lactate dehydrogenase, ferritin, C-reactive protein, and D-dimer values. In-hospital mortality was 22.5% with anticoagulation and 22.8% without anticoagulation (median survival, 14 days vs. 21 days).

In multivariate analysis, longer anticoagulation duration was associated with a 14% lower adjusted risk of in-hospital death (hazard ratio, 0.86 per day; 95% confidence interval, 0.82-0.89; $P < .001$).

The model adjusted for several potential confounders such as age, ethnicity, body mass index, and prehospital anticoagulation use. For adjustment for differential length of stay and anticoagulation initiation, anticoagulation duration was used as a covariate and intubation was treated as a time-dependent variable.

Bleeding events were similar in patients treated with and without anticoagulation (3% vs. 1.9%; $P = .2$) but were more common among the 375 intubated patients than among nonintubated patients (7.5% vs. 1.35%; P value not given). "The most important thing was there was no increase in bleeding," said Dr. Fuster.

Additional evidence on anticoagulation

Additional support for a possible survival benefit was published April 27 and included 449 patients with severe COVID-19 treated with heparin (mostly LMWH) for at least 7 days in Hunan, China. Overall, 28-day mortality was similar between heparin users and nonusers (30.3% vs. 29.7%) but was significantly lower among heparin users who had a Sepsis-Induced Coagulopathy score of at least 4 (40% vs. 64.2%; $P = .02$) or D-dimer greater than sixfold the upper limit of normal (32.8% vs. 52.4%; $P = .01$).

In multivariate analysis, D-dimer, prothrombin time, and age were positively correlated with 28-day mortality, and platelet count was negatively correlated with 28-day mortality.

Victor F. Tapson, MD, who directs the pulmonary embolism response team at Cedars-Sinai Medical Center in Los Angeles and was not involved with the study, said, "The Chinese data were not enough for me to anticoagulate patients therapeutically" but the Mount Sinai data strengthen the case.

"They're wise to call this a 'suggestion of improved outcomes,' but it's pretty compelling that those patients who were on anticoagulation had improved survival after adjusting for mechanical ventilation," he said in an interview. "These are sicker patients and sicker patients may get anticoagulated more, but they may bleed more. The bleed risks were a little different but they didn't seem too concerning."

"I think this helps move us forward some that we should consider anticoagulating with therapeutic anticoagulation certain patients that meet certain criteria," Dr. Tapson said. "An easy example is a patient who comes to the hospital, has active cancer and is on a DOAC [direct oral anticoagulant], and comes up with COVID."

At the same time, some clinicians want to increase prophylactic anticoagulation "using enoxaparin 40 mg once a day and maybe go to twice a day – not quite therapeutic

VIEW ON THE NEWS

Daniel Ouellette, MD, FCCP, comments: The pa-

tient in my video visit was discharged 2 weeks ago from hospital after having a COVID-19 infection. In her mid-30s, her illness did not result in respiratory failure requiring mechanical ventilation but was complicated instead by a pulmonary embolus. In addition to an apparent increase in venous thromboembolic disease, researchers speculate that the ventilation-perfusion inequalities that lead to hypoxemia in patients with severe respiratory failure may be due to "micro-thrombi." Anecdotally, one hears about other types of thrombotic complications in COVID-19 patients. It is tempting to think that anticoagulation may lead to clinical improvement, but much of our early data are preliminary and uncontrolled. Which agents would be best, and which regimens safe and effective? Who are the patients that will benefit the most? We need to learn a lot more before we can recommend specific anticoagulant treatment for COVID-19 patients.



doses but increased prophylaxis," he observed. Anticoagulation was given at "relatively low doses" in the Mount Sinai study but that is evolving in light of the reassuring bleeding data, Dr. Fuster said. They now have three enoxaparin regimens and, for example, give patients who don't require intensive care enoxaparin 30 mg twice a day, up from 40 mg a day initially.

The work was supported by U54 TR001433-05, National Center for Advancing Translational Sciences, National Institutes of Health. Dr. Fuster has disclosed no relevant financial relationships. Dr. Tapson reported consulting and clinical trial work for BMS, Janssen, Daiichi Medical, ECOS/BTG, Inari, and Penumbra.

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

Planning begins for restarting elective cardiac surgery

BY PATRICE WENDLING

As COVID-19 case levels plateau in some regions, 16 North American cardiovascular societies have released a framework for reintroducing cardiovascular services disrupted by the pandemic.

The consensus document outlines a phased approach to restarting invasive cardiovascular procedures and diagnostic tests that aims to reduce patient and health care provider exposure to the coronavirus and still provide essential care. It also emphasizes some of the ethical considerations in patient selection and the need for a collaborative approach.

“The key message in our document is we need a new unprecedented collaboration with public health officials so that we can carefully monitor the situation and we’re aware of what’s happening with the penetrance of the pandemic in the community, but they’re aware of the morbidity and mortality that’s occurring on our ever-growing waiting list,” lead author David A. Wood, MD, said in an interview.

The recommendations were jointly published May 4 in the Canadian Journal of Cardiology, the Journal of the American College of Cardiology, and The Annals of Thoracic Surgery, and are endorsed by, among others, the American Heart Association, American College of Cardiology, and Canadian Cardiovascular Society.

The guidance comes as hospitals are facing revenue shortfalls because of canceled elective procedures and resource-intensive COVID-19 cases, prompting some health care systems to furlough, lay off, or even fire staff.

“It’s obvious that volumes are down between 40% and 60%,” said Dr. Wood, director of the cardiac catheterization laboratory at Vancouver General Hospital and professor of medicine at the University of British Columbia. “Part of that is that some areas have restricted case volumes totally appropriately, and it’s partly because patients are very afraid of coming to the hospital and, unfortunately, are having bad events at home. And some are dying.”

The new report features a detailed table outlining three different response levels: reintroduction of some services (level 2); reintroduction of most services (level 1); and regular services (level 0). It covers a range of services from transthoracic echocardiography and exercise testing with imaging to care for acute

coronary syndrome and ST-segment elevation myocardial infarction.

“We’ve learned that we can very quickly turn off the tap and go to doing only 10% of our normal volumes, whether that’s surgery, cath lab, EP,

diagnostic tests,” Dr. Wood said. “It’s much more difficult to thoughtfully turn the tap part way back on or restart the engine ... you don’t just go from 0 to 100 [mph]. You go from 0 to 30-60 then maybe to 80 [mph].”

The document also includes eight guiding principles such as:

- The expectation that response levels will be different between regions, and even within a given region.

Continued on following page

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- A “transparent collaborative plan” for COVID-19 testing and personal protective equipment (PPE) must be in place before re-starting cases.
- A less invasive test or alternative imaging modality should be considered, if both tests have similar efficacy.
- In general, a minimally invasive procedure with a shorter length of stay is preferable, if both strategies have similar efficacy and safety.

