Climate change and the future of surgery
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Since its establishment in 1913, the American College of Surgeons (ACS) has continuously sought to help surgeons at all stages of their careers improve their cognitive and technical skills through leading-edge didactic and skills educational programming with the goal of ensuring that patients receive care from surgeons who are highly proficient in providing care. As technology has advanced, Ajit K. Sachdeva, MD, FACS, FACS, FRCSC, FASCME, Director, ACS Division of Education; his team; and other ACS leaders have developed an expanding array of educational programs designed to help surgeons master and retool the skills they need to provide safe, high-quality care. One exciting and innovative opportunity for surgeons to test their skills and ultimately learn from each other will be offered at Clinical Congress 2019 in San Francisco, CA.

Building on an important tradition
This program, The Surgical Metrics Project, builds upon and incorporates the concepts that ACS Past-Presidents Barbara Lee Bass, MD, FACS, FRCSEng(Hon) FRCSI(Hon), FCOSESCA(Hon), and Carlos A. Pellegrini, MD, FACS, FRCSI(Hon), FRCSEng(Hon), FRCSEd(Hon), and the ACS Division of Education applied in developing and implementing Surgeon Retooling Reimagined: Achieving and Maintaining Lifelong Excellence. Through that program, our profession and other stakeholders have been able to establish a surgeon and health care facility verification program based on new standards to support proficiency and evidence-based best practices.

Similarly, the ACS Targeted Training Opportunities for Practicing Surgeons program is designed to provide individualized educational experiences that help practicing surgeons acquire skills in new procedures and technologies, enhance skills with infrequently performed procedures, and assist surgeons with reentry into surgical practice.

And the annual ACS Surgical Simulation Summit brings together surgeons, academic engineers, medical students, residents, and simulation center directors, educators, administrators, technicians, and researchers to learn about the latest advances and cutting-edge initiatives in simulation-based surgical education and training.

The Surgical Metrics Project
New this year is The Surgical Metrics Project. Leading the effort is Carla M. Pugh, MD, PhD, FACS, professor of surgery and director, Technology Enabled Clinical Improvement (TECI) Center, Stanford University, CA. Clinical Congress 2019 participants will have the opportunity to join Dr. Pugh and her colleagues in an exploration of the use of wearable technologies to measure surgical decision making and technique. Resident, active practice, and retired surgeons all are encouraged to participate.

Wearable technologies will be used to build a database of surgical decision making and technical approaches during a pilot task, repairing a small bowel enterotomy. A total of 10 procedure stations will be available October 28−30 in the Exhibit Hall of the Moscone Center. The exercise will take less than 30 minutes, so all interested parties should be able to participate. The program is sponsored by the ACS Committee on Surgical Skills Training for Practicing Surgeons, with support from Dr. Sachdeva and the Division of Education; Dr. Bass; Dr. Pellegrini; American Board of Surgery Executive Director Jo Buyske, MD, FACS; and other ACS leaders.

Here’s how it works. Before performing the open suture repair of a small bowel enterotomy using porcine intestines, each participant will be equipped with magnetic motion tracking technology that is small enough to fit under surgical gloves without hindering movement. The motion-tracking data will be synchronized with headgear that will capture video and audio data. The video gives a moment-to-moment account of each step and decision that a surgeon makes while operating, and the magnetic motion-tracking technology measures time and flow efficiency. Dr. Pugh said the motion data can give us an efficient and accurate assessment of the surgical process.

With the video application, the researchers will be able to measure common factors that we as surgeons
may do as second nature but that have a real impact on efficiency and efficacy, such as how people set up their instrument tray. Because small leaks are not uncommon with open suture repair of a small bowel enterotomy, a leak test will be performed and the researchers will be able to see which leak prevention and recovery techniques surgeons use and measure their effectiveness.

Each participant will get a short report on his or her digital performance. Then, Dr. Pugh and her colleagues will do a large-scale deep dive after the Clinical Congress and draw some conclusions that can be used for data sharing and quality improvement. The purpose is really to start the conversation about what steps surgeons can take to improve outcomes and help surgeons learn from each other. The larger the pool of participants from different institutions and with different levels of expertise, the more useful the findings will be.

The database will be used to answer a variety of questions, including the following:

• What decisions do surgeons make when faced with a surgical task?

• How do their decisions and technical approaches affect outcomes/bowel repair quality?

• Can this database serve as a benchmarking resource for trainees?

• Can this database serve as a platform to discuss the possibility of longitudinal, personal assessment where participants track their own performance throughout their career?

Dr. Pugh and her research team have an extensive history of successful, simulation-based data collection in the exhibit halls of major medical meetings and will work closely with ACS conference leadership to ensure a successful, professional interaction with the ACS Fellows who volunteer to participate in this program. You will be able to follow and provide feedback on the project via Twitter using #surgicalmetrics.

Other professions that require a high level of mental and physical acuity, such as aviation and sports, have a rich history of collecting, documenting, and sharing quality metrics. Each year, the organizations that represent these professions host major data analytics conferences to review data capture technology, mathematical algorithms, and artificial intelligence approaches to quantifying team and individual outcomes. The College is proud to offer a similar opportunity to Clinical Congress attendees and strongly encourages everyone to participate in this experience that embodies the spirit of Inspiring Quality: Higher Standards, Better Outcomes. ♦
Climate change: What does it mean for the future of surgery?

by Matthew Fox
I
g the 21st century, many members of the health
care community have united to address significant
challenges in global health, including increasing
occurrence of noncommunicable diseases associated
with obesity, poor diet, smoking, and air pollution;
a lack of infrastructure and resources to provide
necessary health care services, including surgical
interventions, in low- and middle-income countries
(LMICs); and so on. But recently, a number of health
care experts have warned that the issue that will
most affect human health globally is one that acts as
a barometer for the health of the planet itself—cli-
mate change.

In a 2018 report, Watts and colleagues suggested that
“climate change is the biggest global health threat
of the 21st century.” Other notable health care orga-
nizations have echoed this sentiment. The United
Nations and World Health Organization both have
released reports recently that examine the deleteri-
ous health consequences of climate change. The
New England Journal of Medicine (NEJM) featured an
article in early 2019 calling climate action “impera-
tive” to protect human health. A recent uptick in
the lay media’s coverage of this topic is notable as
well. Clearly, the health effects of climate change
have become a topic of considerable interest to the
international health care community, as well as the
public.

Following is a brief summary of some of the key
concepts at the intersection of climate change and
health, including how it is affecting human well-
being today and is projected to do so in the future,
as well as how health care fits in to the issue—both
as a contributing factor and as a force to combat it.
This article is based on the contemporary understand-
ing of anthropogenic (that is, human-driven) climate
change as the observed warming of the global climate
system, which has accelerated since the mid-20th cen-
tury largely because of rising carbon emissions from
human activities.

How climate change is affecting health
Our environment has been proven to have a significant
impact on human health. It is unsurprising, then, that
a rapidly warming global climate is stressing human
health in a number of ways, especially among vul-
nerable populations, such as children, the elderly, the
immunocompromised, pregnant women, the poor,
and individuals who work outdoors or who perform
manual labor. Some of these identified health effects
follow.

Extreme weather events
Perhaps the health effect that most directly affects sur-
geons is the increase in extreme weather events. The
last few years have brought several weather-related
disasters to the U.S., including the 2017 Atlantic hur-
ricane season that devastated parts of Texas, Florida,
and the U.S. East Coast and did the most long-lasting
damage in Puerto Rico. Importantly, research follow-
ning the storms indicated that the increased rainfall and
subsequent flooding can be attributed to human-caused
climate change. Research on Hurricane Maria, which
struck Puerto Rico, shows that the storm produced
the largest maximum daily rainfall of any hurricane
since records have been reliably kept and that storms
of such severity are significantly more likely to strike
today than in the past.

The storms collectively led to thousands of deaths
and more than $300 billion in economic damage,
resulting from high winds, flooding, and the lingering
effects on the infrastructure of the affected locations.
Damaged infrastructure, including physical damage
to buildings and downed electrical and telecommu-
nications service, is of particular concern to surgeons
because the ability to provide safe, high-quality surgic-
ical intervention is dependent upon the availability of
resources and a stable practice environment.

Articles published in the Bulletin have recounted
how surgeons have adapted to damaged hospitals and
operating rooms (ORs); how surgeons and patients

HIGHLIGHTS
• Describes how climate change is affecting human health
• Suggests how the practice of surgery may be
affected by a warming environment
• Identifies ways that surgeons can take action to mitigate
the health care system’s contributions to climate change
struggled to get to hospitals; and how strained communication avenues have made patient care much more difficult. These reports not only show the dedication and resilience of surgeons and the value of preparation, but also the increasing human and financial toll extreme weather events place on what is already a strained health care system.

"Extreme weather events are affecting health care delivery and access, which is something we’ve seen in the news with increasing frequency," said Amy Collins, MD, senior clinical advisor for physician engagement at Health Care Without Harm, a global initiative that seeks to bring attention to the environmental impact of health care and educate practitioners on how to make positive changes. "Recent wildfires, flooding in Nebraska, and the hurricanes are forcing hospitals to evacuate and relocate patients, and some hospitals have been out of operation for weeks or months," added Dr. Collins, an emergency medicine physician, MetroWest Medical Center, Framingham, MA.

**Extreme heat events**
Climate change is increasing the amount and severity of extreme heat events around the world, with the number of people who experienced extreme heat increasing by more than an estimated 125 million from 2000 to 2016. Thousands of people die annually from the effects of extreme heat, such as heat stroke, dehydration, and cardiovascular issues. Extreme heat already is recognized as one of the greatest dangers facing inhabitants of cities—the most densely populated areas of any country—and the problem is expected to worsen as the climate continues to warm domestically and globally. As of June 2019, record heat waves in Europe have led to several deaths, with more projected.

**Air pollution**
A primary driver of climate change is the increased global burning of fossil fuels and coal, which emits a high amount of carbon dioxide. A dangerous side effect is the addition of a large amount of pollutants to the air in the form of fine particulate matter that is suspended in the atmosphere. Air pollution concentrations have worsened in cities across much of the world—particularly in rapidly developing countries in Asia such as China and India—which has led to an increase in incidence of associated health conditions, including heart disease and lung cancer, and approximately 4.2 million deaths.

**Climate-sensitive diseases**
The rising global temperature has changed the capacity for the transmission of some insect- and water-borne illnesses, such as dengue fever, Lyme disease, and malaria. The increased temperature across regions means that insects and water-based pathogens can live in a wider geographic area for an extended amount of time, increasing their chance to spread to human populations.

In addition, a 2017 study in *Infection Control & Hospital Epidemiology* showed that the risk of surgical site infections (SSIs) is "highly seasonal," with the highest incidence in warmer months and lowest in colder months. Although ongoing research needs to be done to determine how the climate may affect these rates, it suggests that a warming climate is more conducive to increased instances of SSIs.

**Undernutrition and lack of potable water**
Extreme weather events, such as prolonged, severe drought in LMICs, have been shown to decrease the quantity and quality of crop yields, which leads to undernutrition and its associated health effects, including delayed wound healing. Drought and extreme rain both affect access to drinkable water in different ways—drought leads to reduced availability of fresh water, and excessive rainfall leads to runoff from agriculture and industry, inadvertently contaminating water sources.

**Mental health and well-being**
Not to be lost among the more noticeable somatic effects of climate change is the associated damage to mental health. Victims of powerful storms and wildfires—which can displace populations, undermine financial
and familial stability, and lead to disease and death—are often found to suffer from anxiety, depression, post-traumatic stress disorder, and suicidal ideation. Beyond lowering quality of life, the stress of mental illness leads to poorer immune response and overall health.

The effects on surgery
The intersection of climate change and health is still an inchoate field of study, and how climate change and surgery intersect is even less explored. But the noted health effects reveal a through line into the modern, holistic picture of human health—and into the field of surgery.

Preoperative patient health
The American College of Surgeons (ACS) recently became the home of the Strong for Surgery program, which is intended to identify, evaluate, and modify patient health factors preceding an operation that are indicative or contraindicative of a better recovery and fewer complications. Strong for Surgery checklists cover areas such as nutrition, glycemic control, medication management, and smoking cessation, among others. These factors reflect the overall health of a patient, and if they are at a substandard level before an operation, a patient is at a higher risk for suboptimal recovery. A rapidly changing, deteriorating climate can affect these risk factors in different ways.

For example, with respect to nutrition and glycemic control, climate change threatens food security and food production, as previously noted, and is likely to lead to under- and malnutrition, which can negatively affect wound healing and recovery. Climate change also can affect medication management. Many pharmaceuticals are produced in Puerto Rico, and Hurricane Maria heavily damaged the production of such basic medical supplies as intravenous saline bags—a vital component of hospital health care. Hospitals experienced shortages of these resources for more than a year after the storm. Increasingly unpredictable and devastating weather events have the potential to make properly medicating patients more difficult as the production facilities are exposed to worsening weather events.

And the effects of smoking, which have been proven to decrease wound healing and lung function after surgery, among other known detriments, will become difficult to avoid on a population level if air pollution continues to increase. The mechanisms of damage to the body between smoking and breathing in polluted air are similar and include increased incidence of respiratory and cardiovascular disease—and air pollution is now believed to cause more deaths. The patient factors that initiatives such as Strong for Surgery seek to address to ensure optimal surgical outcomes may become more difficult to control on a patient level because of a degraded environment.

Access to surgery and growing disparities
These patient-level factors, significant as they are, are made even more difficult to address when patients lack access to surgery. The Lancet Commission on Global Surgery, since 2014, has been promoting the message that surgery is “an indivisible, indispensable part of health care,” as nearly one-third of global burden of disease is attributable to surgically treatable conditions—but more than half of the planet’s population lacks access to surgery and anesthesia. The primary driver of this lack of access is economic in nature, with most underserved populations living in LMICs, with access decreasing parallel to lower economic status. But access issues exist within the U.S. as well, especially among rural populations and the urban poor.

These issues are among those that the surgical community—including the ACS through Operation Giving Back, in its volunteers’ efforts to train local surgeons and increase surgical representation in LMICs—has sought to address. These concerns are particularly noteworthy in the context of climate change because the effects of the warming global environment, in terms of health, disproportionately affect the poor and other vulnerable populations. Climate change is likely to exacerbate these extant problems by increasing the risk of health effects; further decreasing
the economic power, and subsequent access to health care, of LMIC populations;22 and physically displacing populations as a consequence of their geographic homes becoming less hospitable because of rising sea levels, extreme weather events, and increasing potable water scarcity and drought.23 The net effect is that health care, and especially location- and resource-dependent surgery, will become further out of reach for a vast number of people around the world—an outcome diametrically opposed to the contemporary global mission of access to care for all.

Taking action
The response to the challenges of climate change in the U.S. must be comprehensive and target the largest sources of carbon emissions, including government, business, and what may be a surprising contributor—the U.S. health care system itself. If its $3.3 trillion gross domestic product were counted as a distinct entity, U.S. health care would be the fifth-largest economy in the world and the seventh-largest producer of carbon dioxide.24

These figures uniquely position the health care system as both a significant contributor to climate change and its associated health effects, but also as the field responsible for safeguarding patient care. As the authors of a January 2019 NEJM article state, “Tackling this challenge may feel overwhelming, but physicians are well placed and, we believe, morally bound to take a lead role in confronting climate change with the urgency that it demands.”25

Greening the OR
Physicians can affect the change necessary to lessen health care’s role in the climate change. The logical place to start for surgeons is in recognizing the significant impact that ORs have on a hospital’s carbon footprint. Surgery is, by necessity, a resource- and energy-intensive field, but a study in The Lancet Planetary Health on the carbon footprint of three ORs suggests the extent of energy use and patient-safe ways to reduce it. These solutions involve such changes as the selective use of desflurane, an anesthetic agent with high carbon emission side effects, and occupancy-based OR ventilation to reduce energy requirements in rooms that are not in use.26

Furthermore, paying attention to physical resources used in the OR can significantly decrease the effect on the energy required for disposal of used instruments and tools used in a single operation—and also lower hospitals costs. A 2015 Bulletin article detailed some of the ways that hospitals accomplish these energy and cost savings, which include monitoring and changing the use of single-use devices and disposable instrumentation; environmentally preferred purchasing; and limiting items thrown away in biohazardous waste bags, which cost considerably more to dispose of than other waste and release more carbon dioxide and other harmful elements when incinerated.27

The Cleveland Clinic, OH, has integrated environmental sustainability into its core mission. Sofya Asfaw, MD, FACS, a general surgeon at Cleveland Clinic, noted that because ORs account for a significant portion of a hospital’s resource and energy use and waste, it is vital that surgeons and their accompanying support staff address the issue. “We have taken the challenge of reducing our hospital’s carbon footprint and met it head on,” Dr. Asfaw said.

In addition to using some of the previously mentioned methods of promoting a green, sustainable OR, Cleveland Clinic now recycles preincision plastics instead of throwing them away, which has diverted “more than 1 million pounds of plastic from landfills;” has converted all OR lights to LED (light-emitting diode); and promotes the use of a scrubless solution to sterilize hands before surgery (after the first scrub of the day) instead of water, saving hundreds of thousands of gallons of water, according to Dr. Asfaw.

“Our crowning achievement has been educating the next generation of clinicians and residents and making health care sustainability something that is ingrained in their mentality, in how they approach their patients in the operating room,” Dr. Asfaw said. In addition to including tenets of environmental sustainability in the standard residency curriculum “from day one,”
six years ago the Cleveland Clinic created the Ken Lee Memorial Fellowship, which focuses on greening the OR and promoting climate-positive practices. Each year, the fellow, a general surgery resident, creates a project on sustainability that focuses on the OR and helps improve efficiency, decrease energy use, and reduces the OR’s carbon footprint. Dr. Asfaw, the Ken Lee Memorial Fellowship director, said that “these projects have had lasting effects on how we operate and on how our ORs function.” Ultimately, Dr. Asfaw notes, efforts to green the OR are multidisciplinary and include supply chain management, facilities staff, environmental services, nursing leadership, and more. Having support from the entire team is important in implementing sustainability programs in other hospitals. Because surgeons are natural leaders in and out of the OR, “it is critical to have surgeon champions communicating with and educating key stakeholders to express the importance of these initiatives,” she said.

The work to address how health care and ORs contribute to climate change takes time and effort, but Dr. Asfaw noted, “As clinicians, we need to think of the work in this sector not as ‘extra,’ but as a necessary part of our practice to maintain public health.”

Carbon neutrality and energy independence
At the institutional level, hospitals and health care organizations can commit to at least becoming carbon emission-neutral, meaning that their carbon emissions are balanced out by carbon savings elsewhere. Kaiser Permanente, Oakland, CA, and the Boston Medical Center, MA, for example, have both made considerable strides in reducing their carbon footprints, and Dr. Asfaw said that Cleveland Clinic aims to be carbon neutral by 2027. Gundersen Health System, La Cross, WI, has even become energy independent and now produces more energy than it consumes. Additionally, financially divesting from the fossil fuel industry is one way that health systems can both directly reduce their reliance on health-negative consumption, as well as send a message that public health takes precedence over monetary gain.

Adaptability
Even if the U.S. health care system takes collective action on climate change, some environmental disruptions now appear inevitable. Hence, hospitals and health care facilities must be prepared to adapt.

As previously noted, extreme weather events are likely to further increase in frequency, scope, and intensity, so hospitals in vulnerable areas are taking steps to mitigate future disasters. In response to damaging 2001 storms, the Texas Medical Center rebuilt its facilities to house power systems at a higher elevation and to provide power through a plant independent from the Houston, TX, power grid; these preparations left the medical center largely operational during Hurricane Harvey. Similarly, hospitals in New York, NY, and Boston have changed their energy generation placement and positioned critical patient care functionality above the first floor of the building both in response to Hurricane Sandy and in preparation for coming storms. It is vital that health care facilities remain open during weather and climate disasters, and these adaptations and preparations are likely to become mandatory in the future.

A collective voice
It will take a system-wide effort to bring health care to a level that will markedly reduce its carbon footprint. To that end, several health care organizations are making coordinated efforts to educate colleagues and the public on the health effects of climate change and the necessity of action, as well as providing resources and pathways to get involved. Two such groups include Health Care Without Harm, mentioned previously, and the Medical Society Consortium on Climate and Health.

Health Care Without Harm
Health Care Without Harm “seeks to transform health care worldwide so that it reduces its environmental footprint and becomes a community anchor for sustainability and a leader in the global movement for environmental health and justice.”

Dr. Collins’
organization works to “support physicians interested in promoting climate-smart health care, which is our term for environmentally responsible health care, and in taking climate action,” she said. Presenting data and statistics on costs and environmental impact to hospital leaders can sway opinion on local changes, and it’s important to know the business case for greening of the OR, for example.

On a larger scale, when speaking to physicians, Dr. Collins emphasizes the importance of advocacy. “I feel very strongly that physicians are advocates. Part of our job is to advocate for our patients, but we can also use our influence and health expertise to advocate for improved public health,” she said. She says to consider a broadened view of the Hippocratic Oath when thinking about the health effects of climate change. “We all take the oath to do no harm,” Dr. Collins said. “Of course, we don’t want to directly harm our patients through our actions, but we also have the opportunity to ensure our policies and health care operations are not harming our communities and the planet.”

The group’s website (noharm.org) houses a variety of resources on climate change and health. It also offers the opportunity to join their Physician Network, which “supports emerging and established physician leaders in leveraging their influence and expertise to advance the growing health care sustainability movement and to create climate-smart health care. The Physician Network brings physicians together to share best practices and to inspire one another in advocating for a sustainable and healthy future.”

Medical Society Consortium on Climate and Health
A physician’s voice can be effective on its own, whether in a hospital setting or when weighing in on the health effects of state and federal legislation. But the collective voice of the nation’s health care professionals is even more powerful; thus, professional medical organizations working in concert can have a significant impact on climate action. To that end, the Medical Society Consortium on Climate and Health, a consortium of 23 medical societies that includes the American College of Physicians, American Medical Association, and

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REFERENCES


But the collective voice of the nation’s medical professionals is even more powerful; thus, professional medical organizations working in concert can have a significant impact on climate action.

American Academy of Pediatrics, and represents more than 600,000 U.S. physicians, seeks to harness their influence to help leaders understand the dangers of climate change and how transformations to address the climate will simultaneously promote health.33

According to Mona Sarfaty, MD, MPH, FAAFP, executive director of the consortium, even before the collaborative formed, it was evident that many physicians were already aware of the human role in climate change and its effects on patient care. Dr. Sarfaty and her colleagues surveyed members of three medical societies to gauge physician understanding of climate change. Most respondents agreed that climate change was occurring, that human agency was the primary driver, and that “it was directly relevant to patient care,” Dr. Sarfaty said. Approximately 70 percent of respondents indicated that climate change was already affecting their patients through poorer air quality from pollutants, increased incidence and symptoms of allergies, or injuries related to extreme weather events, among other examples. “[They] said that physicians had a responsibility to inform the public and to inform their patients about the risks of climate change,” Dr. Sarfaty said. Many of the surveyed physicians wanted to make their own practices environmentally sound, “the majority wanted their own societies to have a policy on the issue,” and they felt they could be better informed.

Those responses revealed an actionable agenda. “We needed to get some educational material and opportunities out there for physicians, we needed to be in touch with their societies to see about policy positions, and we needed to bring groups together so we could help each other to get their societies more engaged in the issues,” Dr. Sarfaty said. A briefing from a representative of the U.S. Global Change Research Group to the initial small group of interested societies led to a consensus statement and the conception of what became the Medical Society Consortium on Climate and Health, which publicly launched in 2017.

“Our mission is informing the public and policymakers about the health impacts of climate change, and the health benefits of solutions,” she said. “We organize, empower, and amplify the voices of physicians.”


continued on next page
Thought leaders and physicians tell us that if no action is taken, climate change’s effects will continue to worsen and will touch every branch of medicine.

The group has developed a significant presence in this area, having held annual meetings and released annual reports, as well as having been referenced in more than 170 news stories as of April 2019. The website (medsocietiesforclimatehealth.org/) serves as both a clearinghouse for information on the health effects of climate change and provides resources and ways for physicians and their groups to take climate action, including suggestions on how to persuade legislators to address the climate at the highest levels.

A great but necessary burden
In late June, more than 70 U.S. medical and public health organizations, including Health Care Without Harm and the member organizations of the Medical Society Consortium on Climate and Health, came together to declare climate change a health emergency and called on policymakers to take steps to address it. It is the most recent, most expansive clarion call from the medical community to our nation’s leaders to heed the words of the experts: climate change is here, and it is negatively affecting human health. Thought leaders and physicians tell us that if no action is taken, its effects will continue to worsen and will touch every branch of medicine.

Patients require and deserve total attention to ensuring optimal surgical outcomes, and already surgeons are expected to split their efforts among many activities outside the OR. But the evidence suggests that the health effects of climate change will only increase if no action is taken. In a time of great change and in which future generations depend upon actions taken today, it is vital that the health care community unite to address, in climate change, what some experts suggest may be the greatest threat to human health in the next century.

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2018 ACS Governors Survey:
Gender inequality and harassment remain a challenge in surgery

by
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Editor’s note: The American College of Surgeons (ACS) Board of Governors (B/G) conducts an annual survey of its domestic and international members. The purpose of the survey is to provide a means of communicating the concerns of the Governors to the College leadership. The 2018 ACS Governors Survey, conducted in August 2018 by the B/G Survey Workgroup, had a 91 percent (263/289) response rate.

One of the survey’s topics was gender inequality and harassment. This article outlines the Governors’ feedback on this issue.

As defined by the Oxford Dictionary, gender inequality is a social process whereby people are treated differently and disadvantageously, under similar circumstances, on the basis of gender. Gender inequality goes beyond wage differentiation and includes equal access to work, promotion, and development. The 2018 ACS Governors Survey defined gender equality as the state of equal ease of access to resources and opportunities, regardless of gender, including economic participation and decision making and the state of valuing different behaviors, aspirations, and needs equally, regardless of gender.

Background
The surgical profession is experiencing workforce shortages and other complex challenges. It is essential that the best and brightest are chosen to become surgeons, regardless of gender. With the development of modern surgical training in the early 20th century, the path of involvement and career development has been different for men and women. The ACS has incorporated women into its membership since its inception in 1913. However, women comprised less than 2 percent of the College membership until 1975. This percentage was a direct reflection of the era, as only 2 percent of surgical residents in the U.S. were women in the 1980s.

Until 1970, women never comprised more than 6 percent of any medical school class in the U.S. or Canada. In 2001, 14 percent of U.S. surgical residents were women, a low percentage in comparison with the number of women medical students at the time. Over the last 15 years, an increasing number of women have entered medicine and the surgical workforce. In 2017, for the first time, more women than men
Figure 1. ACS Governors by gender

Table 1. ACS Governors by gender and age

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<th>Age</th>
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<th>46 to 50</th>
<th>51 to 55</th>
<th>56 to 60</th>
<th>61 to 65</th>
<th>66 to 70</th>
<th>71 to 75</th>
<th>&gt;75</th>
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<td>19.72%</td>
<td>26.15%</td>
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<td>18.60%</td>
<td>30.23%</td>
<td>13.95%</td>
<td>27.91%</td>
<td>6.98%</td>
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<tr>
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<td>21.29%</td>
<td>24.33%</td>
<td>22.81%</td>
<td>12.93%</td>
<td>2.66%</td>
<td>1.14%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

At the time of this survey, 83 percent of the 2017–2018 ACS B/G were men (see Figure 1, this page). This ratio was similar to the composition of ACS Fellows at the time: 79.4 percent men and 20.6 percent women. Internationally, of the 41 respondents from countries outside the U.S. and Canada, only one was a woman (2.4 percent), which is slightly less than the corresponding representation who are international Fellows (4.9 percent).

Further analysis revealed that women Governors were primarily younger than their male counterparts. For example, 51.1 percent of female Governors were age 55 or younger, while 33.4 percent of males were in that age group (see Table 1, this page).

Is there a problem?

Is gender equality in the surgical profession an issue that needs attention? According to 57.79 percent of the ACS Governors, it is (see Figure 2, page 22). Additional analysis revealed this assessment differs greatly by gender (see Table 2, page 23). For example, 46.5 percent of women respondents strongly agreed that gender

were enrolled in medical school—a trend that continued in 2018, with women representing the majority of both applicants and matriculants. In 2017, 40.1 percent of U.S. general surgery residents were women and 20.6 percent of general surgeons were women.

Although the number of women both in U.S. surgical residencies and at the attending level has increased in recent years, the total number of women practicing surgery remains low. According to the Association of Women Surgeons (AWS), in 2015, U.S. women represented only 8 percent of professors, 13 percent of associate professors, and 26 percent of assistant professors of surgery. However, one area of growth has emerged—chair positions. In 2014, only four women were chairs of surgery, yet by 2019, 21 women were chairs in the U.S and two in Canada. Additional growth was realized in 2017, with women representing 12 percent of professors, 21 percent of associate professors, and 29 percent of assistant professors. Since 2009, an increase in the percentage of women as professors (31 percent), associate professors (19 percent), and assistant professors (9.5 percent) has been realized.
equality is a problem, whereas only 11 percent of men respondents felt that way. Furthermore, 16.9 percent of male Governors did not believe gender equality is an issue in the surgical profession, versus only 2.3 percent of female Governors. Internationally, this statement was more divisive, with 34.15 percent of respondents strongly agreeing/agreeing and 34.15 percent strongly disagreeing/disagreeing that it is a concern.

**Equal pay and promotion**

The Governors as a whole were fairly aligned on the question of whether men and women surgeons receive equal pay and promotion opportunities: 41.8 percent strongly agreed/agreed and 37.2 percent strongly disagreed/dis agreed (see Figure 3, this page), but their responses greatly differed by gender (see Table 3, page 24). Only 11.6 percent of women
respondents strongly agreed/agreed that women and men receive equal pay and promotion, whereas nearly half (47.7 percent) of the male respondents strongly agreed/agreed. In comparison, 83.7 percent of female Governors strongly disagreed/disagreed with the statement compared with only 27.9 percent of male Governors. Most (68.29 percent) of the international Governors strongly agreed/agreed that equal pay and promotion was adhered to regardless of gender.

Most of the Governors (74.14 percent) reported that their institution has equal pay and promotion plans (see Figure 4, this page). Interestingly, only 27.91 percent of women Governors reported their institution has these plans versus 83.5 percent of male Governors. The results from the male respondents are in contrast to a recent publication from the AWS. According to the AWS report, after controlling for specialty, age, faculty rank, and metrics of clinical and research productivity, women surgeons annually earn 8 percent less than men surgeons. The AWS report also revealed that pay disparity only widens over time, with women surgeons earning almost 90 percent of what their men counterparts are paid until age 35. After age 35, median earnings for women surgeons drop to 82 percent of what men earn. The discrepancy between the Governors survey and the AWS report highlights the need for further evaluation and education on this topic.

Support for gender equality
Another area that needs further evaluation and improvement involves advocating for gender equality at the institutional level. Whereas 67.68 percent of Governors have advocated for gender equality at their institutions, almost one-third (32.3 percent) of Governors indicated they have not (see Figure 5, page 25). This lack of engagement may be attributed to an absence of priority and/or awareness of the issue. Internationally, slightly more than half (53.66 percent)
of the Governors indicated they have advocated for gender equality/equal pay at their practices or institutions, and 46.34 percent indicated they work at a medical practice or facility with the policies and procedures needed to identify and prevent harassment and to take the necessary steps to address cases of gender discrimination.

**Impediments**

Why does gender inequality still exist in surgery?

More than one-third (35.74 percent) of respondents believed the biggest impediment was other surgeons (see Figure 6, this page). Interestingly, more than half (53.49 percent) of these respondents were women. Of note, 28.5 percent of Governors did not believe that gender equality is an issue in the surgical profession. All of these respondents were men. Although 60.98 percent of international Governors indicated that they did not believe gender equality is an issue in the surgical profession, 19.51 percent did acknowledge that other surgeons are the largest impediment to gender equality.

**Harassment**

Only 15.6 percent of Governors reported that they have personally experienced harassment or negative treatment because of their gender, but one-third of Governors (34.6 percent) reported that they knew a colleague who had been harassed by peers or staff members (see Figure 7, page 26). Likely reflective of the discrepant international male/female ratio, only 2.4 percent of international Governors indicated they had been treated negatively or harassed by colleagues and staff because of gender, and only 10 percent knew of a colleague who had experienced negative treatment.

An even greater number of Governors (38.4 percent) reported they have witnessed or have knowledge of a physician who was harassed by patients and/or the patient’s family because of gender (see Figure 8, page 26). Only 9.76 percent of international respondents have witnessed colleagues being treated negatively or harassed by patients and/or their family, and the vast majority (85.71 percent) intervened (see Figure 9, page 27). U.S. and Canadian Governors (who witnessed colleagues being treated negatively...
or harassed by patients and/or their family) also overwhelming intervened (78.89 percent and 100 percent, respectively).

As a result of the high proportion of surgeons who have experienced harassment from patients and patient families, many hospitals have developed policies and procedures to address the problem. Furthermore, the American Medical Association (AMA) Organized Medical Staff Section recently recommended that protections against discriminatory behavior be incorporated into institutional bylaws.

**Gender equity resources**

In recent years, several medical organizations have made concerted efforts to evaluate their diversity and gender equity and to implement subsequent improvements. For example, the AMA, at the urging of the Women’s Physician section, conducted a gender analysis of its leadership. The study revealed limited female representation and participation from state society delegates. The analysis resulted in a series of policy changes to advance gender equity. For example, many states increased the percentage of women physicians on their delegations, and the overall number of female physicians in leadership roles increased to 30 percent.

Through a series of resolutions and study results, the AMA also developed a plan to improve gender equity in the organization and in medicine. For example, the AMA established a goal of increasing transparency in the selection of physicians and medical students for positions, as well as any relevant compensation. Other efforts focused on decreasing biases and increased education to improve negotiating skills.

In 2017, the College, in partnership with the AWS, developed a statement to support pay equity among
surgeons, regardless of gender. The following guidelines provide a framework for a pay equity policy:

• Employers should promote transparency in defining the criteria for initial and subsequent physician salaries. To ensure equitable compensation, performance reviews and benchmark salaries of all surgeons should be reviewed routinely in both academic and clinical practice settings. Policies, procedures, leadership practices, and organizational culture should be assessed to ensure compliance with pay equity requirements. In addition, any identified pay disparity should be remedied.

• Implicit bias and compensation determination training should be provided for all individuals in a position to determine salary. These programs should specifically focus on how subtle differences in the evaluation of male and female surgeons may impede compensation and career advancement. Compensation training should provide a thorough understanding of compensation policies, how rates of pay are determined, and how to communicate compensation.

• Nondepartmental oversight of compensation models, metrics, and actual total compensation for all employed physicians should be encouraged. Information about compensation, including summary data by rank, years of employment, and gender should be made available to all surgeons within the department. Educational programs also should be established to help promote an understanding of self-worth and self-confidence. Both genders should be empowered to negotiate an equitable salary. These educational efforts should be extended to residents and medical students so that essential negotiation skills are fostered early in training.

Most recently, the ACS Women in Surgery Committee (WiSC) developed a Statement on Harassment, Bullying, and Discrimination to promote an environment in which patients, staff, colleagues, physicians, trainees, and all other individuals are treated with respect, civility, and tolerance (see page 47, this issue). All members of the surgical team have a shared responsibility to create a culture that values all individuals equally. The following guidelines provide a framework for surgical departments and practices to create a work environment free of bullying, harassment, and discrimination:

• It is essential to build a culture of respect and collaboration in all aspects of surgical practice.

• There should be zero tolerance for discrimination, harassment, or bullying based on personal attributes, including, but not limited to, age, sexual preference, gender, race, religion, culture, ethnicity, disease, disability, or religion.

• Administrators should develop and implement transparent policies to address bullying, discrimination, and harassment.

• Staff, physicians, and trainees must have access to nonpunitive reporting structures, counseling services, and remediation programs.
• Surgical training should include a curriculum to address implicit bias, bullying, harassment, and discrimination.

Many specialty societies also have recognized the importance of gender equity in their activities. For example, in 2017 the American Surgical Association’s Task Force on Equity, Diversity, and Inclusion produced a living document to identify issues and hurdles and develop a set of solutions and benchmarks to help the academic surgical community address historically significant deficiencies within surgery in the area of diversity, equity, and inclusion.

**Increased recruitment efforts**

While primary care disciplines, such as pediatrics and family medicine, have consistently attracted women physicians, in recent years several surgical specialties have developed strategies and tactics to recruit more women. As Figure 10, this page, demonstrates, since 2013 a modest increase in the number of women residents has been realized in general surgery (2.6 percent absolute change, 6.9 percent relative increase), neurological surgery (1.8 percent absolute change, 11.3 percent relative increase), orthopaedic surgery (1.6 percent absolute change, 11.6 percent relative increase), plastic surgery (6.5 percent absolute change, 20 percent relative increase), and thoracic surgery (3.6 percent absolute change, 17.8 percent relative increase). Likewise, a gradual increase in active practice women surgeons has occurred in the following specialties: general surgery (3 percent absolute change, 17 percent relative increase), neurological surgery (1.1 percent absolute change, 15 percent relative increase), orthopaedic surgery (0.7 percent absolute change, 15.2 percent relative increase), plastic surgery (1.8 percent absolute change, 12 percent relative increase), thoracic surgery (1.5 percent absolute change, 27 percent relative increase), and vascular surgery (3.5 percent absolute change, 36.4 percent relative increase) (see Figure 11, page 29).