Although previous reports on cath lab considerations during the pandemic or restarting elective surgeries peg various actions to specific thresholds or time intervals, the language here is noticeably and intentionally broad.

Instead of stating when cardiovascular services should resume, for example, the experts say it’s appropriate to put the guidance document into place if there’s a “sustained reduction” in the rate of new COVID-19 admissions and deaths in the relevant geographic region for a “prespecified time interval.”

As for when or how frequently patients and health care providers should be tested for COVID-19, the document encourages “routine screening of all patients prior to any cardiovascular procedure or test.” Overly prescriptive language in previous documents wasn’t felt to be that helpful, whereas language like “selective” cases and “some” or “most” cardiovascular procedures gives clinicians, health systems, and policy makers flexibility when moving between response levels, Dr. Wood explained.

“Different regions might be at different levels based on principles of public health as far as the penetrance of the pandemic in that community, as well as how can you actually do the physical distancing in your hospital or ambulatory clinic. Because, I tell you, that is the Achilles heel,” he said. “Our run rates are going to be determined

by testing, the availability of PPE, but also how we’re going to use our existing infrastructure and maintain physical distancing.”

That may mean using telehealth for initial visits, having clinics open earlier in the morning or on weekends, or doing partial volumes for surgery or in the cath lab so patients can be staggered and recover at different times and in different areas of the hospital. “These are very granular, specific infrastructure things that we’ve never really had to consider before,” Wood observed.

The document also had to be flexible and nimble enough to respond to a potential rebound of COVID-19 cases.

Similar to decisions made in preparation for the initial COVID-19 surge, the consensus document outlines the need for ethical considerations when turning the tap back on. This means prioritizing procedures and tests that are likely to benefit more people and to a greater degree, and ensuring that patients are treated fairly and consistently, regardless of their ethnicity, perceived social worth, or ability to pay, said coauthor and ACC President Athena Poppas, MD, Brown University School of Medicine, Providence, R.I.

“It’s an ethical tenet that exists in a lot of places but it’s usually not overtly called out,” Dr. Poppas said in an interview. “It’s not rationing care; I think people jump to that but it’s actually the opposite of rationing care. It’s about being thoughtful about prioritizing patients.”

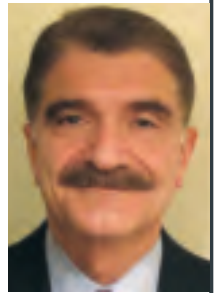
Susheel Kodali, MD, of New York–Presbyterian Hospital/Columbia University Irving Medical Center, who recently published recommendations on reorganizing structural heart disease practice during the pandemic, said the document is timely as centers, including his own, are trying to restart some outpatient visits, as early as next week.

Dr. Wood reports receiving unrestricted grant support from Edwards Lifesciences and Abbott

VIEW ON THE NEWS

G. Hossein Almassi, MD, FCCP, comments:

As a cardiac surgeon and in concert with my cardiologist colleagues, we have had to stop all the elective cardiac procedures and only take care of emergent cases during the pandemic. In the state of Wisconsin where I practice, it appears that we have reached a steady state of COVID-19, and the efforts are on the way to embark on the recovery phase, whereby the less urgent cases could be scheduled for a procedure provided there is adequate personal protective equipment available. This consensus statement is a welcome document for the cardiovascular community at the start of the “recovery phase” in the COVID-19 pandemic. The accompanying table outlining the three phases (Levels) of the process is worth reading.



Vascular and serving as a consultant for Edwards Lifesciences, Medtronic, Abbott Vascular, and Boston Scientific. Dr. Poppas reports no relevant conflicts of interest. Dr. Kodali reports consultant (honoraria) from Admedus, Meril Life Sciences, JenaValve, and Abbott Vascular; SAB (equity) from Dura Biotech, MicroInterventional Devices, Thubrikar Aortic Valve, Supira, and Admedus; and institutional funding from Edwards Lifesciences, Medtronic, Abbott Vascular, Boston Scientific, and JenaValve.

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

Antibody testing suggests COVID-19 cases are being missed

BY RICHARD FRANKI

MDedge News

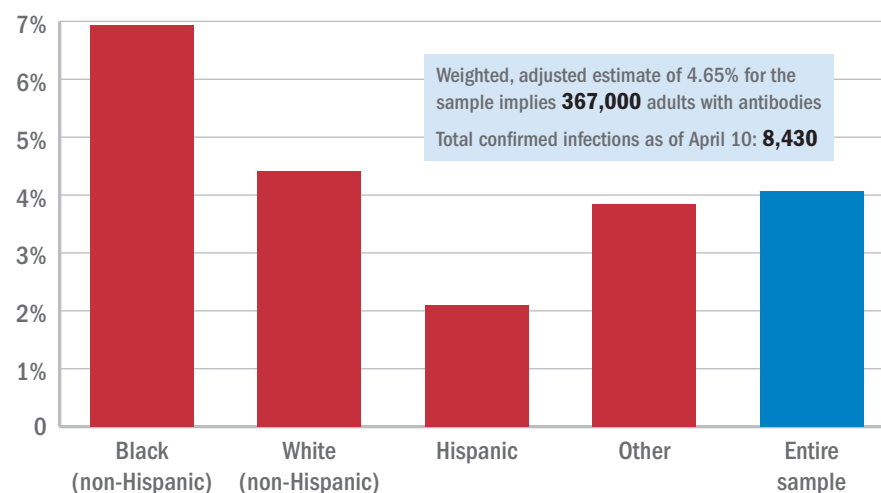
The number of COVID-19 infections in the community may be “substantially greater” than totals confirmed by authorities, based on SARS-CoV-2 antibody testing among a random sample of adults in Los Angeles County, Calif.

Testing of 863 people on April 10-11 revealed that 35 (4.06%) were positive for SARS-CoV-2–specific antibodies (IgM or IgG), and after adjustment for test sensitivity and specificity, the weighted prevalence for the entire sample was 4.65%, Neeraj Sood, PhD, of the University of Southern California, Los Angeles, and associates wrote in *JAMA*.

The estimate of 4.65% “implies that approximately 367,000 adults [in Los Angeles County] had SARS-CoV-2 antibodies, which is substantially greater than the 8,430 cumulative number of confirmed

LOS ANGELES COUNTY GENERAL POPULATION

Proportion of test subjects positive for SARS-CoV-2 antibodies



Note: Based on unweighted, unadjusted data for 863 volunteers tested on April 10-11, 2020.

Source: *JAMA* 2020 May 18. doi: 10.1001/jama.2020.8279

infections in the county on April 10,” they wrote.

It also suggests that fatality rates based on the larger number of infec-

tions may be lower than rates based on confirmed cases. “In addition, contact tracing methods to limit the spread of infection will face con-

siderable challenges,” Dr. Sood and associates said.

Test positivity varied by race/ethnicity, sex, and income. The proportion of non-Hispanic blacks with a positive result was 6.94%, compared with 4.42% for non-Hispanic whites, 2.10% for Hispanics, and 3.85% for others. Men were much more likely than women to be positive for SARS-CoV-2: 5.18% vs. 3.31%, the investigators said.

Household income favored the middle ground. Those individuals making less than \$50,000 a year had a positivity rate of 5.14% and those with an income of \$100,000 or more had a rate of 4.90%, but only 1.58% of those making \$50,000-\$99,999 tested positive, they reported.

The authors reported support from nonprofit organizations.

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SOURCE: Sood N et al. *JAMA*. 2020 May 18. doi: 10.1001/jama.2020.8279.

Greetings from the Program Chair: CHEST Annual Meeting 2020

There is no denying that over the last few months, the world has become a very different and uncertain place. We all are slowly adjusting to our new “normal” and whether it has been through longer and more grueling hours, volunteering in areas of greater need, or switching your practice to function through an online platform, I commend you for the extra time, focus, and energy you have undoubtedly put into your everyday patient care routines throughout the pandemic.

There have been many questions coming in about what the plan is for CHEST Annual Meeting 2020 in October. Will we be able to gather in large groups at that time? Will there be alternative education options if some are unable to travel to Chicago, Illinois, due to travel restrictions or an increased workload? What is our plan?

As the Program Chair of this year’s meeting, and as a practicing pulmonary and critical care phy-



Dr. Test

sician, I will be honest with you. There is still a lot of unknown. We cannot confidently say what the world will look like come October. We do not know what travel restrictions will still be in place, or if any new ones will have been implemented. We do not know what the volume of COVID-19 cases will be at that point in time. But, we do know that the community of clinical professionals that has grown at previous

CHEST Annual Meetings, and at other live CHEST education courses, is eager for an opportunity to once again connect with their peers, make new connections, and learn in new ways at the premier event in clinical pulmonary, critical care, and sleep medicine. Not forgetting, that now, more than ever, colleagues outside of our specialties are looking for the education that CHEST has to offer in management of coagulation and ARDS, and more.

I do not have all of the answers, but I do know that the staff at CHEST Global Headquarters are working tirelessly to build a meeting that is at present, still planned to take place in Chicago, but that also will be translated onto an online platform that will allow for anyone and everyone to participate, either in person or online. The CHEST team is working closely with our Scientific Program Committee to produce an innovative meeting with live interactive education, networking events, CHEST Games, and so

much more.

Here at CHEST, the hope is to create a “light at the end of the tunnel,” to give you and your colleagues something to look forward to – an opportunity to relax, learn, explore, and reconnect with your peers in the chest medicine field. CHEST leadership and staff are continually monitoring the pandemic, weighing the shifting trajectory of the infection and infection control measures implemented nationally and locally, while ensuring that we have flexible offerings available to meet your short- and long-term educational needs.

There will be more updates available in the coming months, so I encourage you to visit chestmeeting.chestnet.org to stay up to date. I am looking forward to seeing the great community of clinical professionals at CHEST Annual Meeting 2020, this October 17-21, whether it is in-person, or online.

Best,

Victor Test, MD, FCCP



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RESEARCH

Supporting clinical research grants that enhance the understanding of treatment for diseases of the chest, and exploring patient values and preferences to ensure treatments and care meet the goals of patients and families

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foundation.chestnet.org



CMS issues interim final rule

BY SCOTT MANAKER, MD, FCCP

On Thursday, April 30, 2020, CMS released a new interim final rule. During the COVID-19 Public Health Emergency, the Interim Final Rule makes several new, important temporary changes to Medicare regulations and payments. One important change retroactively (to March 1, 2020) increased payments for telephone-only visits to established patients:

- CPT 99441: a 5- to 10-minute telephone visit, in lieu of a face-to-face office visit, will be reimbursed at a similar rate to a 99212, about \$46 (99441 is usually reimbursed at about \$14).
- CPT 99442: an 11- to 20-minute telephone visit, in lieu of a face-to-face office visit, will be reimbursed at a similar rate to a 99213, about \$76 (99442 is usually reimbursed at about \$28).
- CPT 99443: a 21- to 30-minute telephone visit, in lieu of a face-to-face office visit, will be reimbursed at a similar rate to a 99212, about \$110 (99443 is usually reimbursed at about \$41).

These telephone codes may be used when addressing a new or old problem for established patients. Choose the code to reflect only the billing provider time communicating with the patient. There should not be another patient encounter for 7 calendar days before or after the telephone visit.

In addition, the new Interim Final Rule now allows attending physicians at teaching institutions providing supervision under the Primary Care Exception to report for telephone (using 99441-99443) or video (using 99212-99215) telemedicine encounters by residents, when the supervision is provided immediately after the resident encounter, rather than during the telephone or video visit. However, most chest physicians at teaching institutions do not supervise residents or fellows under the Primary Care Exception.

A CMS press release about the rule is available at <https://www.cms.gov/newsroom/press-releases/trump-administration-issues-second-round-sweeping-changes-support-us-healthcare-system-during-covid>.

YOUR CHEST FOUNDATION

Supporting communities during COVID-19

The entire world has been affected by the COVID-19 crisis, yet many of our most vulnerable continue to suffer in silence. The CHEST Foundation is diligently working to help give voice to these all-too-often isolated and forgotten patients. Make a donation today, and



help those who need it most: our family, friends, neighbors, and those most vulnerable to this devastating disease.

In addition to providing reliable and educational resources that address COVID-19 for both clinicians and patients, the CHEST Foundation is:

- Launching a series of public service announcement videos to empower patients and caregivers living with COPD and interstitial lung disease by providing information on necessary skills, such as cleaning medical equipment, and helping them stay safe and healthy while coping with isolation;
- Partnering with AMITA Health

in Chicago to bring telehealth opportunities to patients and support groups; and

- Providing grant funding, in partnership with the Feldman Family Foundation, that supports projects such as providing supplies and groceries to patients and caregivers, expediting training and the means to get caregivers to NYC, and providing needed technology to continue hosting support group meetings in local communities.

The CHEST Foundation has re-branded and relaunched its website in an effort to make it more user-friendly, patient-focused, and clinician-centered. We've upgraded our current content, written new pieces, and carefully curated a complete collection of tools that will help patients, caregivers, and clinicians better navigate the complexities of lung disease. Information on all of the content previously listed will be available on the CHEST Foundation's website at chestfoundation.org.

Thank you for helping as we fulfill the urgent needs of our community during this crisis. Help support your community by making a donation today.

Meet the FISH Bowl finalists

CHEST 2019 marked the inaugural FISH Bowl competition for attendees. Inspired by Shark Tank, our kinder, gentler, yet still competitive and cutting-edge FISH Bowl (Furthering Innovation and Science for Health) featured CHEST members disrupting our beliefs about how clinical care and education are performed. As health-care providers, they presented innovative ideas pertaining to education and clinical disease for pulmonary, critical care, and sleep medicine. Six finalists were chosen from dozens of submissions, and three emerged winners! In this new Meet the FISH Bowl Finalists series, CHEST introduces you to many of them – including winner Dr. Rachel Quaney.