**Conclusion and next steps**

The survey revealed that 82.5 percent of Governors believe gender inequality is an extremely important/moderately important issue and are supportive of the College continuing to focus on this topic (see Figure 12, page 30). The results revealed that gender inequality is a true concern within the field of surgery. From a lack of equal pay to difficulties with academic promotion, gender inequality is an issue that warrants continued discussion among the Fellows. Although 67.68 percent of Governors report that they have advocated for gender equality and equal pay, more than one-third have not. This is an opportunity and a call to action for all surgical colleagues. For more than 100 years, the College’s leadership has been instrumental in addressing the challenges in the profession, and its leadership will be critical to continue positive change in this area.

Medical organizations, practices, and institutions are encouraged to periodically conduct a comprehensive internal analysis of gender equity. In addition to issues such as compensation and representation, the recruitment of women into surgery...
and professional career development and mentorship should be examined. The results of the analysis should be used to develop and revise policies, as well as to establish goals to effect positive change. Companies that have encouraged gender equity have found themselves rewarded. For example, companies in the top quartile of gender diversity are 15 percent more likely to demonstrate financial returns above the national industry median. It is estimated that $12 trillion could be added to the global gross domestic product by 2025 by advancing women’s equality and leadership positions.

The surgical profession has come a long way from denying women admittance to medical schools and being barred from holding leadership positions in professional organizations. However, as the survey results and other contemporary research have shown, more must be accomplished before gender equity occurs in the surgical profession. Surgeons should be an active part of the solution and not part of the problem. Whether it is as a member of ACS or another medical organization or as staff at your institution, surgeons need to advocate and be leaders on this topic. Review your medical staff bylaws to see if they address gender inequality and harassment. If not, be a proponent for revisions to effect positive change. If you witness inappropriate behavior, speak up and support your colleague. Actively support the recruitment of women into surgery and their promotion to leadership positions. The business community offers several examples of how more women in management have brought positive changes to discussions, planning, and implementation. Medicine needs to follow suit and be more proactive.

**FIGURE 11.** Active female physicians 2013–2017

Source: AAMC Physician Specialty Data Books, 2014 and 2017

**BIBLIOGRAPHY**


*continued on next page*
The ACS and AMA already have proven to be leaders in these efforts, and more positive results are expected from them in the future, with continued focus and evaluation. Without action and strategic efforts by leaders in the surgical profession, positive change will not occur. The ACS has always been on the forefront of change. As a Fellow, you can facilitate positive change locally, regionally, and nationally.

Acknowledgment
The authors are grateful to the members of WiSC for sharing their expertise and insights, especially Nancy N. Baxter, MD, FACS, FRCSC; Christina Cellini, MD, FACS; Michele Ann Manahan, MD, FACS; and Susan E. Pories, MD, FACS.

BIBLIOGRAPHY, CONTINUED
For many surgeons, it may seem like they are being forced to do more with fewer resources just to maintain their practice revenue in an increasingly complex health care environment. This feeling is not a product of your imagination. While a multitude of new mandates and burdensome administrative requirements have been layered on over the past several years, payments to physicians have not only failed to keep pace with inflation, they have, in some cases, decreased in real terms. Unfortunately, continued dire projections from watchdogs, such as the Medicare Payment Advisory Commission (MedPAC) and the Medicare Board of Trustees, continue to keep the focus on overall projected growth in Medicare spending rather than on ensuring access to surgeons and other physicians.

This article looks at some of the longstanding and newer factors that affect or will affect Medicare physician payment in the near future as a result of recent legislative and regulatory changes. It also outlines the American College of Surgeons (ACS) efforts to educate Congress on the need for reasonable, annual updates to Medicare payments moving forward.

**The conversion factor and cost containment**

For decades, Medicare has used a complex formula to determine physician reimbursement. For a given service or bundle of services, the relative value units (RVUs) assigned to that service are multiplied by...
a dollar amount referred to as the conversion factor. Many factors come into play in determining payments for a given service, but the conversion factor represents an obvious single target for Congress in legislating updates for physician payments.

The conversion factor used to determine payment for physician services in 2019 is $36.0391, slightly lower than the rate of $36.6873 paid per unit of work in 1998. It is concerning that the conversion factor has remained relatively flat for more than two decades, despite general inflation of more than 50 percent during the same period. In fact, if the conversion factor had merely been indexed for general inflation starting in 1998, its current value would be $57.60 (see Figure 1, this page). Keep in mind, this figure is based on general inflation. The contrast would be even greater if the conversion factor had kept pace with medical inflation.

Beyond inflation, clinical practice has become increasingly complex because of medical advances, the addition of new treatments, incorporation of electronic health data, new regulations, and growing patient demand for services. Surgeons also are faced with growing administrative burdens, such as prior authorization requirements, which demand an exorbitant amount of time and resources to process. This drop in purchasing power cannot be ignored and creates an adverse incentive to increase volume rather than focus on the quality and value of care.

The Medicare Access and CHIP (Children’s Health Insurance Program) Reauthorization Act (MACRA) of 2015 included legislated updates over the early years of the law’s implementation. Table 1, page 33, shows how these updates have eroded as a consequence of budget neutrality requirements and other factors.

Medicare payment rates are about to enter a six-year period of 0 percent updates, during which early MACRA incentives also are set to expire, meaning many physicians will be faced with lower payment rates based on factors out of their control, not on the quality of care they are providing. Over the next several years, the Medicare conversion factor is likely to decrease because of budget neutrality rules and changes in care patterns as the nation’s population ages. A number of factors go into determining overall Medicare physician compensation, such as the number of RVUs assigned to a given service; however, without an overall realistic update in place, payments will continue to lose ground to inflation.
Some health care economists see this inflationary pressure as a means to force better value through lower costs, but in practice, it likely will continue to have unintended consequences and may ultimately lead to reduced access or fewer choices for Medicare beneficiaries.

Of note, while a single conversion factor has been in place since 1998, for much of the 1990s when the payment structure was initiated, surgical care, primary care, and other nonsurgical care had differing conversion factors. Under MACRA, Medicare will once again split the conversion factor beginning in 2026. This time, however, payment rates will vary based not on specialty, but on payment model. Physicians who remain in traditional fee-for-service payment arrangements will be paid less for services they provide than physicians who participate in payment models known as Advanced Alternative Payment Models (A-APMs). A-APMs must meet certain requirements related to quality and the use of health information technology and are subject to downside risk for financial losses if they fail to achieve savings or quality targets. These payment rates will diverge over time, creating a growing incentive to move away from fee-for-service payments. The question remains what payment model physicians will be able to use, as A-APMs have yet to materialize as Congress envisioned.

**Other factors affecting surgeon compensation**

The conversion factor is just one part of the physician compensation equation. Other factors include the Merit-based Incentive Payment System (MIPS), difficulties in developing A-APMs, and ever-evolving evaluation and management (E/M) codes.

**MIPS**

For surgeons and their patients, MACRA implementation has failed to deliver on its promise of tying payment more closely to the value of care, typically described as the quality of care received for the cost to produce that care. As implemented, MIPS does not assess the quality of care provided by most surgeons or reflect their patients’ outcomes. Instead, scores are assessed on broad, primary care-focused quality measures that have no bearing on the outcomes of surgical care and provide no means for improvement.

Similar problems can be found in the methodology used for cost measurement in MIPS, and the information gathered about both cost and quality cannot be compared over the course of treatment for the same patient(s) or the same episode of care. Furthermore, neither the cost nor quality category of MIPS looks at the entire team involved in the care of a given patient. In general, MIPS has failed to provide the opportunity for physicians to be rewarded for improving the value of care to the patient. Despite being of limited clinical value, these reporting programs also are costly to implement.

This mismatch of what is being measured becomes problematic because these two factors of cost and quality constitute 60 percent of the MIPS score used to determine payment adjustments under the program. Physician performance on these measures, along with improvement activities and use of electronic health records (EHRs) in 2019, will result in positive or negative payment adjustment of up to 7 percent in 2021. Next year, the maximum payment update is phased in, meaning that performance in 2020 will result in payment increases or reductions of up to 9 percent in 2022. Compounded by the lack of increases for the underlying conversion

### TABLE 1.
MEDICARE CONVERSION FACTOR ANNUAL STATUTORY VS. ACTUAL PERCENTAGE INCREASES

<table>
<thead>
<tr>
<th>Year</th>
<th>Statutory update</th>
<th>Conversion factor</th>
<th>Actual change over previous year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>+0.5%</td>
<td>$35.8043</td>
<td>-0.34%</td>
</tr>
<tr>
<td>2017</td>
<td>+0.5%</td>
<td>$35.8887</td>
<td>+0.24%</td>
</tr>
<tr>
<td>2018</td>
<td>+0.5%</td>
<td>$35.9996</td>
<td>+0.31%</td>
</tr>
<tr>
<td>2019</td>
<td>+0.25%</td>
<td>$36.0391</td>
<td>+0.11%</td>
</tr>
</tbody>
</table>
factor in the Medicare fee schedule, physicians who are struggling to meet the requirements of MIPS, particularly the smaller practices not in the web interface group reporting system, could be paid significantly less per unit of work than they were more than two decades ago.

To be clear, MACRA did improve some aspects of physician payments. Foremost among these was the repeal of the sustainable growth rate (SGR) formula. The SGR was a blunt attempt to reduce Medicare spending through aggregate caps. It resulted in a cut to the conversion factor in 2002 and called for additional, deeper cuts each subsequent year. Congress ultimately patched or blocked these slashes; however, these fixes were expensive and contributed to a growing debt that left little political will or funding for positive updates in most years.

In addition, MACRA eliminated penalties associated with prior Medicare quality programs, such as the Physician Quality Reporting System (PQRS), the EHR Incentive Program, and the Value-based Payment Modifier. In 2018, the last year these programs were in place, poor performance or failure to participate could have resulted in penalties of more than 10 percent to physician payments with little opportunity for positive adjustments.

MACRA also included payment adjustments for early adopters of A-APMs and the highest performers in the MIPS program. Unfortunately, both of these payment incentives are set to expire after 2024, in the middle of the six-year period of 0 percent updates. These incentives were meant to be temporary, but their disappearance in the middle of a period of otherwise stagnant payments will be experienced as a cut by some of the highest-performing physicians in Medicare.

A-APM development hits a roadblock
The Centers for Medicare & Medicaid Services (CMS) has yet to test or implement a single A-APM recommended by the Physician-focused Payment Model Technical Advisory Committee, counter to the intent of Congress. Consequently, many surgeons have no option but to continue participation in the flawed MIPS program. Innovation requires testing many options to see what works, and it is becoming apparent that CMS will require additional urging or direction from Congress if the agency is to test physician-developed models. Furthermore, as time passes, MACRA requirements for A-APM participation continue to become increasingly difficult to achieve and incentives to attract early participants into APMs are set to expire in 2024. These combined factors will ultimately close the door for individuals in many specialties from becoming qualified participants in an A-APM.

Inflationary pressures continue to weigh on physician practices, yet for the reasons described previously, physicians lack the opportunity intended by MACRA to be rewarded based on improving the quality and value of care they provide. Now is the time for Congress and stakeholders to collaborate to develop solutions.

Changes to E/M codes
Another factor that could affect physician payment is potential changes to office/outpatient E/M codes. In the calendar year (CY) 2019 Medicare Physician Fee Schedule (MPFS) final rule, CMS set forth a policy that would have combined levels 2–4 new E/M codes, and paid physicians at a blended rate of the previous E/M code levels starting in CY 2021. But in the CY 2020 MPFS proposed rule, CMS proposed a dramatically different change to E/Ms that would instead maintain the separate levels, but increase the values of E/Ms, again starting in CY 2021. Unfortunately, this current proposal will not apply the increased E/M values to the E/M values incorporated into global codes. At this time there is great uncertainty regarding how CMS will move forward, but there is a strong likelihood that potential increased payments for E/Ms will shift payment from surgery to primary care, given budget neutrality requirements for physician payment.
Medicare solvency and effects on future physician reimbursement

In April 2019, Medicare released its 2019 Annual Report of the Boards of Trustees of the Federal Hospital Insurance (HI) and Federal Supplementary Medical Insurance Trust Funds, which analyzed the long-term solvency of Medicare and how depletion of the HI trust fund could affect physician reimbursement over time. The report projects that, based on current law, Medicare still faces a substantial financial shortfall that will need to be addressed legislatively and recommends that this situation be resolved soon to minimize the impact on beneficiaries, providers, and taxpayers. For example, the report projects that in 2026, revenues to the HI trust fund that finances Medicare Part A payments to hospitals will cover 89 percent of the program costs. The current law expenditure projections reflect physician payment levels expected under today’s MACRA payment rates, along with payment reductions in other Medicare rates mandated by the Affordable Care Act. However, it does not include the payment reductions or delays that would result from the depletion of the HI trust fund. Unless the government acts to extend the solvency of the HI trust fund, physicians could see additional cuts to reimbursement following a period of stagnant physician payment. However, such intervention must be carefully structured in order to avoid unintended consequences that might be harmful to physicians.

The report recognizes that the lack of payment adjustments combined with increasing physician costs could become problematic, and further acknowledges that future physician payment updates are invariable based on underlying economic conditions and are expected to lag behind the average rate of physician cost increases. The report specifically states, “These rate updates could be an issue in years when levels of inflation are high and would be problematic when the cumulative gap between the price updates and physician costs becomes large.”

Not only does the report highlight the difficulty physicians face with stagnant reimbursement and rising expenses, it goes a step further to acknowledge that Medicare program shortcomings could negatively affect patient care for Medicare beneficiaries, stating, “If the health sector cannot transition to more efficient models of care delivery and if the provider reimbursement rates paid by commercial insurers continue to be based on the same negotiated process used to date, then the availability, particularly with respect to physician services, and quality of health care received by Medicare beneficiaries would, under current law, fall over time compared to that received by those with private health insurance.” This acknowledgment emphasizes the importance of developing meaningful performance measures in MIPS, along with implementing innovative A-APMs.

MedPAC report to Congress

In apparent recognition that a system in which payments consistently grow at a lower rate than inflation is unsustainable, Congress included a provision in MACRA that called for a study on the adequacy of early payment updates. The results were due to Congress by July 1, 2019, and were included in MedPAC’s June report. Rather than supporting the need for regular updates, MedPAC reported that Medicare beneficiaries have had stable access to clinician services over the last decade and that their access was equal to or better than that of privately insured individuals. Furthermore, MedPAC updates in the range of 0 percent to 1 percent over the last 10 years have been sufficient to ensure beneficiary access to care. This conclusion reinforces the commission’s March 2019 recommendation of no update for clinician services in 2020. The statutory mandate for this study directed MedPAC to provide recommendations for any future payment updates for professional services to ensure adequate access to care; however, MedPAC refrained from mapping out future updates and instead will continue to provide guidance to Congress by conducting an annual payment adequacy assessment.
The report further highlights that even though commercial payment rates for clinician services are higher than Medicare’s fee schedule rates, privately insured patients report access to care that is generally comparable or slightly worse than that of Medicare beneficiaries. In MedPAC’s view, this raises questions about the relationship between payment rates and access, suggesting factors other than reimbursement may influence access to clinician services. One conclusion MedPAC draws from its review of payment updates is the need to address “persistent disparities” in physician compensation by specialty, which may lead to issues in the future supply of primary care. This finding has the potential to set up future battles among physicians for their share of the shrinking payment pool.

In its congressionally mandated report, MedPAC highlights deficiencies in quality measurement under MIPS, recognizing that the program relies on many of the measures and processes used previously, such as the PQRS. Although the commission notes substantial use of low-value care in fee-for-service Medicare, it states that assessment of clinician quality has been indeterminate. The ACS described the problems associated with quality measurement in MIPS in a previous article and continues to advocate for more meaningful quality measurement to result in higher value care.

ACS advocacy efforts
The ACS and other physician and health care professional groups spent the first several years of the Quality Payment Program, which is the name CMS gave to the implementation of MIPS and A-APMs, seeking to influence the thousands of pages of regulations needed to implement the law. The need for sustainable updates in later years has now come to the forefront.

Taking the message to Congress
As part of the 2019 Leadership & Advocacy Summit, the ACS convened a panel of experts April 1 to discuss the issue of physician compensation in Medicare. Panelists included Linda M. Barney, MD, FACS, Chair, ACS General Surgery Coding and Reimbursement Committee; Robert Horne, principal partner at the Washington, DC, consulting firm Leavitt Partners, and a former professional staff member of the House Energy and Commerce Committee; and Brett Baker, Senior Health Policy Advisor to Senate Finance Committee Chairman Chuck Grassley (R-IA). Moderated by ACS Manager of Policy Development Matthew Coffron, MA, co-author of this article, the panel covered a range of issues, including the failure of the conversion factor to keep pace with inflation, the lack of updates under MACRA over the next six years, and the uphill battle needed to make substantive changes to a law that had overwhelming bipartisan congressional support.

The following day, nearly 300 surgeons took this message to Capitol Hill, meeting with 159 representatives and 94 senators or their staff. Because no viable legislation has been introduced to provide consistent updates to the physician fee schedule, the goal of these meetings was to educate members of Congress and their staffs on the present challenges and to propose courses of action they might take to improve the situation. Examples include creating an inflationary update mechanism for the Medicare conversion factor formula, partnering with physicians and other experts to improve aspects of the MIPS program such as quality measurement, and extending the A-APM incentive payment beyond 2024 and removing barriers for surgeons and others to participate.

The panel discussion and meetings appear to have been effective in getting the message to key decision makers in Congress. Soon after the Leadership & Advocacy Summit, the ACS had the opportunity to share our members’ concerns and solutions regarding MACRA and broader Medicare physician payment issues with a larger audience. On May 8, ACS Medical Director for Quality and Health Policy, Frank Opelka, MD, FACS, testified at a Senate Committee on Finance hearing that focused on MACRA two years after implementation began. Dr. Opelka noted that the ACS has “great concerns about the structure of payments under...
MACRA in the years ahead. The modest statutory updates included in the law are now finished, and we will soon enter a six-year period with no updates. This will likely result in real reductions to payments due to inflation and budget neutrality requirements. Additional incentives for high performers and qualified APM participants also disappear during this time, which will be experienced as reductions by many of the highest-performing physicians in Medicare.” 7 Although the testimony focused on improving incentives for quality and value, the ACS urged Congress to consider current and future reimbursement factors as well. The testimony also highlighted the College’s willingness to further discuss with the committee the physician payment landscape from the surgical perspective and how declining reimbursement might affect access to care in the future.

With Medicare playing a vital role in the delivery of health care in the U.S., Congress must take steps to ensure that Medicare payment keeps pace with innovation and inflation and is reflective of the cost of medical care and the value of services provided to beneficiaries.

The ACS will continue to pursue improvements to quality and value in MACRA. However, it is time for Congress to examine physician reimbursement to ensure that it is fair and incentivizes physicians to continue to take on risk, innovate in care delivery, and provide high-quality care to patients. The ACS continues its work to educate members of Congress and their staffs on physician payment and challenging the assertions of the MedPAC report that dispute the need for regular payment updates.

Acknowledgment
Vinita M. Ollapally, JD, contributed to this article. Ms. Ollapally is Regulatory Affairs Manager, ACS Division of Advocacy and Health Policy, Washington, DC.

REFERENCES
Over the course of the last 25 years, major advancements in cancer diagnostics and treatment have led to significant improvements in clinical outcomes. However, the cost of therapy, including chemotherapy, targeted agents, and more recently, immunotherapy, is substantial. Approximately 5 percent of the U.S. population, or 15.5 million people, are cancer survivors, incurring not only initial diagnostic and treatment costs, but also long-term costs throughout survivorship. Cancer is now the second most expensive disease in the U.S., with an estimated health care cost of $124 billion in 2010 that is expected to rise to $157 billion in 2020.

Direct costs
The cost of cancer therapeutics has increased sharply as new drugs, including targeted therapies and immunotherapy, have been introduced into the market. In shifting a greater proportion of treatment costs directly to the patient, resulting in a significant financial burden for many cancer patients. This article reviews how financial toxicity is defined and measured, identifies which patients are most at risk, and outlines the relevance of this issue for surgeons. Additionally, the article reviews ongoing clinical trials investigating this issue and discusses opportunities for engagement and intervention for surgeons who provide cancer care in the U.S.

What is financial toxicity?
Financial toxicity describes the impact of direct and indirect health care costs that lead to significant financial burden for patients and their caregivers, resulting in increased psychosocial distress, diminished patient outcomes, and poorer quality of life. A patient’s experience with health care costs is a dynamic one that may last throughout the longitudinal continuum of care, typically with increased direct health care costs during their initial diagnosis and treatment, and greater indirect costs, such as loss of productivity or impaired quality of life, affecting patients during survivorship.

HIGHLIGHTS
- Defines financial toxicity and outlines the effect of direct and indirect health care costs on cancer patients and caregivers
- Identifies which patients are most at risk for financial toxicity
- Describes active studies examining the financial burden of cancer care and its impact on care delivery and patient-centered outcomes
2000, the average annual cost of cancer drugs ranged from $5,000 to $10,000. Now, with the addition of targeted therapies and biologic agents, these costs have increased to more than $100,000 annually for some patients. For example, the addition of bevacizumab to six months of treatment with FOLFOX (fluorouracil, leucovorin, and oxaliplatin) increased therapeutic costs for patients with metastatic colorectal cancer between 213 percent and 357 percent.

To accommodate these rising costs, insurance companies have shifted a greater proportion of these expenses to patients in the form of increased deductibles, restrictions in specialty medication plans, and higher copayments. Greater cost-sharing has resulted in a dramatic increase in out-of-pocket expenses for patients, which may continue many years after initial diagnosis. Several studies have attempted to quantify out-of-pocket costs, which vary based on the specific cancer type and associated treatment regimen and can be difficult to directly measure. A 2010 national study found that recently diagnosed cancer patients younger than 65 years old reported $1,107 in annual out-of-pocket health care spending, compared with $617 among patients without a history of cancer. Another study identified a cumulative two-year out-of-pocket cost of $4,727 for patients with cancer versus $3,209 for noncancer patients.

In any other consumer-based market, price transparency is expected; however, in health care, neither physicians nor patients have direct knowledge of the specific cost for diagnostic tests and treatment for an individual patient. The Centers for Medicare & Medicaid requires all hospitals to make their charges readily available on the Internet to promote price transparency. However, this information can be difficult to understand or use to generate an accurate estimate of total cost because, typically, multiple source charges are cited for a given procedure or treatment (that is, hospital, professional, supply, and pharmaceutical charges). Even with this information available, the actual cost for an individual patient differs depending on the patient’s specific insurance plan, which may involve varying deductibles, copayments, and other out-of-pocket costs.

**Indirect costs**

Direct health care costs are not the only driver of financial toxicity for cancer patients. These patients also experience loss of work productivity, which can include a reduction in work hours, missed days at work, or even loss of employment due to poor health. One study using results from 89,520 patients who completed the Medical Expenditure Panel Survey found that patients undergoing cancer treatment missed 22.3 more workdays per year than individuals without cancer treatment. In a longitudinal study of 267 women with stage I–III breast cancer who were employed at the time of diagnosis, 81 percent had retained their jobs four months after completion of treatment. However, low-income women were disproportionately affected, with only 57 percent having retained their jobs versus 95 percent of high-income women.

In addition, loss of employment limits access to employment-based benefits, including health insurance, which can further compound cancer-related health care costs. Furthermore, job loss is associated with an increased risk of bankruptcy. In a matched study of nearly 200,000 people in Washington State, cancer patients were 2.65 times more likely to go into bankruptcy than patients without cancer. Bankruptcy, in turn, is associated with a higher risk of death among cancer patients.

Cancer-related health care costs can also lead to asset depletion. Between 33 to 80 percent of cancer survivors have used their savings to pay for medical expenses, which, for many, results in significant medical debt. This expense can have additional lasting effects on personal credit and retirement savings. In one study of 284 patients, mean debt among colon cancer survivors in Washington State was $26,860 in 2009 dollars.

Finally, financial toxicity describes not only the measurable financial impact in dollars, but also the...
personal stress and financial worry experienced by cancer patients and their families. Between 22 and 64 percent of patients with cancer report stress or worry about paying medical bills.\textsuperscript{15,16} More financial distress can lead to increased psychological distress, especially among cancer patients already at risk of significant emotional distress, anxiety, and depression.\textsuperscript{17}

**Who is at greatest risk?**

Not all patients are affected by the cost of cancer treatment in the same capacity. Not surprisingly, low-income patients and uninsured patients are more likely to experience financial toxicity.\textsuperscript{13} However, other patient populations also are disproportionately affected, specifically younger and minority patients. Although cancer has traditionally been thought to affect the elderly, nearly half (46 percent) of new cancers are diagnosed in the working-age population (20–65 years old).\textsuperscript{18} Because younger patients may have less savings and fewer assets, as well as potential educational debt and financial responsibilities, including young children, they may be ill-equipped to manage the out-of-pocket costs for cancer care. In a study of 1,200 adult cancer survivors, material financial hardship, including loans, debt, and inability to pay for care, was more common among cancer survivors younger than 65 years of age than among patients ages 65 or older (28.4 percent versus 13.8 percent).\textsuperscript{19} Also, cancer treatment, even for curable diseases, can result in employment effects that are particularly devastating for young-age-at-onset patients.

Minorities also are at increased risk of financial distress. In at least one study, African-American colorectal cancer patients self-reported a higher economic burden secondary to cancer treatment than white patients.\textsuperscript{19} Given the observed racial disparities in mortality rates among a number of cancer diagnoses, further research on racial differences and the financial impact of cancer care delivery is warranted.

Patients who require more intense treatment, including chemotherapy or radiation, also have a higher risk of financial hardship. In the 2010 National Health Interview Survey of 1,556 cancer survivors, patients treated with chemotherapy reported a higher financial burden than patients who did not require chemotherapy (47 percent versus 31 percent).\textsuperscript{20} The same finding was observed among patients who received radiation therapy (45 percent versus 31 percent). In another study, women with breast cancer who were treated with chemotherapy were significantly less likely to return to work at six months than women who did not undergo chemotherapy.\textsuperscript{21}

Similarly, in a study of stage III colon cancer patients, 45 percent of working individuals lost their jobs as a result of their cancer diagnosis and treatment.\textsuperscript{22} Job loss was significantly associated with access to paid sick leave; 59 percent of survey respondents with paid sick leave retained their jobs, versus 33 percent of the respondents without paid sick leave.

**Why is financial toxicity relevant to surgeons?**

Not only does the financial burden of cancer care affect a patient’s personal finances and psychological well-being, but it also can lead to delayed diagnosis and treatment. A recent study of 131,179 breast cancer patients whose employers switched from a low-deductible insurance plan ($500 or less) to a plan with high deductibles ($1,000 or more) found more significant delays in diagnosis and treatment than matched controls with low-deductible enrollment.\textsuperscript{23} Low-income women with high-deductible plans experienced a 1.6-month delay to first breast imaging, 2.7 months to first biopsy, 6.6 months to early-stage breast cancer diagnosis, and 8.7 months to first chemotherapy. Interestingly, even high-income women with high-deductible plans experienced delays. Although the data are limited to date, a similar phenomenon would be expected in other cancer patients, which could result in more advanced disease at presentation.

In addition to delays in care, financial toxicity also affects treatment adherence. In a large study of nearly 2,000 cancer patients, participants with financial toxicity were more likely to report noncompliance with medication, indicating an inability to afford prescription

In any other consumer-based market, price transparency is expected; however, in health care, neither physicians nor patients have direct knowledge of the specific cost for diagnostic tests and treatment for an individual patient.
drugs. The same patients reported forgoing mental health care, physician visits, and medical testing, which they attributed to lack of insurance, being unable to afford household expenses, or both. Similarly, 27 percent of patients reported medication nonadherence in a cross-sectional survey of adult cancer patients at Duke Cancer Institute, Durham, NC, of which 14 percent skipped doses and 11 percent took less than prescribed to make the prescription last longer. Another 22 percent did not fill the prescription because of cost. Among Medicare Part D patients taking one of the five top-selling oral cancer medications covered in Part D in 2008, 70 percent reported discontinuation because of the expensive out-of-pocket costs.

With increasing use of preoperative therapy for many disease sites, nonadherence to oral cancer medications or chemotherapy could have a significant impact on surgical management. Surgeons also should anticipate that if patients struggle to comply with primary cancer treatment because of financial limitations, they may be unlikely to adhere to surveillance recommendations after definitive management.

Furthermore, a significant body of research has demonstrated that increased financial burden results in worse health-related quality of life and increased symptom burden. In one study of patients with colorectal or lung cancer, higher financial distress was associated with lower quality of life. For example, colorectal cancer patients with less than 12 months of financial reserves reported increased symptom burden, increased pain, and lower quality of life than patients with more than 12 months of reserves to maintain their standard of living. Even though we may be able to provide definitive, high-quality cancer care, our patients’ quality of life in survivorship may suffer dramatically if we are unable to better manage the resulting financial burden.

Active studies
A number of active clinical trials aimed at better understanding the extent and impact of financial toxicity on cancer patients are being conducted by several national cooperative groups in oncology and through the National Community Oncology Research Program (NCORP) of the National Cancer Institute. The Eastern Cooperative Oncology Group/American College of Radiology Imaging Network (ECOG-ACRIN) Cancer Research Group is conducting a study of patients with primary colorectal cancer titled Longitudinal Assessment of Financial Burden in Patients with Colon and Rectal Cancer Treated with Curative Intent (NCT03516942). This study is designed to measure the change in financial burden that patients experience in the first 12 months after diagnosis of colorectal cancer treated with curative resection. Investigators are collecting data regarding patient use of financial services, changes in patient employment, and the relationship of financial burden with adherence to clinical follow-up guidelines.

In the metastatic setting, the Southwest Oncology Group (SWOG) is conducting the Implementation of a Prospective Financial Impact Assessment Tool in Patients with Metastatic Colorectal Cancer Trial (NCT0272880). In this study, newly diagnosed metastatic colorectal cancer patients and their caregivers complete a baseline financial questionnaire, which is then repeated every three months in the first year of treatment. Other expense measures, such as credit reports, also will be collected to provide additional objective data. Investigators plan to use this information to estimate the incidence and determine the magnitude and timing of financial hardship among metastatic colorectal cancer patients. The study will explore whether financial difficulties are associated with health insurance factors and health-related quality of life as well.

A third study, Work Ability in Young Adult Survivors (NCT03148080), conducted by researchers at Wake Forest University, Winston-Salem, NC, is examining the financial impact of cancer among young adult survivors (any pathology), specifically as it relates to employment or work ability. This study aims to document educational level and employment status among young adult cancer survivors and to describe their relationship to financial toxicity. This study should provide
Not only does the financial burden of cancer care affect a patient’s personal finances and psychological well-being, but it also can lead to delayed diagnosis and treatment.

REFERENCES


continued on next page

Opportunities for improvement and engagement

As the primary health care provider to many cancer patients, surgeons are uniquely poised to advance our knowledge of this critical issue and ultimately effect change. Clinical and investigational efforts traditionally have focused on the primary outcomes of treatment toxicity, disease progression, and survival; however, bankruptcy and financial crisis are becoming increasingly relevant outcomes among cancer patients.

Surgeons can participate in clinical trials that address financial toxicity by identifying patients for accrual from a variety of clinical practice settings. Surgeons can work to better understand the financial counseling and program options available at their own institutions and learn how to connect patients with the resources they may need to afford or adhere to treatment. A standardized measurement tool of financial toxicity, such as the COST (Comprehensive Score for financial Toxicity) tool, could be administered by clinical support staff to identify patients who are at the greatest risk of financial toxicity and in need of additional efforts to minimize treatment...
delays and nonadherence. For some patients, an intervention may be as simple as identifying an affordable and reliable mode of transportation to clinic appointments. As costs continue to increase, we should acknowledge that treatment costs may influence decision making for many of our patients and incorporate this consideration into our discussions with patients and their families.

**Future directions**

Although the concept of financial toxicity is not new, a number of questions remain. Little is known about the magnitude of financial toxicity by specific cancer sites, which may vary significantly based on the type and duration of treatment. One would expect that patients requiring long-term treatment with immunotherapy might incur greater out-of-pocket costs than patients treated definitively with surgery alone, for example. Similarly, although two patients might undergo the same treatment, the extent of financial distress that each incurs may differ depending on each patient’s baseline financial assets, preexisting debt, caregiver financial support, and type of employment (for example, hourly versus salaried), among other factors. Although some data suggest that insurance plans with increased cost-sharing may have a greater impact on a patient’s subsequent financial burden, the impact of specific types of insurance plans on cancer-related financial toxicity in general is not well understood. Accounting for these factors will prove essential to understanding how to identify those patients at greatest risk. In the future, it also will be critical that we improve price transparency—both for patients and physicians—so that we all make more informed choices about treatment options.

**REFERENCES, CONTINUED**

Editor’s note: Operation Giving Back (OGB) is a program carried out under the aegis of the American College of Surgeons (ACS) Division of Member Services. OGB’s mission is to “leverage the passion, skills, and humanitarian ethos of the surgical community to effectively meet the needs of the medically underserved.” Through an extensive database, OGB pairs member volunteers with partner organizations to provide volunteer experiences domestically and internationally. This article is the first in a series of feature stories that the Bulletin will be publishing to profile the volunteer-related accomplishments of ACS Fellows. Upcoming articles will focus on the experience of volunteers who are working to establish a training hub at Hawassa University in Ethiopia through the ACS-College of Surgeons of East, Central and Southern Africa (COSECSA) Surgical Training Hub Collaborative.
Mark W. Asplund, Jr., MD, FACS, a retired general surgeon in Wausau, WI, remembers reading about OGB on the ACS website soon after the program’s genesis in 2004. In search of a volunteer opportunity, he contacted one of OGB’s partner organizations, Physicians for Peace, a nongovernmental organization (NGO) that aims to educate and empower local surgical care providers in under-resourced environments. Physicians for Peace requires a three-month commitment from volunteers, which, at the time, was infeasible for Dr. Asplund because he was still in active practice. However, his interest persisted, and since 2016, Dr. Asplund has volunteered through OGB three times in two different countries.

In 2016, Dr. Asplund spent three months with Physicians for Peace at Queen Elizabeth Central Hospital (QECH), Blantyre, Malawi, one of two teaching hospitals in the small, landlocked African nation. Malawi has a population of nearly 18 million, with a surgeon density of approximately 0.24/100,000* population, substantially below the recommended standard of 20/100,000 population.†

Malawi has a three-tier health care system in which community clinics and health care outposts refer to district hospitals, which, in turn, refer complex cases to central hospitals like QECH. The network consists of government-run and private facilities (generally NGOs or faith-based organizations). Certain private hospitals in the country are well equipped but are difficult for most of the rural and agriculture-dependent population to access because of the fees they charge. Thus, most Malawians use the under-resourced government facilities, which commonly face staffing, medication, equipment, and space shortages.

Dr. Asplund found the initial transition to providing surgical care at QECH challenging, but he soon became acquainted with the hospital and its faculty and residents. He primarily saw general surgery cases—a term that differs in meaning from what general surgeons would expect to see in their U.S. operating room because of late-stage presentation and the broad scope of general surgical practice in a setting like Malawi. For example, patients with cancers often present with stage IV disease as a consequence of various social and economic delays in accessing care. Immunosuppression and coinfections were common among his surgical patients, a reality in many countries that continue to face high rates of human immunodeficiency virus. Reflecting on the breadth of etiologies he treated, Dr. Asplund commented, “Professionally, it is interesting every day to see a whole new world of pathology; small bowel schistosomiasis, the complications of malaria, dozens of cases of volvulus, and so on.”

In addition to providing surgical care, Dr. Asplund trained residents at QECH. One of the second-year trainees, also known as registrars, was Raymond Nyirenda, MD. Following his return to Wisconsin, Dr. Asplund sponsored Dr. Nyirenda’s visit to his practice for 10 days to learn from his partners. Dr. Nyirenda is now a fourth-year registrar at QECH.

Two experiences in Palestine

Before he was able to dedicate three months to volunteer work, Dr. Asplund took advantage of an alternative opportunity he found through OGB’s volunteer database with partner organization Palestine Children’s Relief Fund (PCRF). PCRF has worked for 25 years to provide medical treatment to children in the Middle East. In the spring of 2016, Dr. Asplund arrived in Palestine, where his training in vascular surgery was put to great use. He was able to address the burden of complicated vascular diseases and work with his son, Martin Asplund, MD, a third-year general surgery resident at WellSpan Health, York, PA. Dr. Mark Asplund attributes the prevalence of vascular disease in Palestine to high rates of smoking and other lifestyle factors. On this first volunteer trip to Palestine, he experienced a relatively peaceful atmosphere, with well-stocked hospitals and few extenuating circumstances.

Two years later, in the spring of 2018, Dr. Asplund returned to Palestine with PCRF, but this time, the environment had changed tremendously. Because of the decades-long conflict in the Middle East, he saw a high incidence of vascular injuries, particularly to lower extremities. In addition to seeing patients, Dr. Asplund took the opportunity to explore the history of tension in the region and brought some of that awareness back home. Last winter, he participated as a panelist in an interfaith community dialog about the Israeli-Palestinian conflict. Dr. Asplund doesn’t anticipate visiting the region again but plans to create a registry of leg injuries to help local hospitals document and tackle them.