Name: Rachel Quaney, MD

Institutional Affiliation: The Ohio State University

Position: Pulmonary and Critical Care Medicine Fellow

Title: Teaching Assessment Committee (TAC)

Brief Summary of Submission: Teaching Assessment Committee (TAC) is a novel approach to faculty feedback. We are modeling it after the success of the Clinical Competency Committees, but, in reverse, as fellows will give group-consensus-based feedback to faculty members.

Fellows will meet twice yearly with trained facilitators who help elicit constructive, nuanced feedback. The group setting ensures personal anonymity, which will serve to encourage more honest feedback. Then delivering this consensus-based information to program leadership and faculty members will hopefully provide helpful feedback regarding what is going well and what could be improved.



Dr. Quaney

This pilot feasibility project is being employed at three fellowship programs this academic year. The goal will be to improve the feedback that faculty receive, while simultaneously increasing both faculty and fellow satisfaction with the process and the learning environment.

1. What inspired your innovation? More like who – and that would be the esteemed Dr. Gabe Bosslet of Indiana University. He brought the faculty perspective that attendings want better feedback. And, I supplied the fellow perspective—that even those of

us who prioritize all things medical education often do a subpar job at providing effective feedback.

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**This advertisement is
not available for the digital edition.**



CHEST Learning: Growing our impact

BY JAMES B. YOUNG, PHD

Chief Learning Officer, American College of Chest Physicians

CHEST is known for innovative learning. This stems from an appetite for experimentation, a highly engaged membership, strong volunteer leaders, and a responsive staff. We are leaders in gaming, simulation, and hands-on and applied learning, and we're



Dr. Young

best in class in key areas – namely our annual conference – that demonstrate organizational responsiveness.

I serve as Chief Learning Officer and Senior Vice President of Education and have been with CHEST for nearly a year. I was drawn to CHEST for its strong mission and look forward to sharing ideas for how we can develop and deliver learning in a changed world.

The charge for developing an organization-wide learning strategy comes from the CHEST Board and Robert Musacchio, PhD, CHEST CEO and Executive Vice President, and it is reflected in an ambitious

strategic statement that links our shared direction to broad-based growth through expansion of our clinical audience and reach, resulting in an increased ability to improve the lives of patients.

CHEST will crush lung disease by creating exceptional educational experiences relevant to clinicians, patients, caregivers, and industry, applying our trusted brand and data and employing our highly respected staff and volunteers with clinical expertise.

To meet this challenge, we gathered insights from across the membership and identified that our learning strategy should be built on the three anchors of choice:

- **Choice** – Emphasizes easy-to-find learning that adapts to learner need through engagement, pathways, and social interaction. This is known as personalized learning.
- **Responsiveness** – Combines our ability to understand and respond to learners with new and enhanced programs, products, and learning experiences.
- **Connection** – Provides learners with immediate, longitudinal, and engaging communities to maximize their connection to CHEST over the length of their career.

The coronavirus pandemic requires us to come together as a community and further our focus. Our values remain unchanged: to meet our learners where they are. Now, more than ever, that means we need to deliver CHEST learning with an emphasis on digital. Three areas make up CHEST digital learning: virtual programming, e-learning, and game-based learning. Some concrete examples of what you can expect:

- We are currently preparing and

will be prepared to deliver virtual versions of our CHEST Annual Meeting and Board Review (should either event not run in-person).

- We will release a game hub called Arcades this summer, which will

CHEST Digital Learning		
Virtual Programming	e-Learning	Game-Based Learning
Virtual or hybrid versions of in-person events	Module-based learning delivered electronically	Interactive learning stressing engagement and fun
CHEST + Congresses Board Review Live Learning	Courses Hands-on Tools Simulation	Virtual Reality Mobile-friendly Multiplayer

allow for you to access our games online.

- We continue to enhance the offerings available in our e-learning subscription.
- We continue to release fresh educational content on the CHEST COVID-19 site: <https://tinyurl.com/ycr2b4sc>

Learning drives an innovative CHEST. We are the global leader in medical society learning. We build and deliver best-in-class learning that demonstrably enhances clinician performance and improves patient outcomes.

- Together, the learning strategy and the broader ambition to grow present an opportunity to extend a key CHEST differentiator: to deliver learning that is responsive, experiential, and applied. Key

features include strengthening our understanding of your needs, deepening our connection to all those who play a role in improving lung health, delivering education where and when you need it, leveraging modular learning to offer flexibility, and emphasizing personalized learning and learning communities.

The CHEST learning strategy is built for scale and inclusiveness. It relies on you, our highly engaged community deeply committed to improving patient outcomes. Through our conversations with you and leadership, we have defined the future state of CHEST education as follows:

Learning drives an innovative CHEST. We are the global leader in medical society learning. We build and deliver best-in-class learning that demonstrably enhances clinician performance and improves patient outcomes. We engage with learners over the lifecycle of their career by creating responsive and high-impact learning that is interactive, personalized, and social.

High-impact learning happens when it's timely, accessible, applied, hands-on, and, most of all, social. Our future depends on our ability to stay connected and engaged as we chart a new course together.

Continued from page 16

2. Who do you think can benefit most from it, and why? With some variation, almost all graduate medical education programs could benefit from the TAC method of faculty feedback. However, the most benefit would likely be seen in small programs or those that struggle with anonymity using current feedback methods.

3. What do you see as challenges to your innovation gaining widespread acceptance? How can they be overcome? I foresee two main challenges to implementation: time and buy-in. Fellows and residents are busy individ-

uals with plenty on their plates, and this would require asking them for more time. This barrier could be solved by program and leadership buy-in or be exacerbated if it is lacking. If the process is endorsed by departmental and program leadership, this will provide credibility and ensure the necessary time is allotted.

4. What impact has winning FISH Bowl 2019 had on your vision for the innovation? The big picture vision I have for my innovation has not changed, but I am more acutely aware of the challenges and opportunities I will have to navigate, thanks to Drs. Morris, Niven, and Schulman. I am simultaneously more excited

about this project but also feel the pressure to not disappoint!

5. How do you think your success at FISH Bowl 2019 will continue to impact your career overall in the months and years to come? It's hard to imagine in what exact ways my career will be impacted, but I feel strongly that it will be positively influenced by this experience. I had the privilege of meeting a lot of individuals who feel passionate about medical education, both those established in our field and those at the beginning of their careers. These connections will likely lead to future collaborations and innovations.

PULMONARY PERSPECTIVES®

Evolving treatment of cystic fibrosis: Path toward a normal lifespan

BY DAVID FINKLEA JR., MD

Cystic fibrosis (CF) is an autosomal recessive disorder affecting thousands of people worldwide. When this genetic disease was first discovered in the first half of the 20th century, the median survival was approximately 5 years of age. Since then, median survival for patients with CF has steadily improved. Today, it is 47.4 years based on Cystic Fibrosis Foundation registry data from 2018. Patients with CF are living longer and staying healthier; the discussion to follow is how patients, researchers, and the CF Foundation reached this point.

In 1938, pediatrician and pathologist Dorothy Anderson observed on the autopsies of children thought to have celiac disease pancreatic lesions she termed “cystic fibrosis of the pancreas.” In addition to the abnormal pancreas, she noted abnormal lungs filled with mucus that obstructed the airways.

Paul Di Sant’Agnese recognized during a heatwave in late 1948 that children with CF were routinely being diagnosed with heatstroke and dehydration. This helped lead to the discovery that these children had elevated salt content in their sweat, paving the way for the development of the sweat chloride test in 1959 by Gibson and Cooke. Not only did Dr. Di Sant’Agnese recognize excess salt in the sweat of patients with CF, but with the help of several concerned parents of children with CF, he established the Cystic Fibrosis Foundation in 1955. The Foundation helped organize the care center model over the next decades, increasing from 30 care centers in 1962 to over 100 in 1978. The care center model also developed a patient registry to track patient care longitudinally.

In June 1989, Francis Collins and Lap-Chee Tsui discovered the location of the CF transmembrane conductance regulator (CFTR) protein using a novel technique called chromosome jumping (Rommens JM, et al. *Science*. 1989;245[4922]1059).

The discovery was a breakthrough in basic science research, but it would take 3 more decades before this discovery could be translated into a medication that could be used by most patients for everyday care.

In the early 1990s, when median survival for patients with CF was 29 years of age, the CF Foundation and Genentech, Inc., coordinated a 24-week multicenter double-blind randomized control trial (RCT) for a new inhaled medication that digested the extracellular DNA from the neutrophils that accumulated in the airways of patients with CF. Inhaled recombinant human DNase in these patients reduced the risk of pulmonary exacerbations and also had a

small improvement in pulmonary function in the group compared with the placebo group (Fuchs H, et al. *N Engl J Med*. 1994;331:637). Five years later, another double-blind RCT demonstrated that inhaled tobramycin in patients with CF whose disease was colonized with *Pseudomonas aeruginosa* improved pulmonary function and reduced the risk of hospitalizations (Ramsey B, et al. *N Engl J Med*. 1999;340:23). In 2006, the use of hypertonic saline solution in patients with CF decreased the overall pulmonary exacerbation rate (Elkins MR, et al. *N Engl J Med*. 2006;354:229). The combination of these inhaled medications, along with inhaled aztreonam, formed the backbone of inhalation therapy for CF care today.

In 1998, even with the ongoing development and approval of new CF medications by the pharmaceutical industry, Robert Beall, CEO of the CF Foundation, realized that he needed to challenge the current drug development paradigm. Instead of trying to convince companies to develop CF medications, he started a concept called venture philanthropy. This concept entailed the CF Foundation financially investing in pharmaceutical companies’ development of new medications. The Foundation first invested in a small company named Aurora Biosciences (known

today as Vertex Pharmaceuticals) in 2000. Aurora Biosciences specialized in high throughput screening. This process uses a unique technology allowing one to test the therapeutic reaction of airway cells to thousands of chemical compounds in a single day, instead of using the traditional process of tediously pipetting compounds one by one. Today, the CF Foundation has invested millions of dollars into bioscience research to advance CF care.

In 2011, the results of a study were published in which a small molecule altered defective CFTR protein in patients with CF with the CFTR mutation G551D, thus improving chloride transport at the airway surface. In the original study, after 24 weeks of therapy receiving the medication known as ivacaftor, predicted FEV1 in patients with CF improved 10.6%, and the patients were 55% less likely to have a pulmonary exacerbation compared with those receiving a placebo. This breakthrough provided patients with CF the first medication that could correct the CFTR at the source of the problem (Ramsey BW, et al. *N Engl J Med*. 2011;365:1663). Ivacaftor was approved by the US FDA in 2012.

Ivacaftor provided proof of concept that using small molecules could improve CFTR function. Ivacaftor was only beneficial to a small percentage of patients and was not effective in patients with CF who had either 1 or 2 F508del CFTR mutations. In 2015, patients with CF with F508del homozygous treated with a combination therapy of lumacaftor/ivacaftor had predicted FEV1% improved 2.6% to 4.0%. More importantly, there was a significant reduction in the number of pulmonary exacerbations per year compared with placebo. Unexpectedly, some of the patients experienced bronchoconstriction while receiving lumacaftor/ivacaftor (Wainwright CE, et al. *N Engl J Med*. 2015; 373:220). The problem was recognized, and a new small molecule to improve the processing and trafficking of CFTR called tezacaftor was developed. The combination of tezacaftor/ivacaftor in patients with CF who were F508del homozygous demonstrated a similar reduction in pulmonary

exacerbations, an absolute improvement of predicted FEV₁ of 4%, and no increased respiratory symptoms compared with the placebo arm (Taylor-Cousar JL, et al. *N Engl J Med*. 2017;377[21]2013).

CFTR modulators were a major breakthrough for patients with CF, but the efficacy of these therapies was dependent on the patients’ genotype and ranged from mildly to moderately effective. Unfortunately, these therapies were ineffective for the patients who were delta 508 heterozygotes. Starting in the summer of 2018, VX 445-tezacaftor-ivacaftor (ETI) was compared with placebo in patients with CF who were 1 copy of F508del and a second CFTR mutation that has minimal function. The study found an absolute improvement in predicted FEV1 of 14.3% and a 63% reduction in exacerbations at 24 weeks compared with placebo (Middleton PG, et al. *N Engl J Med*. 2019;381:1809). In late 2019, based on these data, ETI was approved by the FDA for all patients with CF who were F508del heterozygous. This innovation provided effective therapy to 90% of the CF population.

With the discovery of many highly effective therapies beneficial in most patients, the CF Foundation started a program called Path to a Cure to find therapies for the 10% of patients with CF who were not candidates for ETI or other CFTR modulators. This program looks to develop novel methods to restore CFTR protein function and repair or replace the CFTR protein via gene editing or gene transfer. This process creates many challenges that are quite complex, but patients, researchers, physicians, and CF Foundation will not stop working until CF stands for CURE FOUND.

Today, patients with CF are living longer, and many are eligible or have already started ETI therapy. This medication and the many others being developed will hopefully lead to patients with CF living a normal lifespan in the near future.

Dr. Finklea is Assistant Professor of Medicine, Division of Pulmonary and Critical Care, University of Texas Southwestern, Dallas, Texas. Dr. Finklea receives grant support from the Cystic Fibrosis Foundation.