Reflecting on his experiences in Malawi and Gaza, Dr. Asplund said, “We, as health care providers and consumers in the U.S., lead a sheltered, spoiled existence with immediate availability to all the latest and greatest [medical resources]. We also expect our patients to get better in general. Neither is true in Malawi and Gaza. Obtaining a single unit of lifesaving blood for a postpartum mother is usually not available. What I learned most, therefore, is perspective and how fortunate I am to live and practice here.”

Find the right opportunity for you

OGB provides volunteer opportunities around the world for ACS members through partner organizations, including NGOs, academic institutions, and hospitals. At press time, the OGB database listed nearly 50 opportunities in 20 countries for surgeons at all stages of practice and training (from medical school through retirement). If you would like to register as a volunteer with OGB, visit facs.org/ogb/portal and create a volunteer profile. If you are considering volunteering, Dr. Asplund suggests, “Go for it. It can be life changing.” He added, “One learns about human nature. People and families are the same everywhere, with the same hopes and dreams.”

For more information on how to get involved, contact Sadie Bazur-Leidy, Program Administrator, Operation Giving Back, at sbazurleidy@facs.org.
The professional practice of medicine requires an environment in which patients, staff, colleagues, physicians, trainees, and all other individuals are treated with respect, civility, and tolerance. All members of the surgical team have a shared responsibility to create a culture that values all individuals equally.

Harassment, bullying, and discrimination are three distinct interpersonal behaviors that can negatively affect professional relationships, physical health, mental health, and job satisfaction. These behaviors create a hostile work environment that can compromise patient safety and jeopardize patient outcomes, in addition to damaging the well-being of staff.

Harassment includes, but is not limited to, offensive remarks and actions based on or about gender, race, religion, sexual orientation, age, culture, or ethnicity. Similar to bullying behaviors, harassment can lead to a hostile and intimidating work environment.

Bullying can be defined as the use of negative and aggressive interpersonal behaviors to intimidate and dominate others. Bullying behaviors often are persistent and repeated. Examples include humiliation, insults, threats, coercion, isolation, and overwork—sometimes involving repetitive or meaningless tasks. Bullying often arises in contexts in which there is an imbalance of power. This disruptive behavior, therefore, can be common in the surgical environment.

Discrimination entails negatively charged, differential treatment based on one’s personal characteristics or attributes, including, but not limited to, gender, race, religion, sexual orientation, culture, ethnicity, disability, or age. The effects may be more subtle than those associated with bullying and harassment and can...
manifest as punitive actions or impediments in employment, practice, and/or career advancement. Actual or perceived discrimination may cause a decline in work morale and job satisfaction, ultimately affecting patient care. Implicit bias may contribute to discrimination unless institutions commit to adequate training and cultural change.

The ACS values respect, fairness, and professionalism in all interactions with patients, staff, colleagues, and trainees. The following guidelines provide a framework for surgical departments and practices to create a work environment free of bullying, harassment, and discrimination:

• It is essential to build a culture of respect and collaboration in all aspects of surgical practice.

• Health care professionals should have zero tolerance for discrimination, harassment, or bullying based on personal attributes, including, but not limited to, age, sexual preference, gender, race, culture, ethnicity, disease, disability, or religion.

• Administrators should develop and implement transparent policies to address bullying, discrimination, and harassment.

• Staff, physicians, and trainees must have access to nonpunitive reporting structures, counseling services, and remediation programs.

• Surgical training should include a curriculum to address implicit bias, bullying, harassment, and discrimination.

BIBLIOGRAPHY


The American College of Surgeons (ACS) Committee on Trauma (COT), through its Subcommittee on Injury Prevention and Control, prepared the following Statement on Older Adult Falls and Falls Prevention to educate surgeons and other medical professionals on the significance of older adult falls and evidence-based prevention activities. The ACS Board of Regents approved the statement at its June 7–8, 2019, meeting in Chicago, IL.

The ACS recognizes the following facts:1–4

• Falls are the leading cause of both fatal and nonfatal injuries for older adults.

• One out of four older adults falls each year. Of these individuals, less than half talk to their health care providers about it.

• Many people who fall, even if they are not injured, develop a fear of falling, which may cause them to limit activities, leading to reduced mobility, loss of physical fitness, and, in turn, increased risk of falling.

• A person who has fallen once is two to three times more likely to fall again within a year.

  The ACS supports efforts to promote, enact, and sustain legislation and policies that encourage:

• Older adult care providers to implement comprehensive falls prevention programming, including the following:
  – Developing partnerships with community-based centers, such as senior centers, older adult living centers, and faith-based organizations.
  – Incorporating evidenced-based exercise/physical therapy fall prevention programs. Helpful information
can be found on the Centers for Disease Control and Prevention (CDC) website and via other online sources.\(^5\)

- Partnering with home-based visiting programs to complete multifactorial risk assessments, including medication review (including the use of opioids), assessment of vision, home safety, foot pain or poor footwear, and balance and gait.

- Assessment of the risk/benefit of anticoagulation and antiplatelet therapies in older adult patients.

- Risk assessment of falls in regular medical practice to prevent the first fall. Examples are included in the (CDC’s) STEADI (Stopping Elderly Accidents, Deaths & Injuries) toolkit.\(^6\)

- Collaboration with regional and statewide fall prevention coalitions for local networking/resources.

- The opportunity for collaboration with emergency medical services to begin the process of fall prevention in the field.\(^7\)

- Involvement in hospital/institutional-level fall prevention and/or patient safety activities.  

**REFERENCES**


To ensure patient safety, the ACS believes that surgical procedures using deep sedation/analgesia or general anesthesia should only be performed in accredited surgical centers.

1. Physicians who perform office-based surgery utilizing moderate sedation/analgesia should have their facilities accredited by a national or state accrediting organization and be state-licensed.

2. Physicians should select patients for office-based procedures using the American Society of Anesthesiologists (ASA) Physical Status Classification System.* Preprocedure patient evaluation, including history, focused examination, and any consultations with medical specialists, should be documented. ASA III and above patients should undergo surgical procedures in accredited surgical centers.

3. Informed consent for the nature and objectives of the anesthesia planned and operation to be performed should be in writing and obtained from patients before the procedure is performed. Informed consent should only be obtained after a discussion of the risks, benefits, and alternatives and should be documented in the medical record.†

4. Surgeons should perform procedures commensurate with their board certification, documented training and experience, and within their state-recognized scope of practice.

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5. Anesthesia should be administered by experienced and licensed health care providers in accordance with national guidelines. Individuals trained in Advanced Cardiovascular Life Support, intravenous access, management of airway complications, and the use of pharmacologic antagonists must be present when a surgical procedure using sedation is being performed. The patient must be monitored during recovery from sedation and discharge criteria met before leaving the facility.

6. Written protocols must be in place to transfer a patient who develops complications or requires a higher acuity of care to a qualified acute care facility. The governing body of the office-based surgery practice should conduct a regular review of patient transfers and adverse events and implement focused professional reviews of involved health care professionals as indicated.

7. The governing body of the office-based surgery practice is required to maintain records of physician credentialing and licensure and participate in a program of ongoing professional practice evaluation.  

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Assigning the correct Current Procedural Terminology (CPT)* code for procedures and services is an important aspect of surgical practice. This column responds to several frequently asked questions posed to the American College of Surgeons’ Coding Hotline.

My group practice has both general surgeons and colorectal surgeons. If a general surgeon in the practice performs a hernia repair on a patient and, six months later, a colorectal surgeon in the practice sees a patient with complaints of bright red blood in stool, is the patient new or established for the colorectal surgeon? The colorectal surgeon would report the patient as a new patient if the surgeon’s specialty designation in the Medicare/payor file is colorectal surgery. However, if the surgeon’s specialty designation is general surgery (even though the surgeon primarily performs colon and rectal procedures), then the patient would be considered established. It is important that all surgeons know their specialty designation with Medicare and other payors. Keep in mind that a surgeon does not need to be board certified in a specialty to designate a specialty for Medicare. The designation should represent most of the surgeon’s caseload. Also, be aware that Medicare does not have a designation for every specialty. For example, Medicare has no specialty designation for breast surgery, bariatric surgery, or hepatobiliary surgery. For each of these practice foci, the surgeon would most likely choose general surgery or surgical oncology.

Surgeons can verify their Medicare enrollment details and specialty status using the Medicare Provider Enrollment, Chain, and Ownership System (PECOS) available at https://pecos.cms.hhs.gov/.

Should I append modifier 57, Decision for surgery, to an office evaluation and management (E/M) service if the visit occurred two months before the scheduled surgery? Only append modifier 57 to an office visit E/M code when the decision for surgery visit occurs the day of or the day before a 90-day global major operation. Major surgical procedures include all of the E/M services performed the day of or the day before the procedure, unless it is the visit at which the decision for surgery was made. If the procedure has a 0-day or 10-day global assignment, it is considered a minor operation (or endoscopy) and modifier 57 would not apply.

Code 76001, Fluoroscopy, physician or other qualified health care professional time more than 1 hour, assisting a nonradiologic physician or other qualified health care professional (eg, nephrostolithotomy, ERCP, bronchoscopy, transbronchial biopsy), was deleted for 2019. What code should we use to report this service? Code 76001 was deleted because of very low volume and possible misreporting. Code 76000, Fluoroscopy (separate procedure), up to 1 hour physician or other qualified health care professional time, is still available for reporting fluoroscopy services.

What is the code for an open deep left inguinal node biopsy? Report code 38531, Biopsy or excision of lymph node(s); open, inguinofemoral node(s), which was newly added to CPT in 2019.
The surgeon performed a nipple-sparing mastectomy on the right breast of a patient two years ago. The patient now is undergoing a mastectomy of the left breast, and the surgeon also prophylactically is removing the nipple from the right breast. Is removal of the nipple from the right breast reported with code 19303, Mastectomy, simple, complete, or 19301, Mastectomy, partial (eg, lumpectomy, tylectomy, quadrantectomy, segmentectomy)?

Code 19303 includes removal of all breast tissue regardless of whether skin and/or nipple is retained. Code 19301 also includes removal of breast tissue. Removal of the nipple and skin at a later date is not removing breast tissue; therefore, it would be incorrect to report either 19303 or 19301. This procedure should be reported with 19120, Excision of cyst, fibroadenoma, or other benign or malignant tumor, aberrant breast tissue, duct lesion, nipple or areolar lesion (except 19300), open, male or female, 1 or more lesions.

How do you know if an axillary lymph node is superficial or deep when choosing to report code 38500, Biopsy or excision of lymph node(s); open, superficial, or 38525, Biopsy or excision of lymph node(s); open, deep axillary node(s)?

Clinicians divide axillary lymph nodes into three levels. Level II and III lymph nodes are always deep and reported with 38525. Level I nodes may be either deep (reported with 38525) or superficial (38500), depending on the individual patient. For coding purposes, superficial nodes (38500) are generally palpable and deep nodes (38535) are generally nonpalpable. Also consider that deep nodes are reached after crossing a fascial plane (clavipectoral fascia in axilla). Superficial nodes are above the fascial plan and typically easily palpable.

Can code 15777 be reported when a surgeon applies EpiFix to the anastomosis after a partial colectomy?

No, code 15777, Implantation of biologic implant (eg, acellular dermal matrix) for soft tissue reinforcement (ie, breast, trunk) (List separately in addition to code for primary procedure), is meant for reporting fascial/integumentary soft tissue reinforcement—not for reinforcement of a colon anastomosis. This novel technique is considered experimental and not separately reportable.

How do I report suture ligation of parastomal varices?

Report code 37799, Unlisted procedure, vascular surgery, and crosswalk the value to a vessel repair code.

What are the correct codes to report a laparoscopic Heller-type esophagomyotomy with Endoflip when performed in a facility?

Report code 43279, Laparoscopy, surgical, esophagomyotomy (Heller type), with fundoplasty, when performed, and 91040–26, Esophageal balloon distension study, diagnostic, with provocation when performed. Modifier 26, Professional component, is appended to 91040 because the technical component is reimbursed in a fee paid to the facility, not to the physician.

Contact the Coding Hotline

The ACS—as a part of its ongoing endeavor to support Fellows—has established a coding consultation service hotline. ACS Fellows may call the Coding Hotline for answers to questions related to CPT; Healthcare Common Procedure Coding System; International Classification of Diseases, Tenth Revision Clinical Modification codes; and global fee periods. To access a coding specialist, call 800-ACS-7911 (800-227-7911) 8:00 am to 5:00 pm Central time, excluding holidays and weekends.
The U.S. population is aging, and although care for chronic medical conditions has improved, optimization for surgery is a complicated process. Medical and surgical complications continue to threaten patients who are elderly and who have complicating comorbidities.1,2 Using a variety of methods and risk assessments, frailty has been demonstrated in 4.1 percent to 50.3 percent of surgical patients and is predictive of mortality, postoperative complications, and disposition at discharge.3,4 Complications after surgery are costly—they can increase case mix-adjusted costs by $9,419 to $13,832 per case.5 More notably, complications worsen patient experience, are of concern to regulatory bodies, and can contribute to higher use of health care resources.

Enhanced recovery programs (ERPs) are being used nationwide to reduce complications, lengths of stay (LOS), and cost of care per patient.6,8 It is widely accepted that no single implemented change will improve outcomes of surgery across all patient populations and that the approach to perioperative and postoperative care must incorporate multiple disciplines, modalities, and components to optimize patient care.

**Identification of local problem**

Connecticut has some of the highest hospital complication and serious safety event rates in the nation. Multiple efforts to improve these outcomes have been condensed into a constellation of enhanced recovery processes to optimize patients and improve outcomes after surgery. These programs vary location to location but overall have had a significant impact on patient readiness for surgery, expectation management for patients and families, and improvement in the overall patient experience. Innovative surgical and anesthetic techniques have contributed to improvements, but low-cost, high-impact efforts like an ERP can make all the difference.

Complications documented by local data assessments, the Centers for Disease Control and Prevention’s National Healthcare Safety Network (NHSN), and the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP®) data indicated that our hospital was an outlier with respect to overall morbidity, LOS, postoperative surgical site infection (SSI), sepsis, transfer to extended care facilities in the postacute setting, hospital-acquired infections (HAIs), and postoperative opiate use. All listed complications were important to patient experience. Events like ileus, reinsertion of a nasogastric tube, and other data were not publicly reported.

Saint Francis Hospital and Medical Center, Trinity Health Of New England, Hartford, CT, sought to improve patient care throughout the regional health system and to disseminate lessons learned locally and from peer hospitals in the state to reduce variation and hospital-acquired conditions statewide. The Connecticut Surgical Quality Collaborative (CSQC) was instrumental in obtaining grant funding for technology and education statewide, allowing for uniform data collection and for techniques to evolve toward being more unified with evidence-based best practices. This collaboration has been fruitful, with creation of a resource website, development of the Connecticut Geriatric

Enhanced recovery program benefits frail colon and rectal surgery patients

by Daniel Mullins, MD, FACS; Amanda Ayers, MD, FACS; Saumitra Banerjee, MD, FACS; Steven Brown, MD, FACS; Robert Lewis, MD, FACS; Andrew Raissis, MD, FACS; Rachel Benedetto Scott, DO; Ly Tran, PA-C; Maryann Mecca-Monahan, PA-C; and David S. Shapiro, MD, FACS
Program in Surgery, and the sharing of data to improve care regionally. Lastly, we have identified several opportunities for systemic improvements throughout this program and are on the journey toward consistent practice, high reliability, and the provision of safe, effective surgical care.

Saint Francis Hospital has evolved a constellation of practices to reduce HAIs and conditions over the last several years. As early adopters of large-volume, risk-adjusted surgical databases like ACS NSQIP, we have improved multiple metrics across the continuum of care. We have reduced ventilator-associated events, reduced SSIs, and adopted ERPs in caring for our colorectal surgery patients to improve every aspect of their experience. These processes are being used for patients undergoing hysterectomy and other procedures, and other programs in Connecticut have had similar success.

This project began with pilot data on the implementation of team-based training, best practice use, and the idea that state programs would benefit from transparent data sharing. A grant was sought and awarded, and we began our leadership and collaboration with the CSQC, a partner of the Connecticut Chapter of the ACS. With a goal of enhancing the patient experience, lowering costs of care, and minimizing complications, we were set to lead the journey toward zero harm.

**Putting the QI activity in place**
Saint Francis Hospital is a not-for-profit, urban, tertiary care, Level I trauma center. It is the largest Catholic hospital in the northeast and a primary partner in the development of the CSQC, a surgical safety collective including every acute care hospital in Connecticut.

We used the following data to measure quality improvement:

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Pre-ERP (N = 184)</th>
<th>ERP (N = 509)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complications*</td>
<td>47.5% (87)</td>
<td>23.2% (100)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Surgical†</td>
<td>23.5% (43)</td>
<td>9.5% (42)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Medical‡</td>
<td>31.5% (58)</td>
<td>9.35% (47)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>ECF transfer</td>
<td>15.6% (28)</td>
<td>9.3% (40)</td>
<td>&lt;0.02</td>
</tr>
<tr>
<td>Readmissions</td>
<td>9.8% (18)</td>
<td>9.0% (46)</td>
<td>Not statistically significant (NS)</td>
</tr>
<tr>
<td>Days to flatus</td>
<td>3.0 ± 2.0 days</td>
<td>1.9 ± 1.9 days</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>LOS (days)</td>
<td>5.7 ± 4.1 days</td>
<td>4.8 ± 4.4 days</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Postop MME</td>
<td>119.03 ± 109.76</td>
<td>31.4 ± 42.6</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

Sources: NHSN, Connecticut Prescription Monitoring Program (PMP), Encare Information System (EIS) registry

*Includes all listed complications and events described in ACS NSQIP, including ileus, wound events, and events not otherwise discovered in public reportability

†SSI, deep space infections, bleeding, returns to OR, others

‡Mortality, cardiac events, pneumonia, urinary tract infection, respiratory events, kidney dysfunction, evidence of ileus, thromboembolic events

NHSN published infection and event data, which provides our hospital event rates and actionable items in addition to benchmarks

ACS NSQIP risk-adjusted data, which allowed us to benchmark surgical patients at Saint Francis against surgical patients at other CSQC institutions and nationally reported benchmarked data

Locally collected outcomes, including identified surgical and medical complications and adverse or unexpected events, rates of transition to nursing facilities postacute care, readmission data, LOS, and postoperative milligram morphine equivalents, to monitor opiate use and prescribing

Other clinical data, such as tolerance of enteral nutrition, use of urinary catheters, and more, are collected in real time.