Dr. Finklea




At present, we are planning to hold the live meeting in Chicago, Illinois, pending travel restrictions, CDC recommendations, and the Restore Illinois regional plan. In the event that we are unable to hold the in-person meeting, a virtual CHEST Annual Meeting 2020 will be made available with live interactive education, postgraduate courses, networking events, CHEST Games, and so much more, so you can attend the premier event in clinical chest medicine from the safety of your home.

Join us in Chicago to experience:

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- Latest research presentations on relevant topics in the field
- Networking opportunities
- More than 50 hands-on simulation sessions
- Active learning opportunities, such as case-based and group discussions
- The returning innovative competition, FISH Bowl

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Worry-free registration policy: Keeping safety precautions in mind and acknowledging that your workload is becoming increasingly heavier due to the progressing COVID-19 situation, CHEST will be granting full refunds to any registrant who finds that they can no longer attend CHEST 2020 as the meeting approaches.

CHEST NETWORKS

COVID-19 and the cardiovascular system. Thrombotic events in COVID-19. Interprofessional collaboration.

Cardiovascular medicine and surgery

COVID-19 and the CV system

With the global outbreak of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) ongoing, there is increased awareness of the cardiovascular manifestations and implications of COVID-19. Approximately 20% of inpatients with COVID-19 have acute cardiac



Dr. Kenigsberg

injury (defined as cardiac troponin elevation) (Shi S, et al. *JAMA Cardiol.* 2020 Mar 25. doi: 10.1001/jamacardio.2020.0950). Moreover, in one cohort, both acute cardiac injury and preexisting cardiovascular disease (CVD) were associated with COVID-19 hospital mortality: 69% with elevated troponin levels and underlying CVD vs 7.6% with neither (Guo T, et al. *JAMA Cardiol.* 2020 Mar 27. doi: 10.1001/jamacardio.2020.1017). Moreover, case reports suggest COVID-19 may present as myopericarditis, cardiomyopathy, acute on chronic decompensated heart failure, and acute coronary syndrome (Fried JA, et al. *Circulation.* 2020 Apr 3. doi: 10.1161/circulationaha.120.047164). Adding to this clinical variability, one case series suggests that electrocardiographic ST-segment elevation may not reliably identify obstructive coronary disease (Bangalore S, et al. *N Engl J Med.* 2020 Apr 17. doi: 10.1056/NEJM2009020). Intriguingly, the angiotensin-converting enzyme 2 (ACE2) protein is the functional receptor for SARS-CoV-2 cell entry, and ACE2 is highly expressed in pulmonary and cardiac cells (Driggin E, et al. *J Am Coll Cardiol.* 2020;75[18]:2352). Given the central role of ACE2 and the renin-angiotensin-aldosterone (RAAS) system in cardiovascular pathophysiology and pharmacotherapy, RAAS modulation could have beneficial and/or detrimental effects

with COVID-19 (Vaduganathan M, et al. *N Engl J Med.* 2020;382:1653). Available evidence and societal guidelines support continuing RAAS antagonists in patients per established clinical practice (Mancia G, et al. *N Engl J Med.* 2020 May 1. doi: 10.1056/NEJMoa2006923); (Mehra MR, et al. *N Engl J Med.* 2020 May 1. doi: 10.1056/NEJMoa2007621). A better understanding of the direct and indirect effect of SARS-CoV-2 on the cardiovascular system will require additional evidence.

*Benjamin B. Kenigsberg, MD
Fellow-in-Training Steering
Committee Member*

Thrombotic events in COVID-19: Implications and evolving practice recommendations

A startling potential complication of infection with SARS-CoV2 has been the reported predisposition to thrombotic events. Mortality in COVID-19 patients is associated with notable increases in hemostatic parameters such as levels of D-dimer (Bikdeli, et al. *J Am Coll Cardiol.* 2020 Apr 15. pii: S0735-1097(20)35008-7. doi: 10.1016/j.jacc.2020.04.031. Available autopsy findings suggest that microvascular thrombosis may contribute to development of hypoxemic respiratory failure in COVID-19 (Wichmann, et al. *Ann Intern Med.* 2020 May 6. doi: 10.7326/M20-2003. Hence, the role of anticoagulation in COVID-19 merits serious discussion.



Dr. Venkateshiah

Vascular societies led by International Society on Thrombosis and Haemostasis (ISTH) have published consensus recommendations for guidance. If no contraindications exist, pharmacologic venous thromboembolism (VTE) prophylaxis with unfractionated heparin (UFH) or low-molecular-weight heparin

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(LMWH) is recommended for hospitalized patients with moderate or severe COVID-19 without disseminated intravascular coagulation (DIC). VTE prophylaxis should also be considered for patients with moderate or severe COVID-19 and in DIC but without overt bleeding. There is insufficient evidence to consider routine therapeutic or intermediate-dose parenteral anticoagulation with UFH or LMWH. Many institutions have developed protocols advising therapeutic-intensity anticoagulation when certain thresholds of D-dimer levels are observed, even in the absence of documented VTE. It is unclear how long the prothrombotic milieu in COVID-19 persists after recovery, and consensus recommendations (and some centers) are considering extended prophylaxis (30-45 days) post-discharge after individual VTE risk stratification (Kreuziger LB, et al. American Society of Hematology, April 17, 2020. <https://www.hematology.org/covid-19/covid-19-and-vte-anticoagulation>). Further well-designed research is needed to inform clinicians of anticoagulation strategies in COVID-19 population.

Saiprakash B. Venkateshiah, MD, FCCP, Chair
Gabriela Magda, MD, Fellow-in-Training
Steering Committee Member

Interprofessional Team

Quality of interprofessional collaboration in the ICU: A recent study examining caregivers' perceptions of team interactions and interprofessional collaborative practice (IPCP) behaviors offers new, exciting insights on the importance of inter-



Dr. Lui



Dr. Farmer



Dr. Ramirez

professional team functioning in the medical intensive care unit (MICU) (Chen DW, et al. *J Gen Intern Med.* 2018;33[10]:1708).

The Support Person Jefferson Teamwork Observation Guide (JTOG)™ survey was administered to 161 random caregivers of patients hospitalized in a single large urban academic medical center MICU between May 2016 and December 2016. The survey tool was designed to elicit the perceptions of caregivers regarding team functioning. Survey questions were directly mapped to the 2011 Interprofessional Education Collaborative (IPEC) Expert Panel core competencies for IPCP and divided into four domains (values/ethics; interprofessional communication; roles/responsibilities; teams/teamwork).

Also appended to the surveys were additional follow-up questions that addressed the overall satisfaction with the team and general attitudes regarding the importance of interprofessional team-based care. Caregivers agreed on the importance of health-care professionals working together as a team to provide patient care (3.97/4.00 Likert scale 4 = extremely important). Caregivers expressed satisfaction with the MICU team (3.74/4.00). Furthermore, caregivers agreed that the MICU team demonstrated com-

petencies in all four domains of IPCP: values/ethics (3.55/4.00), interprofessional communication (3.58/4.00), roles/responsibilities (3.61/4.00), and teams/teamwork (3.64/4.00).