Our own performance with patient experience has been subpar in comparison with the remainder of the nation.
Our complications, HAIs, and other parameters are higher than most hospitals in the U.S. In 2016, the noted performance reflected in the ACS NSQIP data suggested the need for improvement, and the ERP was instituted. Monthly development and implementation meetings were convened to educate surgery staff, and the colon surgery specialty group committed to the process with early adoption of outpatient and postacute measures. Inpatient measures were implemented simultaneously.

**Description of the quality improvement activity**

We targeted improvement in these events in an effort to enhance the patient experience and sought support from the private foundation of a medical professional liability provider that had shown interest in our preliminary work. With that support and help from the CSQC, we were able to implement the ERP for colon and rectal surgery. More recently, further efforts to focus ERP on frail populations (patients with diabetes, patients older than 70 years old, and patients with American Society of Anesthesiology [ASA] Classification >2) have been explored. Perioperative optimization in these patients has resulted in similar improvements in outcomes.

Briefly, an ERP was instituted over the last three years. Consecutive patients undergoing colorectal resections performed after January 1, 2016, have been followed. Outcome measures including overall complications, postacute disposition to skilled nursing facility, readmissions, LOS, duration to flatus, and morphine milligram equivalents (MME) were collected prospectively. Statistical analysis and overall assessment on patient experience was performed for all interventions.

Overall complications were assessed in the patients before institution of ERP and subsequent to the start of the program. Subgroups of patients included frail patients, such as highly comorbid patients (those with ASA >2), patients of advanced age (defined as age >70), and patients with diabetes (defined as preoperative glycosylated hemoglobin >6.5 percent).

Initially, 183 consecutive patients underwent colorectal resection before the ERP was initiated. Subsequent to the program starting, 509 consecutive patients were included in the ERP. For the sake of data analysis, seven patients were excluded because of the absence of important data. Demographics collected included age, gender, body mass index, and tobacco use, which did not differ between groups.

Complications were identified by individual chart abstraction and included surgical complications (return to operating room [OR], leak, bleeding, wound drainage, and others), and medical complications (acute kidney injury, hypotension, oliguria, myocardial infarction, thromboembolic event, and others, including events that are infrequently publicly reported, such as ileus, wound erythema, dislodgement and replacement of devices, dysuria and urinary retention, changes in level of care, and more). Data from the state hospital association, locally collected hospital data, and annual and semiannual reports from ACS NSQIP were used to identify events and outliers. This process began in 2016 and continues today.

**Resources used and skills needed**

Existing staff, including nursing providers in the perioperative center, a single physician assistant supported by office staff members, and clinical health care professionals, all were engaged. Leadership included a dedicated SEP 2019 BULLETIN American College of Surgeons
Getting results

Overall, complications of any kind occurred in 47.5 percent of the pre-ERP patients. Though this number seems high overall, it includes even transient increases in creatinine, adynamic ileus, vomiting events requiring interventions, and other patient dissatisfiers. In ERP patients, this number dropped to 23.2 percent (see Tables 1 and 2, pages 56 and 57). Separate analysis revealed improvements in frail patient groups as well. Comorbid patients \((n = 237)\) and patients with diabetes \((n = 139)\) demonstrated identical improvements \((p <0.001)\) (see Tables 3 and 4, this page). Patients of advanced age \((n = 255)\) improved significantly with respect to surgical and medical complications, days to flatus, and hospital LOS \((p <0.001)\) (see Table 5, page 59).

In addition, inpatient data and the Connecticut Prescription Monitoring Program allowed assessment for postoperative opiate use (see Table 1). Multimodal pain management options included in ERP allows patients to have their pain management tailored to meet their needs. The use of opiate pain medication averaged 119.03 MME before ERP and decreased to only 31.4 MME for patients in the ERP program. Furthermore, the number of patients who tolerated their experience opiate-

### Table 3.

**Saint Francis CRS Patients, Comorbid Group, \(n = 237\)**

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Pre-ERAS ((N = 65))</th>
<th>ERAS ((N = 172))</th>
<th>(p)-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complications</td>
<td>56.9% ((37))</td>
<td>28.9% ((45))</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Surgical</td>
<td>26.2% ((17))</td>
<td>10.3% ((16))</td>
<td>&lt;0.0025</td>
</tr>
<tr>
<td>Medical</td>
<td>43.1% ((28))</td>
<td>13.4% ((23))</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>ECF transfer</td>
<td>28.6% ((18))</td>
<td>14.7% ((23))</td>
<td>0.0176</td>
</tr>
<tr>
<td>Readmissions</td>
<td>7.7% ((5))</td>
<td>10.5% ((18))</td>
<td>NS</td>
</tr>
<tr>
<td>Days to flatus</td>
<td>3.2 ± 2.9 days</td>
<td>1.9 ± 1.1 days</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>LOS (days)</td>
<td>6.8 ± 5.1 days</td>
<td>5.4 ± 4.5 days</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

Sources: NHSN, Connecticut PMP, EIS registry

### Table 4.

**Saint Francis CRS Patients, Diabetes Group, \(n = 139\)**

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Pre-ERAS ((N = 38))</th>
<th>ERAS ((N = 101))</th>
<th>(p)-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complications</td>
<td>55.3% ((21))</td>
<td>23.7% ((22))</td>
<td>0.0005</td>
</tr>
<tr>
<td>Surgical</td>
<td>34.2% ((13))</td>
<td>10.8% ((10))</td>
<td>0.0014</td>
</tr>
<tr>
<td>Medical</td>
<td>42.1% ((16))</td>
<td>7.9% ((8))</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>ECF transfer</td>
<td>31.6% ((12))</td>
<td>11.9% ((12))</td>
<td>0.0170</td>
</tr>
<tr>
<td>Readmissions</td>
<td>10.5% ((4))</td>
<td>12.9% ((13))</td>
<td>NS</td>
</tr>
<tr>
<td>Days to flatus</td>
<td>3.0 ± 1.5 days</td>
<td>2.0 ± 1.4 days</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>LOS (days)</td>
<td>7.1 ± 4.8 days</td>
<td>5.6 ± 4.7 days</td>
<td>0.0037</td>
</tr>
</tbody>
</table>

Sources: NHSN, Connecticut PMP, EIS registry
free improved from 4.1 percent to more than 18 percent.

**Setbacks**
Setbacks are commonplace. Adherence to the constellation of requirements for particular ERP goals occasionally are in opposition to the preferences of individual hospital surgical professionals. Examples include mechanical bowel prep, particular antibiotic preferences, and others. When these parameters cannot be met, groups may choose to develop a more customized ERP. Use caution, however, as local preference may not be aligned with the majority of best practice recommendations. Adherence to the published guidelines is often the wisest approach, even though cultural adaptation to these changes—for surgeons, anesthesiologists, nurses, and even patients—may prove a slow process.

Grand rounds speakers, sharing transparent data, inviting participating and nonparticipating providers to statewide meetings, and local educational events can help support adoption of ERP goals. Gaining champions in each discipline is always beneficial.

**Cost savings**
This project represents investments in educational, experiential, and training efforts that saved hospitals from expenditure in these areas. Grant funding supported multiple educational events, including high-reliability training events for more than 130 clinicians; TeamSTEPPS® (Team Strategies & Tools to Enhance Performance & Patient Safety) training for multiple hospital teams; support of the CSQC; and teaching events, networking conferences, and so on. CSQC provided support for technology platforms for multiple collaborative hospitals, and project managers were able to facilitate compliance, dissemination, and education without relegating high-cost providers to these important tasks.

Overall, we experienced a savings of approximately $3,000 per patient as the result of a reduction in both complications and LOS. It is difficult to quantify the impact of the reduction in complications given the variability between patients, but for nearly 500 patients in the post-ERP group, savings can be projected at $1.5 million over the 2.5 years of the study, averaging nearly $600,000 annually. Furthermore, a slight improvement in readmission rates, though of no statistical significance, does offer potential improvements, as reduced readmissions are an important goal.

**Tips for implementing an ERP**
Plainly stated: start simply. Most interventions are reasonably low cost and do not require additional technology, but data collection and analysis are important.

Funding, whether through local, private, or large grants, can help but isn’t required. If funding is sought, collaborative efforts from peer organizations can be useful. Think outside the box when considering which organizations to tap for support. For example, hospital claims data may provide fodder for conversations with medical liability insurers, quality

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**TABLE 5.**
**SAINT FRANCIS CRS PATIENTS, AGE >70 GROUP, N = 255**

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Pre-ERAS (N = 75)</th>
<th>ERAS (N = 180)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complications</td>
<td>56.8% (42)</td>
<td>30.3% (47)</td>
<td>&lt;0.0005</td>
</tr>
<tr>
<td>Surgical</td>
<td>29.7% (22)</td>
<td>12.4% (20)</td>
<td>&lt;0.0013</td>
</tr>
<tr>
<td>Medical</td>
<td>40.0% (30)</td>
<td>12.2% (22)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>ECF transfer</td>
<td>30.6% (22)</td>
<td>21.3% (33)</td>
<td>NS</td>
</tr>
<tr>
<td>Readmissions</td>
<td>9.3% (7)</td>
<td>8.9% (16)</td>
<td>NS</td>
</tr>
<tr>
<td>Days to flatus</td>
<td>3.3 ± 2.3 days</td>
<td>2.9 ± 1.3 days</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>LOS (days)</td>
<td>6.3 ± 4.6 days</td>
<td>5.5 ± 4.4 days</td>
<td>&lt;0.0020</td>
</tr>
</tbody>
</table>

Sources: NHSN, Connecticut PMP, EIS registry
Plainly stated: start simply. Most interventions are reasonably low cost and do not require additional technology, but data collection and analysis are important.

organizations, and others, and savings can manifest from reduced claims, and reduced complications, all resulting in decreased payments for third-party payors. Support from hospital leadership can be better gleaned by transparency, internal cost analysis, and a target of reducing variability between patients. Launching a program that can save $3,000 per patient, applied across the entire surgical volume, can be convincing.

Data sharing should occur regularly and transparently. Group metrics and individual metrics may be shared in the ongoing professional practice evaluation process and can have demonstrated success for a hospital over time. Motivation should come from within.

Saint Francis has been a quality improvement leader in Connecticut, with efforts to improve hospital-acquired condition rates, avoid serious safety events, and learn and maintain best practice for the provision of surgical care, as manifested in our adoption of an ERP—an adaptation of Enhanced Recovery After Surgery programs instituted in hospitals nationwide. The group of colon and rectal surgeons and physician assistants were the force behind most of the interventions and guided most of the interventions, in association with the hospital’s department of surgery. The investment in this program was inclusive of reorganization and collaboration, rather than a large financial expenditure. The costs were minimal, and the results were demonstrative of a valuable investment. Our internal work continues, along with our collaborative support of other quality efforts in Connecticut.

Acknowledgments
This project represents collaboration from dozens of providers, without whom these results would be impossible. Included in this group are surgical physician assistants, surgeons, anesthesiologists, hospital leadership, nursing and case management staff, and other health care professionals. Most importantly among them are Kimberly Bellavance, PA-C; Anna Karpinski, BSN; Linda Simpson, BSN; Christopher Comey, MD, FACS; Maureen Gethings, MSN, RN; Craig Dennen, MD; Philip Corvo, MD, FACS; and Alan Meinke, MD, FACS.

REFERENCES
Putting the needle before the knife: 
Minimally invasive approaches to 
diagnostic lymph node biopsy in melanoma

by Tina J. Hieken, MD, FACS; Judy C. Boughey, MD, FACS; and Jonathan S. Zager, MD, FACS

Recent advances in the systemic treatment of advanced melanoma have prompted reevaluation of treatment paradigms. This reassessment has included clinical trials to test these new efficacious therapies in the neoadjuvant setting for surgically resectable earlier stage metastatic disease.

The standard of care for resectable, clinically evident, nodal metastatic melanoma remains therapeutic lymph node dissection, followed by consideration of adjuvant therapy. Percutaneous needle biopsy of the suspicious lymph node remains the optimal method for diagnostic evaluation independent of whether neoadjuvant therapy (ideally on clinical trial) or upfront surgery is planned for the resectable nodal disease. However, widespread variation with respect to how clinicians approach diagnostic lymph node biopsy for suspicious peripheral lymphadenopathy persists.

Improving value-based care
As surgeons, we are entrusted to perform excisional lymph node biopsies when indicated. At the same time, we have the opportunity to improve patient care and outcomes by recognizing that percutaneous needle biopsy should be the first step in diagnosis, with excisional lymph node biopsy reserved for diagnostic dilemmas and only approached after careful consideration of incision placement for subsequent therapeutic oncologic operation.

The differential diagnosis of peripheral adenopathy in adults is extensive, but for patients with a prior history or concurrent diagnosis of melanoma and clinically apparent or radiologically evident adenopathy, malignancy should be suspected. Ideally, the appropriate and guideline-concordant approach to suspicious peripheral adenopathy is to first perform a history focused on constitutional symptoms, past cancer history, and a physical exam directed to the skin and peripheral nodal basins.

When malignancy is a possibility, or when adenopathy is persistent after a short period of observation, the next best step is an ultrasound-guided percutaneous fine needle aspiration (FNA) or core needle biopsy (CNB) (see Figure 1, page 62). This approach has been used effectively to diagnose soft-tissue sarcoma and breast cancer for decades. This rapid, cost-effective, and well-tolerated approach usually can establish a diagnosis. Numerous studies have confirmed the high sensitivity and specificity of FNA for melanoma metastatic to lymph nodes, with reports of up to 97 percent and 99 percent, respectively. Genetic testing can be performed on FNA or CNB of bulky nodal disease.

Even when a melanoma diagnosis is unanticipated—for example, clearly pathologic single basin adenopathy in the absence of a prior melanoma diagnosis—this same approach is warranted. For example, CNB can be used for subtyping of lymphoma sufficient to guide appropriate treatment in three-quarters of patients. This approach is aligned with the trend over time across all disciplines of surgery of a shift from a diagnostic to a therapeutic indication for operation whenever possible.

Diagnostic excisional lymph node biopsy is generally regarded as a straightforward and low-risk procedure; however, it may not
be the optimal first step for diagnosing suspicious peripheral adenopathy for several reasons, including sparing patients a potentially unnecessary operation; the higher cost of an operation versus a quick office procedure; creation of an incision that often is suboptimal or inappropriately placed for future therapeutic lymphadenectomy incisions; disruption of the operative field (lymphatic basin) prior to therapeutic operation; and the potential morbidity of an operation, including bleeding, infection, seroma, lymphocele, lymphatic fistula, neuropathy, and pain, versus the extremely low risk of percutaneous FNA or CNB. Furthermore, when neoadjuvant systemic therapy is administered, percutaneous needle biopsy facilitates testing the response to treatment, whereas it cannot be assessed accurately following excisional biopsy if the node has been removed.

An opportunity worth exploring
This approach presents another opportunity for surgical practice harmonization so that all patients, regardless of where or by whom they are seen, are recommended for a minimalistic approach to the diagnosis of suspicious lymphadenopathy as the first step in care. As surgeons have done and continue to do in multiple other areas, surgeons should embrace best clinical practice and resolve practice disparities in the diagnosis of adenopathy and thereby improve patient care. ♦

REFERENCES
Editor’s note: This column is based on the theme of the Surgical History Group Panel Session at Clinical Congress 2019 in San Francisco, CA. Women Pioneers in Surgery will take place 9:45–11:15 am, Monday, October 28.

In 1913, the newly created American College of Surgeons (ACS) welcomed 1,057 Fellows from more than 2,000 applicants. Fellowship criteria did not specify gender (see Figure 1, this page). We identified five women in this inaugural class.  

To put this into context, the Royal College of Surgeons in the U.K. initiated its first woman Fellow in 1911, 68 years after it was first established, and in 1919 still had only four women Fellows. The American Medical Association (AMA) was founded in 1847 and greeted its first woman member in 1876, and the American College of Physicians, founded in 1915, welcomed its first woman member in 1920, at a time when its membership numbered almost 600.  

These five women Fellows of the ACS all lived in the Back Bay of Boston, MA, and had privileges at the New England Hospital for Women and Children, among other institutions (see Figure 2, this page). This column highlights a few of their accomplishments.

The first women elected to College Fellowship

by Carol E.H. Scott-Conner, MD, PhD, FACS, and Ingrid M. Lizarraga, MBBS, FACS

FIGURE 1. 1913 ACS BYLAWS

VII. Fellows. 1. The Fellows of the College shall be graduates in medicine who are licensed to practice medicine in their respective states and provinces, or medical officers of the federal services who have made an application for fellowship (such application being endorsed by three Fellows of the College, one of whom shall be a member of the Board of Governors), who meet the qualification requirements that shall from time to time be established by the Board of Regents, and who shall be elected to fellowship by the Board of Regents on recommendation of the Committee on Credentials, and who shall have signed the roll.

FIGURE 2. 1913 ACS YEARBOOK

A LIST OF THE FELLOWS

WITH THEIR DEGREES AND APPOINTMENTS

BRYANT, Alice G., A.B., M.D., 416 Marlboro Street, Boston, Massachusetts. Woman’s Medical College, New York Infirmary, 1890.


Dukerling, Florence W., M.D., 483 Beacon Street, Boston, Massachusetts. Tufts College Medical School, 1901. Attending Surgeon, New England Hospital for Women and Children, Roxbury, Massachusetts; Attending Physician, Pope Dispensary.

Sabine, Jane D. Kelly, A.B., M.D., 348 Marlboro Street, Boston, Massachusetts. Woman’s Medical School, Northwestern University, 1894. Lecturer in Sargent Normal School of Gymnastics, Cambridge, Massachusetts; Attending Surgeon, New England Hospital for Women and Children.

Smith, Mary Almira, A.M., M.D., Sc.D., 33 Newbury Street, Boston, Massachusetts. University of Zürich, Switzerland, 1886. Senior Attending Surgeon of the New England Hospital for Women and Children of Boston; Consulting Surgeon to Memorial Hospital for Women of Concord, New Hampshire.
Florence West Duckering, MD, FACS, is the best known of the five and is often credited as “the first.”

Five women inaugural Fellows

Alice G. Bryant, AB, MD, FACS, was one of the first surgeons to specialize in otolaryngology. Like most of these other pioneering women, she had an interest in public health and education. Dr. Bryant wrote several articles on scientific ventilation and humidification for The Boston Globe, and was one of the few women to have been made an honorary lifetime member of the American Society of Heating and Ventilating Engineers.4

Emma V.P.B. Culbertson, AM, MD, FACS, was “one of Boston’s best-known physicians.” Dr. Culbertson was a member of the AMA and the Massachusetts Medical Society, and was “active in furthering school and home nursing.”5

Florence West Duckering, MD, FACS, is the best known of the five and is often credited as “the first.”6 Dr. Duckering trained as a nurse in her native England and then became a naturalized U.S. citizen and surgeon. She was active in medical societies and also in education of the lay public. She was survived by a niece who not only bore her name, but went on to be elected a Fellow of the ACS.7

Jane D. Kelly Sabine, AB, MD, FACS, was a lecturer at the Sargent Normal School of Gymnastics, Boston, and listed her specialties
as gynecology and orthopaedic surgery. Dr. Sabine was one of three women honored in 1948 as a 50-year member of the Massachusetts Medical Society.\(^8\)

**Mary Almira Smith, AM, MD, ScD, FACS,** published a paper, “Splenectomy for carcinoma” in *Annals of Surgery*, which described a case of colloid carcinoma of the ovary metastatic to the spleen.\(^9\) She shared an office and dwelling space with Dr. Culbertson.