Caregivers felt the MICU team provided patient/family-centered care (sub-competency 3.58/4.00). Notably, the overall caregiver survey scores detailing how well each MICU team functioned were positively correlated to overall satisfaction with the MICU team ($r = 0.596 P < .01$).

Limitations of the study included:

1. The sample is from a single institution, and perceptions of caregivers cannot be applied to all populations.
2. No information regarding patient, such as diagnosis, was obtained.
3. Caregivers satisfied with care might be more likely to participate.
4. No distinction was made between data collected from caregivers surveyed in the resident-fellow staffed MICU vs NP-staffed MICU.

It has been described that ineffective teamwork and team communication in health care settings are

associated with increased patient harm and sentinel events (Kohn LT et al. Washington (DC): National Academies Press(US); 2000); (Page A, Washington (DC): National Academies Press (US); (The Joint Commission. Sentinel Event Alert 2008, 40); (Brennan TA, et al. *N Engl J Med.* 1991;324:370). Cultural differences between members of the health-care team and established hierarchies of control have been identified as barriers to communication and teamwork in ICUs (Alexanian JA, et al. *J Crit Care Med.* 2015;43[9]:1880); (Manias E, Street A. *Int J Nurs Stud.* 2001;38[2]:129).

Overall, the findings from this study emphasize the importance of interprofessional communication and teamwork in the MICU and delivery of patient/family-centered care from the caregivers' perspective. The unique insight into caregivers' perspectives on specific team behaviors may be the basis for future quality improvement initiatives.

Justin K. Lui, MD,
Fellow-in-Training

Steering Committee Member
Mary Jo Farmer, MD, PhD, FCCP,

Steering Committee Member
Kristina E. Ramirez, RRT, MPH,
FCCP, Chair

This month in the journal **CHEST**[®]: Editor's picks

BY PETER J. MAZZONE, MD, MPH, FCCP

Editor in Chief, CHEST

Preparing for the COVID-19 Pandemic: Our Experience in New York.
By Dr. H. Zubair, et al.

The Utility of Electronic Inhaler Monitoring in COPD Management: Promises and Challenges.

By Dr. A. H. Attaway, et al.

Patterns of Use of Adjunctive Therapies in Patients With Early Moderate-Severe Acute Respira-



tory Distress Syndrome: Insights From the LUNG SAFE Study.

By Dr. A. Duggal, et al.

Clinical Evaluation of Deployed Military Personnel with Chronic Respiratory Symptoms: STAMPEDE III (Study of Active Duty

Military for Pulmonary Disease Related to Environmental Deployment Exposures).

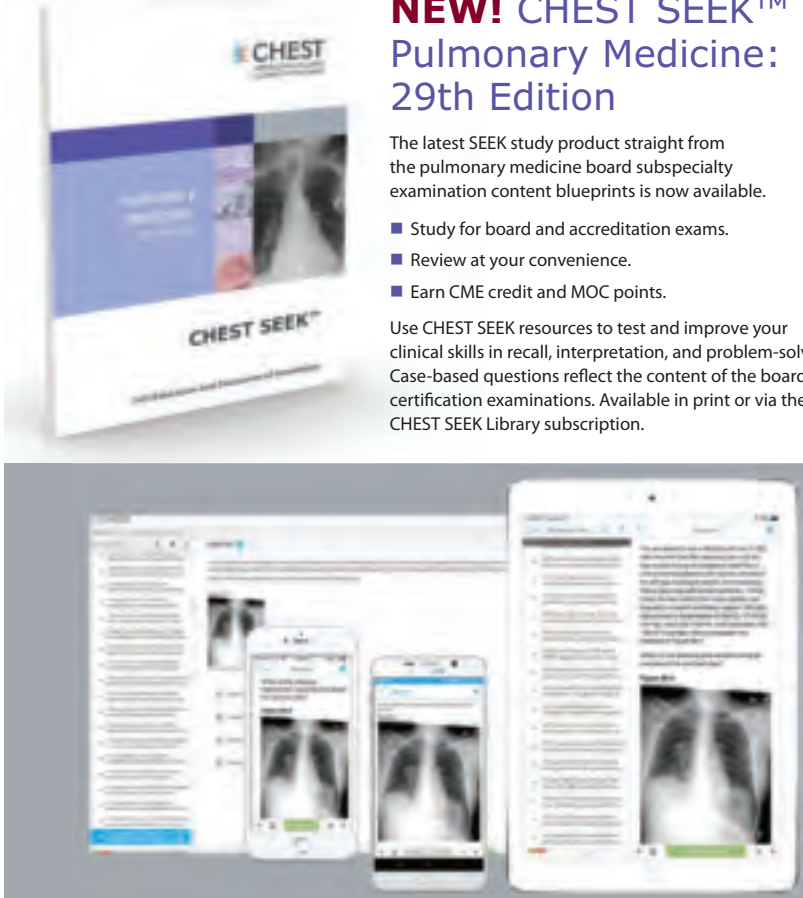
By Dr. M. J. Morris, et al.

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- NOVEMBER 5-7
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CRITICAL CARE COMMENTARY

COVID-19: Just a virus, right?

BY EMILY R. FRIDENMAKER, MD

My first exposure to the notion of scarce resources was in medical school. I had to discuss the ethical principles behind the allocation of organs for transplantation, specifically livers and the required abstinence from alcohol ... but this was just an exercise, right?

A few years later, during residency, I heard the anecdotes from one of my internal medicine attendings about the time he spent in Europe as a visiting geriatrics fellow in the 1970s. The health-care districts in the region would be allotted an annual budget, and it was up to those districts how to best allocate those resources to meet, to the best of their abilities, the health-care needs of their population. He vividly recalled that a patient he cared for, an individual over 65 in need of renal replacement therapy for a reversible condition, who was not offered such therapy despite the clear benefit. There was a finite amount of resources, and those resources were thought to be better spent on public health measures like vaccination ... but that was on another continent and in another era, right?

I remember when I first heard of an outbreak of viral pneumonia in China in January of this year (<https://www.theguardian.com/world/2020/feb/27/what-is-covid-19>). As someone prone to anxiety, my first strategy was to put my head in the sand and wait it out. This strategy didn't last very long – within a couple of weeks, there were confirmed cases in the United States. It was now apparent that this virus was not going to be contained. In an impressively short amount of time, SARS-CoV 2 has infected over 3.5 million individuals and killed almost a quarter million people worldwide. In the United States, we have seen almost 1.2 million cases and lost over 68 thousand lives (<https://www.worldometers.info/coronavirus/#countries>). This pandemic has managed to devastate multiple countries, health care systems, and economies. It has also challenged every physician's ideas of beneficence and justice ... but it's just a virus, right?