**Pathfinders**

By 1922, when the ACS Clinical Congress met in Boston, several women had served or were serving on the Board of Governors.\(^3\) Enough women attended that Dr. Duckering, a member of the Committee on Arrangements, hosted a tea for them at the New England Hospital for Women and Children (see Figure 3, page 64).\(^10\)

What, in the environment of the New England Hospital for Women and Children, led these five to apply for and be granted ACS Fellowship that very first year? We would love to be able to ask them. We believe that they should be considered pathfinders, not only in the ACS, but also the earliest actively networking women surgeons. ♦

**Acknowledgments**

The authors gratefully acknowledge the assistance of the ACS Archivists Meghan Kennedy and Michael Beesley; the archivists at Tufts and Drexel Universities; and Jane Pietro, MD, FACS, who generously shared her research with us.

**REFERENCES**

Retained foreign bodies—also called retained surgical items and unintentionally retained foreign objects (URFOs)—are defined as objects retained after skin closure has occurred following an invasive procedure. They can have catastrophic consequences for patients. Retained foreign bodies (RFBs) involve numerous types of items, including but not limited to surgical instruments, catheters, needles, and gauze. The cost of one RFB is estimated at $70,767 due to the extended care required. It is estimated that one in every 5,500 procedures involves an RFB, leading to adverse outcomes for patients, including the need for additional operations, readmission or prolonged length of stay, infection or other health risks, and even death.

The Joint Commission Journal on Quality and Patient Safety examined reports of 308 sentinel events involving URFOs reported to The Joint Commission between October 2012 and March 2018, excluding sponges used intraoperatively and guide wires. The retained objects were as follows:

- 102 instruments
- 52 catheters and drains
- 33 needles and blades
- 30 instances of packing
- 14 implants
- 6 specimens

Most of the instruments associated with URFOs were tools used in minimally invasive or orthopaedic surgery, occurring in 36 (35.3 percent) of the events reported. Of those events, joint arthroplasty instruments were described in 17 reports. Instruments retained in other orthopaedic surgeries were described in 19 events. Additionally, the review included the following findings:

- 67.9 percent of retained catheters were fragments or parts
- 90.9 percent of retained needles or blades were suture needles
- Reports of retained packing involved gauze or other foam materials intended for removal

Of the 308 total reports reviewed, 28.9 percent of the URFOs were found in the abdomen or pelvis—and 83.4 percent of the total events were objects retained after procedures performed in an operating room.

Overall, these events led to the following outcomes:

- 211 instances of an extended stay
- 61 instances of other harm
- 29 instances of severe temporary harm
- 2 instances of permanent harm
- 5 reports of death (this category was assigned when the patient expired as a result of the item retention or additional related care)

**Contributing factors**

The study authors were able to determine a total of 1,156 contributing factors for the events...
It is estimated that one in every 5,500 procedures involves an RFB, leading to adverse outcomes for patients, including the need for additional operations, readmission or prolonged length of stay, infection or other health risks, and even death.

reviewed. Of those, 75.4 percent could be grouped into three categories: human factors, leadership, and communication. For those three areas, the authors came up with recommendations to reduce the incidents of URFOs. For human factors, the recommendations included the following:

- Provide team training
- Address disruptive behavior
- Minimize distractions and interruptions
- Account for objects inserted in the wound
- Methodologically explore the surgical site prior to closure
- Verify integrity of objects upon removal
- Educate staff about risks of URFOs and risk-reduction strategies
- Assess competency of personnel

For leadership, the authors recommend that health care institutions do the following:

- Prioritize a culture of safety
- Conduct a proactive risk assessment and implement policies

and procedures based on the risk assessment

- Celebrate successes, but also encourage reporting of near misses

With respect to communication, the authors’ recommendations are as follows:

- Verbally acknowledge removal of objects
- Discuss removal of objects during standardized debriefing after procedures
- Discuss the need for packing removal during handoff
- Document verification of removal and integrity of objects

To learn more about the authors’ recommendations or to read the study in full, visit www.jointcommissionjournal.com. It will be open access until September 30.

**Disclaimer**

The thoughts and opinions expressed in this column are solely those of Dr. Pellegrini and do not necessarily reflect those of The Joint Commission or the American College of Surgeons.

**REFERENCES**

The word cirrhosis stands for a chronic inflammation of connective tissue, especially of the liver. Coined in 1827 by French physician Rene Theophile Hyacinthe Laennec, the orange-yellow appearance of the diseased liver led to the combination of the Greek kirrhos (red-yellow, yellow-brown, tawny in color) and osis (a disease or condition).*

Liver disease affects one out of every 10 people in the U.S. It is likely that number is an underestimation of the true incidence, as many cases of liver disease go undiagnosed.†

Cirrhosis is a late stage of scarring from fibrosis. Cirrhosis has several known causes, including chronic alcohol abuse; Hepatitis B, C, and D; nonalcoholic fatty liver disease; hemochromatosis; cystic fibrosis; Wilson’s disease; genetic disorders; primary biliary cirrhosis; infection; and medications (isoniazid or methotrexate).

Symptoms of cirrhosis often include jaundice, fatigue, easy bleeding or bruising, loss of appetite, nausea, weight loss, pruritus, edema, ascites, gynecomastia, palmar erythema, and confusion (hepatic encephalopathy). As the disease progresses, it may lead to portal hypertension, bleeding from enlarged veins (esophageal and gastric varices), splenomegaly, malnutrition, bone loss, and increased risk of hepatocellular cancer.

**Effects of trauma on cirrhotic patients**

Cirrhotic patients in various stages of progression may have tenuous physiology. A traumatic injury requiring operative intervention during a later stage of the disease may be enough to tip the balance and set off a downward spiral of hepatic decompensation, leading to liver failure or hepatorenal syndrome, followed by other organ failures.

The Child-Turcotte score (created by Charles G. Child III, MD, FACS, and Jeremiah G. Turcotte, MD, FACS) was originally designed to predict the operative mortality after portocaval shunt surgery. R.N.H Pugh, MD, later modified this score and although it is not prospectively validated, it has stood the test of time. This scoring system is used widely to assess the severity of cirrhosis and predict perioperative morbidity and mortality for elective and emergency surgery. Child-Turcotte-Pugh encompasses three scores, ranging from the least (A) to most severe (C). Patients with cirrhosis undergoing an abdominal operation that are Child-Turcotte-Pugh class A, B, or C are associated with a mortality of 10 percent, 30–31 percent, and 76–82 percent, respectively.‡

To examine the occurrence of injuries in patients with cirrhosis, the National Trauma Data Bank® (NTDB®) research admission year 2017 medical records were searched using the International Classification of Diseases, Tenth Revision Clinical Modification codes. Specifically searched were records containing the comorbid conditions field DG_01. Those records containing a field value of 25 (cirrhosis) were used. A total of 9,747 records were found, 8,669 of which contained a discharge status, including 4,846 patients discharged to home, 1,234 to acute care/rehab, 1,780 to skilled nursing facilities; 809 died (see Figure 1, page 69). Of these patients, 67 percent were male, on average 57.6 years of age, had an average hospital length of stay of 7.7 days, an intensive care unit length of stay of 6.2 days, an

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average injury severity score of 10.4, and were on the ventilator for an average of 6.9 days.

The top three mechanisms of injury accounting for more than 90 percent of all cases were fall (64.1 percent), motor vehicle related (18.6 percent), and struck by/against (7.8 percent). See Figure 2, this page, for more information on cirrhosis-related mechanisms of injury. Of those patients tested for alcohol, almost 44 percent (2,091 out of 4,765) tested positive.

Patients diagnosed with cirrhosis can take some steps to reduce further liver damage, including eating a healthy diet, getting regular exercise, limiting dietary sodium and alcohol, and discussing the medications and any vitamins they are taking with their physician. Save tawny for describing a lion’s coat or the color you get when you mix too many paints together—not to describe one’s liver.

Throughout the year, we highlight these data through brief reports that are published monthly in the Bulletin. The NTDB Annual Report can be found on the American College of Surgeons website as a PDF file at facs.org/ntdb. In addition, information is available on our website about how to obtain NTDB data for more detailed study. If you are interested in submitting your trauma center’s data, contact Melanie L. Neal, Manager, NTDB, at mneal@facs.org.

Acknowledgment
Statistical support for this column was provided by Ryan Murphy, Data Analyst, NTDB.
In appreciation for his exceptional and continuous service as a Fellow of the American College of Surgeons (ACS), as well as his foresight in recognizing the issues affecting training for surgical residents, the ACS Board of Regents will present its highest honor, the Distinguished Service Award (DSA), to R. Phillip Burns, MD, FACS, at Convocation, October 27 at the ACS Clinical Congress 2019, San Francisco, CA.

The award citation acknowledges “his innovative vision as an integral engineer of the College’s focused initiatives influencing general surgery training, ultimately creating better prepared general surgery residents entering practice with enhanced skills and confidence to further improve the quality of care for their patients.” According to the citation, Dr. Burns “is a role model to surgeons everywhere to always do the right thing for patients.”

Dedicated surgical educator
Dr. Burns is professor and chairman, department of surgery, University of Tennessee (UT) College of Medicine, Chattanooga, and practices at Erlanger Medical Center/Children’s Hospital in Chattanooga. He is a member of the UT College of Medicine’s system-wide advisory committee on hospital and university affairs and the UT health affairs subcommittee of the UT board of trustees. At UT College of Medicine, he chairs the surgical education advisory committee, serves on the graduate medical education committee, and is founder and medical director of the medical/surgical skills laboratory. He serves on multiple committees at both UT and Erlanger Medical Center.

Dr. Burns has twice won the UT College of Medicine’s Baroness Award for Teaching Excellence (1981, 1987), was named Clinician of the Year for the UT College of Medicine, department of surgery (1979), and was the recipient of the Augustus McCravey Teaching Award (1999)—UT College of Medicine’s faculty achievement award. In 2001, the UT College of Medicine established the R. Phillip Burns Award in recognition of his then 25 years of service as chairman of the department of surgery.

He also was honored in 2002 when he was named the UT Memphis College of Medicine’s Outstanding Alumnus. Dr. Burns received his medical degree from UT Memphis in 1966 and completed his surgical training at UT City of Memphis Hospitals in 1974, after serving as a Captain in the U.S. Air Force from 1968 to 1970.

Committed leadership in surgery
In addition to having served as First Vice-President of the ACS (2012–2013), Dr. Burns is a Past-Member of the Board of Governors (2004–2010) and Past-Chair of the Governors’ Committee on Surgical Practice in Hospitals and Outpatient Settings (2007–2010). He has served on the ACS Advisory Council for General Surgery as a representative of the Southeastern Surgical Congress since 1993, the Steering Committee on Transitions to Practice since 2012, the Coaching the Next Generation Committee since 2014 and the committee’s Simulation Subcommittee since 2015, and the Task Force on the Future of General Surgery Training since 2016.

The DSA citation recognizes “his industrious work as one of the original members of the Transition to Practice Committee that resulted in the Mastery of General Surgery Program by providing an additional
Dr. Burns has held various other leadership positions in the southeastern Surgical Congress, including chair, program planning committee (1986–1992); member, executive council (1990–present), and secretary-director (1995–2004). In addition, he has served on the ACGME residency review committee (RRC) for surgery (1999–2005), was the RRC’s special envoy for the Katrina Disaster (2005–2006), and Surgeon Site Visitor for the RRC and ACS Pilot Project. Dr. Burns is a prolific contributor to the surgical literature and a respected speaker on advances in trauma and general surgery.

The award citation acknowledges “his innovative vision as an integral engineer of the College’s focused initiatives influencing general surgery training, ultimately creating better prepared general surgery residents entering practice with enhanced skills and confidence to further improve the quality of care for their patients.”

Official notice:

Annual Business Meeting of Members, American College of Surgeons

In accordance with Article I, Section 6, of the Bylaws, the Annual Business Meeting of Members of the American College of Surgeons (ACS) is called for 4:15 pm the afternoon of Wednesday, October 30, 2019, at the Moscone Center, San Francisco, CA.

This session constitutes the Annual Business Meeting of Members, at which time the ACS Officers and Governors will be elected and reports from officials will be presented. Items of general interest to the Members also will be presented. Members are respectfully urged to be present.

Edward E. Cornwell III, MD, FACS
Secretary
American College of Surgeons
September 1, 2019
In memoriam:
LaSalle D. Leffall, Jr., MD, FACS—
A life without boundaries

by Wayne A. I. Frederick, MD, MBA, FACS,
and Edward E. Cornwell III, MD, FACS, FCCM, FWACS(Hon)

American College of Surgeons (ACS) Past-President LaSalle D. Leffall, Jr., MD, FACS, a brilliant surgeon, oncologist, medical educator, civic leader, patient advocate, and mentor to the students and residents he trained, died May 25 of cancer. He was 89 years old and is survived by his wife Ruth, son LaSalle D. Leffall III, and his sister, Dolores Leffall.

Key influences
Born May 22, 1930, in Tallahassee, FL, and raised in the small town of Quincy, FL, Dr. Leffall’s parents—LaSalle D. Leffall, Sr., a high school principal, and Martha, an elementary school teacher—instilled in him a love of learning. In his Presidential Address at the 1995 Clinical Congress, Dr. Leffall stated, “As parents they emphasized that with a good education and hard work, combined with honesty and integrity, there are no boundaries.” He carried this credo with him throughout his life, proving to be an exceptional student. He graduated valedictorian from high school at 15 years old, and summa cum laude in 1948 from Florida Agricultural and Mechanical College—now Florida A&M University, Tallahassee.

His first exposure to a physician was his godmother’s husband, the only black physician in Quincy. Although the family friend encouraged him to consider a medical career, the experience Dr. Leffall said most influenced his decision to pursue the path toward becoming a physician happened when he was nine years old and came across an injured bird. He placed the bird’s broken wing in a splint he fashioned out of tongue depressors from the physician’s office and nursed the creature back to health.

He started medical school at the Howard University College of Medicine, Washington, DC, at 18 years old and graduated first in his class. He completed his surgical training at Freedmen’s Hospital—now Howard University Hospital—in 1957. As a medical student and resident, he encountered several mentors who would shape his view of the world and of surgery, including Charles R. Drew, MD, FACS, known for his research in blood and plasma transfusion and blood banking; Montague Cobb, MD, professor of anatomy; Burke “Mickey” Syphax, MD, FACS, a surgical oncologist and Dr. Drew’s successor as surgery program director; and Jack White, MD, FACS, who would encourage Dr. Leffall to complete surgical oncology training at Memorial Sloan Kettering Cancer Center (1957–1959), New York, NY. He specialized in colon and rectal, breast, and head and neck cancers.

An exemplary educator
He served as chief of general surgery at the U.S. Army Hospital, Munich, Germany (1960–1961). Upon his return to the U.S., Dr. Leffall joined the Howard faculty as an assistant professor and became chairman, department of surgery, only eight years later, a position he held for 25 years. He was named the Charles R. Drew Professor in 1992, occupying
the first endowed chair in the history of Howard’s department of surgery.

His teaching honors are unmatched in Howard University’s century-and-a-half-long history, including receiving the prestigious honored faculty award during the College of Medicine’s Honors and Oath Ceremony more than 30 times. His prolific academic contributions include more than 150 publications, three books, visiting professorships at more than 200 institutions internationally, 14 honorary degrees from universities in the U.S., and honorary fellowships from six international colleges of surgeons.

The great heights that Dr. Leffall reached never kept him from being accessible to students, patients, and staff in a manner that was marked by unconditional love and selflessness. He was a good listener, slow to give or take offense, and always encouraged his students and trainees to find the broader lesson in seemingly quotidian situations.

His towering intellect made each interaction edifying. In one moment, he might correct your grammar before pivoting to discuss some complex idea or concept. Dr. Leffall might even share a few thoughts in German, given his fluency in the language. The breadth of his academic pursuits was nothing short of awe inspiring.

One of the authors of this article, Dr. Frederick, will always cherish that the first procedure that he performed as a fully accredited surgeon at Howard University was alongside Dr. Leffall in what was ultimately his final operation before retirement, a symbolic transition recalled more poignantly in the days following Dr. Leffall’s death.

Dr. Leffall’s dedication to Howard and surgical education was unwavering. Even after retiring from active practice, he remained on the faculty as a lecturer and valued resource at Howard University. He lectured at medical institutions across the country, taught more than 6,000 medical students, and trained more than 300 surgical residents.

**Professional milestones**

Dr. Leffall was the first African American to serve as national President of the ACS, the American Cancer Society, the Society of Surgical Oncology, the Society of Surgical Chairs, and several other professional organizations.

In addition to serving as ACS President (2005–2006), Dr. Leffall served in a number of other leadership roles within the organization. He was Secretary (1983–1992) and a member of the following committees: the Advisory Committee on Nominations of the Board of Regents (1996–1999); the Communications Committee (1983–1987); the Committee on Development (1992–2004); and the Honors Committee (1994–1995). He also served as Vice-Chair of the Committee on Medical Motion Pictures (1983–1984), was a senior member of the Committee on Video-Based Education (1980–1990), and served as a consultant to the Health Policy and Reimbursement Committee (1986–1992). He was President of...