Beneficence, the principle of med-



Dr. Fridenmaker

ical ethics regarding acting in the patient's best interest, had always seemed to me to be a no-brainer. Not like autonomy, which can get sticky, or justice, which I really had not had to consider much prior to 2020. Of course, I would always do what was best for my patient, I thought, why wouldn't I?

Justice, the principle that deals with the distribution of scarce health-care resources, is the wrench that has been thrown into the beneficence works in the age of COVID-19. In a country and an era in which I had not dreamed we would ever have to think about how to support multiple people with one ventilator, we have had to do just that ("Joint Statement on Multiple Patients per Ventilator," CHEST News, Mar 27, 2020) (<http://www.chestnet.org/News/Press-Releases/2020/03/Joint-Statement-on-Multiple-Patients-per-Ventilator>). Things that I have taken for granted through all of my training are now worth their weight in gold—from sedative drips and inhalers down to videolaryngoscopy blades and face masks. I can't just do what is best for my patient because sometimes what is best for my patient is not what is best for my next patient, what is best for my team, or even what is best for me and for my family. COVID-19 has reminded us of the uncomfortable truth that when contemplating justice, the patient in front of us is not the only person we have to consider.

Early on, before things in the

Continued on following page

Today's best bet – Get involved with CHEST!

BY ANEESA DAS, MD, FCCP

I am often overheard encouraging colleagues to become involved with CHEST. I am a strong believer that you get far more out of participation than you will ever put into it. I have now been fortunate to have many leadership roles within CHEST and currently serve on the Board of Regents and as Chair of the Council of NetWorks. I have been able to work with a growing number of people, including faculty and CHEST staff. The more invested I have become, the more CHEST truly feels like family.

I understand that while it may be easy for me to tell members to get involved, it often feels much more difficult to actually get appointed to a leadership position. Early in my career, I was given the advice, “When you are given a task, make sure you blow it out of the water. That will only open more doors for you.” Making the most of a position on a NetWork or committee can create future opportunities. We recently had self-nominations for leadership positions within the NetWork steering committees and committees at large. Some positions have one to two openings for 20 applications. It can be frustrating not to get a position the first time around.

However, it is common for members to have to apply numerous times prior to being appointed. When applying to these positions, be sure to highlight any prior CHEST involvement, as this may weigh in on an appointment to specific posi-



tions. Some of the decisions to appoint a nominee are based on prior engagement with CHEST.

So how can one get involved without holding a leadership position? My first piece of advice is to ensure you are getting CHEST emails. Check them regularly so that you do not miss any opportunities.

Next, be a member of at least one NetWork that is of interest to you. The NetWorks provide a smaller community within CHEST for special interests within our field. You will get emailed updates throughout the year that include any projects in which input is needed. At the CHEST annual meeting, each NetWork holds an Open Forum that functions as their annual face-to-face business meeting.

These meetings are open to everyone. This is an excellent way to meet the current steering committee members and become involved in plans for the upcoming year.

This year, we have made the dates and times of the NetWork steering committee calls public on the

CHEST website. Any NetWork member can join these calls, even if they are not officially on the steering committee. All ongoing projects are discussed on these calls, so participation on the call offers an excellent opportunity to volunteer. You can also get involved with the NetWorks on social media by using the appropriate NetWork hashtags, along with tagging @accpchest to communicate with your NetWork colleagues.

Finally, the easiest way to embrace CHEST, and possibly the most obvious, is to get involved with the CHEST annual meeting. The meeting is at its best when planned and orchestrated by a diverse group of people. Annual meeting planning usually starts in November or December of the prior year. Submitting a proposal for a session at the annual meeting is strongly encouraged.

Tips for how to submit a strong, well-rounded session are offered on the submission website. Reviewing these tips first can help strengthen your proposal. An easy way to become involved, even as a student or as a trainee, is to submit an abstract to the annual meeting.

Summing up, I would encourage everyone to simply be an active participant: raise your hand to ask questions, introduce yourself to those around you, and attend the social events at CHEST annual meeting. Before you know it, new friends will become old friends, and attending the CHEST annual meeting will start to feel like going to a family reunion.

Continued from previous page

United States had surged, I asked the twitter community what I thought would be a hypothetical question: “An employee needs to urgently help a COVID-19 patient. There is no appropriate PPE available due to shortage. What should happen?”

Like the idea of splitting ventilators, it was a thought I had never considered pre-COVID-19. Our instinct as physicians, especially as critical care physicians, is to intervene in emergency situations as quickly as possible. The extensive PPE required to manage COVID-19 patients has slowed that process, but, as many institutions are reaching the ends of their PPE stores, our safety is now placed at odds with that of our patient's. To stay back violates what we feel is our duty to our patients, to go in violates our duty to ourselves, to our families, and to the rest of our patients. To care adequately for your patient is to put yourself at risk (and vice-versa), and this is a problem that I don't think we have an answer for.

COVID-19 threatens many good and noble things, and what is worse, it directly puts them at odds with

one another. They are paired sliding scales, where more of one means less of the other. If I have enough masks, it means my colleague probably doesn't. If we have enough ventilators, it means another city doesn't. If I get a break to be with my family, it means someone else is having to leave theirs to tend to patients who are sicker, lonelier, and more numerous than in any other time in recent memory.

And if these situations and resource limitations don't provide enough moral injury for health-care workers, there are some specifics of humanity's response to the pandemic that are exceptionally hurtful.

We as a country had notice, which was squandered. Instead of caution and preparation, we saw the powers that be make light of the serious situation most scientists and clinicians warned was coming. Instead of efforts to find or create PPE, we saw accusations against us of misuse and waste (“Trump comments about hospital mask thefts spark backlash from doctors,” *Newsweek*, March 30, 2020) (<https://www.newsweek.com/trump-cuomo-masks-hospital-docors-stealing-new-york-1494949>).

Instead of support, we saw our altruism taken advantage of and used against us in unsafe and unfair situations. We have seen physicians in training and full-fledged attendings alike treated unfairly by their supervisors, instead of protected. Every instance of anti-science opinion or action from our friends and families that we once tolerated now feels like a personal affront, as these directly increase our risk and our immediate family's risk of contracting the illness. We are being touted as heroes and angels, but really, we're afraid—afraid of our patients, afraid of illness, afraid for our families, and afraid of jobs that we used to love. We don't want to be praised; we just want to work our regular jobs safely and with adequate support.

I don't know what health care looks like at the end of all of this. Relationships between physicians and health-care administrations were strained before the pandemic, to say the least. How can health-care workers just go back to business as usual, working for entities that were so ill-prepared, and, in many cases, calloused toward the concerns of their employees?

COVID-19 has revealed the fragility of our health-care system, our public health capabilities, and our economy. The pandemic has forced us to finally acknowledge something that has been true all along—our resources are finite, and tension exists between what is right and what is profitable, and between what is just and what is easy.

But it's just a virus, right?

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