Dr. Leffall was a tireless supporter of the ACS Foundation, chairing the Fellows Leadership Society—the Foundation’s major gift society—and securing generous contributions from a private charitable foundation to fund ACS educational programs. He and Ruth established a significant planned gift through the ACS Foundation as members of the Mayne Heritage Society. For their leadership in philanthropy and service to the medical community, Dr. and Mrs. Leffall received the ACS Distinguished Philanthropist Award in 1998.³

Their philanthropic efforts extended beyond the College. In 1997, Dr. Leffall, his wife, and his sister established the Martha J. and LaSalle D. Leffall, Sr., Endowed Scholarship Fund and Endowed Professorship in Science at Florida A&M. Dr. Leffall also provided financial support for the LaSalle D. Leffall, Jr., Surgical Society, established in 1995 to provide funding for student and resident research.²

### Eliminating disparities

Dr. Leffall’s great passion was ensuring that cancer patients of all races and creeds had access to quality care. As president of the American Cancer Society (1979), he focused attention on the increasing incidence and mortality of cancer among black Americans, creating an innovative program to address cancer disparities among ethnic populations. He created an innovative program to promote early diagnosis and other preventive measures to reduce the higher rates of lung, stomach, pancreatic, and esophagus cancer among black men and uterine cancer among black women, the first program of its type in the nation.⁴

Today, health care disparities are a significant field of study and a major priority for cancer programs around the world. Just days after Dr. Leffall’s passing, a health care disparities study was presented and discussed at the plenary session of the 2019 American Society of Clinical Oncology (ASCO). Dr. Leffall was a member of ASCO and served on the board of directors of Conquer Cancer, the ASCO Foundation (2003–2004).⁴

Cancer hospitals across the nation have recognized Dr. Leffall’s contributions to patient care. In 1987, the MD Anderson Hospital and Tumor Institute, Houston, TX, and Intercultural Cancer Council established The Biennial LaSalle D. Leffall, Jr., Award for surgeons who have had a significant impact on cancer prevention, treatment, and education in minority and economically disadvantaged communities. Two years later, the citizens of Quincy named a street, a path, and the surgical wing of Gadsden Memorial Hospital after him.²

### A legacy of service and compassion

His numerous awards and achievements only begin to highlight his extraordinary contributions to the field of medicine. Dr. Leffall was a true son of Howard
[Dr. Leffall] often referenced a quote by Pierre Teilhard de Chardin: “Someday, after mastering the winds, the waves, the tides, and gravity, we shall harness for God the energies of love, and then, for a second time in the history of the world, man will have discovered fire.” In many ways, Dr. Leffall was, is, and always will be our ever-burning fire.

and a loyal exemplar of the university’s motto: Truth and Service. He leaves behind a legacy of service and benevolence to the university as a longstanding donor who created opportunities for subsequent generations of students through his generosity. The authors will continue to live in Dr. Leffall’s honor and his example. He often referenced a quote by French idealist philosopher and Jesuit priest, Pierre Teilhard de Chardin, who said, “Someday, after mastering the winds, the waves, the tides, and gravity, we shall harness for God the energies of love, and then, for a second time in the history of the world, man will have discovered fire.” In many ways, Dr. Leffall was, is, and always will be our ever-burning fire.

In his free time, Dr. Leffall enjoyed playing and watching tennis; listening to jazz, which he discovered as a fraternity brother of saxophonist Cannonball Adderley at Florida A&M; and reading classic literature.

The legions of human beings whom Dr. Leffall impressed, inspired, and improved transcends surgery, medicine, or barriers of language, race, class, politics, or geography. He was a lover of life, lived his to the absolute fullest, and attacked its vicissitudes with a hallmark discipline that he always displayed and that became emblematic of him and his iconic mantra: Equanimity under duress. ♦

Note
Dr. Leffall recently was selected as a 2019 ACS Icon in Surgery and will be honored in a video presentation 11:30 am–12:30 pm Wednesday, October 30, at Clinical Congress 2019 in San Francisco, CA.

REFERENCES
Register today for 2019 TQIP Annual Meeting

Registration is now open for the 2019 American College of Surgeons (ACS) Trauma Quality Improvement Program (TQIP®) Annual Scientific Meeting and Training, November 16–18 at the Hilton Anatole, Dallas, TX. Trauma medical directors, program managers, coordinators, and registrars from participating and prospective TQIP hospitals will convene in an ideal venue for networking and sharing of best practices.

New this year, the program will include sessions on Error Management and High-Functioning Teams, as well as the latest Best Practice Guidelines on Trauma Center Recognition of Family Violence, which covers the topics of child abuse, elder abuse, and intimate partner violence.

The Keynote and Trauma Survivor address will be presented by Todd Maxson, MD, FACS, chief, trauma program at Arkansas Children’s Hospital, Little Rock. Dr. Maxson will share his unique experience witnessing the functioning of the Arkansas Trauma System from both sides—as both a surgeon and, later, a patient. In addition, the feature session will present a live trauma simulation on stage, followed by a debriefing with an expert panel. During the debriefing, facilitators will discuss the value of simulation in a trauma program and how it can improve health care customer relationship management. The meeting will include breakout sessions for registry staff, trauma medical directors, and trauma program managers to ensure everyone receives the information most useful and pertinent to their role on the TQIP team.

Visit the 2019 TQIP annual meeting website at facs.org/tqipmeeting to register, view the conference schedule, and obtain information about lodging, transportation, and Dallas attractions. For more information, contact ACS TQIP staff at acstqipmeeting@facs.org.

Create a culture of quality, safety, and high reliability

It begins here
facs.org/redbook
More than 600 delegates attended the annual American Medical Association (AMA) House of Delegates (HOD) met at the Hyatt Regency Chicago, IL, June 8–12 to debate numerous policy issues brought forth by state medical societies and national specialty societies. With 233 resolutions and 52 reports from either the AMA Board of Trustees or AMA councils, plenty of opportunities existed for the American College of Surgeons’ (ACS) delegates to engage in the HOD policymaking process.

ACS delegation
Beginning last year, the ACS received an expanded allocation of delegates, bringing the total number to 13. Because the HOD meeting coincided with the June ACS Board of Regents meeting, five of the College’s top leaders were available to extend their stay and serve as AMA delegates. Consequently, the College’s delegation was composed of the following individuals: Brooke Buckley, MD, FACS (Annapolis, MD); Daniel Dent, MD, FACS (San Antonio, TX); David B. Hoyt, MD, FACS (Chicago, IL); Jacob Moalem, MD, FACS (Rochester, NY); Lena Napolitano, MD, FACS (Ann Arbor, MI); Leigh Neumayer, MD, FACS (Tucson, AZ); Naveen Sangji, MD (Boston, MA); Kenneth Sharp, MD, FACS (Nashville, TN); Gary Timmerman, MD, FACS (Sioux Falls, SD); Patricia L. Turner, MD, FACS (Chicago, IL, and delegation chair); and Mark Weissler, MD, FACS (Chapel Hill, NC). Timothy Kresowik, MD, FACS, delegate for the Society for Vascular Surgery, actively caucused with the College’s delegation.

AMA elections
The annual meeting of the HOD includes elections for AMA officers, the Board of Trustees (BOT), and council positions. President-elect Patrice Harris, MD, a psychiatrist from Atlanta, GA, assumed her role as AMA president, and Susan Bailey, MD, an allergist and immunologist from Fort Worth, TX, was unanimously elected to be the next AMA president-elect.

The following ACS members were elected to the Board of Trustees: Willie Underwood III, MD, FACS, a urologist from Buffalo, NY (an ACS-endorsed candidate); Michael Suk, MD, FACS, an orthopaedic surgeon from Danville, PA; and Grayson W. Armstrong, MD, an ophthalmology resident, Harvard School of Medicine, Boston, MA.

Business of the HOD
Because of the high volume of issues that come before the annual House of Delegates, it is critical to focus on matters that relate to surgery, surgical practice, or other items of ACS interest—trauma, cancer, quality, and so on. One of the ACS delegation’s primary responsibilities is to cull the resolutions and reports fitting these criteria; following are some highlights from the meeting.

Informed consent
In 2017, the Pennsylvania Supreme Court ruled that physicians may not delegate their obligation to provide sufficient information to obtain a patient’s informed consent and that the duty of informed consent is a nondelegable duty owed by the physician conducting the surgery or treatment. Resolution 7 was introduced and subsequently adopted to address this ruling. In addition to calling on the AMA to review the ruling and determine its potential effects on informed consent, it requested that the AMA, in cooperation with other relevant stakeholders, advocate that qualified physicians, while retaining the ultimate responsibility for all aspects of the informed consent process, be able to delegate tasks associated with the process to other qualified members of the health care team who have knowledge of the patient, the patient’s condition, and the procedures to be performed on the patient.
Collective bargaining
For decades, attention has been directed toward the development of physician unions or collective bargaining activities that do not violate federal anti-trust law. In adopting Resolution 606, Investigation into Residents, Fellows, and Physician Unions, the HOD directed the AMA to study the risks and benefits of collective bargaining for physicians and physicians in training in today’s health care environment.

Prior authorization requirements for postoperative opioids
Frustration in dealing with prior authorization is a common issue across all specialties and physician practice types. As this relates to opioids, the HOD adopted BOT Report 23 containing the following recommendations:

- The AMA will advocate for state legislatures and other policymakers, health insurance companies, and pharmaceutical benefit management companies to remove barriers, including prior authorization, to nonopioid pain care.
- The AMA will support amendments to opioid restriction policies to allow for exceptions that enable physicians, when medically necessary in the physician’s judgment, to exceed statutory, regulatory, or other thresholds for postoperative care and other medical procedures or conditions.

Kidney transplantation
The HOD adopted Resolution 201, Assuring Patient Access to Kidney Transplantation, adding to AMA policy related to End Stage Renal Disease (ESRD). This resolution called on the AMA to work with professional and patient-centered organizations to advance patient and physician-directed coordinated care for ESRD patients and to oppose any legislative or regulatory efforts to remove patient choice and physician involvement in ESRD care decisions. It further directed the AMA to oppose any legislative or regulatory effort that would create financial incentives that would curtail access to kidney transplantation.

Surprise out-of-network billing
In light of state and federal legislative activity surrounding the issue of surprise billing, the HOD adopted policy that the AMA will advocate that any legislation addressing surprise out-of-network medical bills use an independent, nonconflicted database of commercial charges. Most often, this policy relates to the use of a payment benchmark if a billing dispute between a physician and a payor goes to arbitration.

Bleeding control
Previously the HOD adopted a policy that supports training for both the lay public and professional responders in essential techniques of bleeding control. To enhance this policy, the HOD adopted Resolution 527, Increasing the Availability of Bleeding Control Supplies, indicating the AMA supports the increased availability of bleeding control supplies with adequate and relevant training in schools, places of employment, and public buildings.
Surgical Caucus
This HOD meeting took on special significance as it marked the 30th anniversary of the Surgical Caucus. During the business meeting of the Caucus, Chair C. Bob Basu, MD, MPH, MBA, FACS, presented a brief history of the Caucus, reminding members that in June 1989, more than 200 surgeons attended the first Caucus event where “enthusiasm and good fellowship carried the day.”

At every meeting of the HOD, the Caucus sponsors a Continuing Medical Education session. Held Monday, June 10, the session, Intimate Partner Violence: Enhancing Patient Care, included presentations by ACS Immediate Past-President Barbara Lee Bass, MD, FACS, FRCSEng(Hon) FRCSI(Hon), FCOSESCA(Hon); John F., Jr. and Carolyn Bookout Presidential Distinguished Chair, department of surgery, Houston Methodist Hospital, TX; and Erin M. Shriver, MD, FACS, clinical associate professor of ophthalmology and visual sciences, University of Iowa Healthcare Carver College of Medicine, Iowa City. Attendees learned about identifying clinical signs and symptoms that are suggestive of intimate partner violence as well as strategies/steps to take when intimate partner violence is suspected.

Next HOD meeting
The interim meeting of the HOD will take place November 16–19 in San Diego, CA. With a focus on advocacy and legislation, delegates will have the opportunity to address emergent or year-end legislative policy issues. Fellows with suggestions for resolutions or with any questions regarding the AMA HOD should contact ahp@facs.org.

Coming next month in JACS and online now
Who hurts more? A multicenter prospective study of in-hospital opioid use in pediatric trauma patients in the Midwest

Carlos A. Pelaez, MD, FACS; Jonathan W. Davis, PhD; Sarah K. Spilman, MA; and colleagues report in the October issue of the *Journal of the American College of Surgeons* (JACS) that most pediatric trauma patients received an opioid in the first 48 hours of hospitalization, although prevalence and exposure varied by age, injury, and acuity. Aggressive pain management can be appropriate for injured pediatric patients; however, study results indicate areas for improvement, specifically for children with minor injuries and those receiving excessive opioid amounts.

This article and all other JACS content is available at journalacs.org.
The Board of Directors of the American College of Surgeons Professional Association (ACSPA) and the Board of Regents (B/R) of the American College of Surgeons (ACS) met June 7–8 at the College’s headquarters in Chicago, IL. The following is a summary of key activities discussed. The information provided was up-to-date at the time of the meeting.

**ACSPA**

From January 1 to May 8, the ACSPA and its Political Action Committee, ACSPA-Surgeons PAC, reported more than $274,000 in receipts from more than 800 ACS members and staff. Surgeons PAC disbursed $214,000 to more than 60 congressional candidates, leadership PACs, and political campaign committees. Commensurate with congressional party ratios, 52 percent of the amount given went to Democrats, and 48 percent went to Republicans.

**ACS**

In addition to reviewing reports from the ACS division directors, the B/R reviewed and approved the following policy statements:

- Statement on Bullying, Harassment, and Discrimination (see page 47)
- Revised Statement on Patient Safety Principles for Office-Based Surgery Utilizing Moderate Sedation/Analgesia (see page 51)
- Providing extensive written comments on surprise billing
- Leading the effort to get Congress to pass the Pandemic and All-Hazards Preparedness and Advancing Innovation Act of 2019

The B/R accepted resignations from 12 Fellows and changed the status from Active or Senior to Retired for 90 Fellows. The Regents also approved the formation of the Iraq Chapter.

**Division of Advocacy and Health Policy**

The Division of Advocacy and Health Policy (DAHP) has identified 43 health policy and advocacy issues that are important to surgeons. Sixteen of the 43 issues are the focus of the advocacy team based on legislative proposals under congressional consideration. Legislative activities for this year included the following:

- Testifying before the House Labor, Health and Human Services Appropriations Subcommittee on firearms
- Testifying before the Senate Finance Committee on the Medicare Access and Children’s Health Insurance Program (CHIP) Reauthorization Act of 2015 (MACRA) and payment
- Providing extensive written comments on surprise billing
- Leading the effort to get Congress to pass the Pandemic and All-Hazards Preparedness and Advancing Innovation Act of 2019

DAHP continues to monitor legislative activities, especially the recent introduction of several bills on unanticipated/surprise billing.

In the first five months of 2019, the ACS submitted more than 140 pages of feedback to the U.S. Department of Health and Human Services (HHS).

**Division of Education**

**Academy of Master Surgeon Educators**

Established in 2017, the Academy recognizes and assembles a cadre of Master Surgeon Educators™ of national and international renown to work closely with the Division of Education to advance the science and practice of surgical education and training. The initial group of Members and Associate Members were inducted October 2018 in Chicago. Following the Induction Ceremony, the newly inducted Members and Associate Members were invited to submit suggestions regarding high-impact programs and projects the Academy should pursue. Initial steps are under way to
pursue the top two priorities for 2019–2020. The Academy will convene a special session October 28 at Clinical Congress 2019 to update attendees on the Academy’s activities.

Committee on Ethics
The Committee on Ethics will sponsor the John J. Conley Ethics and Philosophy Lecture presented by Gretchen M. Schwarze, MD, FACS, What We Talk About When We Talk About Surgery, at Clinical Congress 2019. Additional committee-sponsored events include the 2019 Ethics Colloquium, The Ethics of Extraordinary Care; a Panel Session, Should Surgeons Care for their Family Members?; and a Postgraduate Course, Ethical Issues in Geriatric Surgical Care.

The Fellowship in Surgical Ethics, sponsored by the Division of Education and MacLean Center for Clinical Medical Ethics at the University of Chicago, IL, prepares surgeons for careers that combine clinical surgery with scholarly studies in surgical ethics. Applications for 2019 are under review, and discussions are under way regarding the final selection.

CASEL
Modules and focused sessions of the ACS Certificate Program in Applied Surgical Education Leadership (CASEL) include the following:

- Creating a Culture of Scholarship
- Evaluating Program Outcomes
- Facilitating a Culture for Individuals to Reach their Professional Potential
- Influencing People
- Leading and Supporting Faculty Development and Advancement
- Managing Yourself as an Educational Leader
- Mentoring a Diverse Workforce
- Navigating Change
- Negotiating for Resources

CASEL is expected to launch in September, and applications are being accepted for the initial cohort of 20 participants.

Clinical Congress
The ACS Clinical Congress remains the premier annual surgical meeting and is the largest educational program of the Division of Education. It offers a range of outstanding education and training opportunities to practicing surgeons, surgery residents, medical students, and other members of surgical teams. Clinical Congress 2019 will take place October 27–31 in San Francisco, CA, and will include 24 tracks; 11 Named Lectures; 112 Panel Sessions; 19 Didactic Courses; 14 Skills Courses; 45 Meet-the-Expert sessions; and 19 Town Halls. A total of 1,971 scientific abstracts were submitted.

Continuing Medical Education (CME) and Self-Assessment Credits will be available for most sessions, and Certificates of Verification provided for didactic and skills courses.

Comprehensive General Surgery Review Course
The ACS Comprehensive General Surgery Review Course offers a 3.5-day intensive review of the essential content areas in general surgery. The course design is novel with online pre- and posttests, and includes a unique, interactive educational model. The 2019 course will take place November 14–17 in Chicago.

Core General Surgery Review for Residents
The ACS Core General Surgery Review for Residents, a new three-day course, took place July 6–8 in Chicago. It was developed specifically for residents interested in an intense review of general surgery but benefits all individuals preparing for the General Surgery Qualifying Examination and residents transitioning to general surgery practice.
Optimizing Perioperative Pain Management: An Evidence-based Approach
Optimizing Perioperative Pain Management: An Evidence-based Approach is a new course that a multidisciplinary committee of surgeons, pharmacists, anesthesiologists, oncologists, and pain specialists is developing. The goals of the program are to support appropriate pain management, improve outcomes, improve patient functionality, reduce opioid prescribing and opioid consumption, and optimize consultative services. The program is scheduled to launch this fall.

RATL
The 13th Annual Residents as Teachers and Leaders (RATL) Course was offered March 29–31 in Chicago. More than 130 attendees learned about coaching, teaching in the ambulatory setting and operating room, providing feedback, understanding individual leadership styles, designing effective conferences, and questioning skills.

RISE
Resources in Surgical Education (RISE) provides timely and informative peer-reviewed online articles on all aspects of surgical education. A new article is posted every six to eight weeks. From June 2017 through April 2019, 20,538 visitors viewed the web page.

Senior surgeon, pre- and postretirement educational activities
Activities of the Division of Education specifically directed at senior surgeons, pre- and postretirement, include the following:

• The Introduction to Simulation-based Teaching Course has taken place annually for the last three years to help senior surgeons acquire teaching skills in simulation-based education and training.

• A new program of training senior surgeons to serve as coaches for mid-career and junior surgeons is being pursued.

• Courses on effective teaching, assessment, and evaluation founded on principles of contemporary surgical education are being designed.

• A number of other programs focusing on the professional activities of this cohort of senior surgeons also are being planned.

• A program on financial planning and implementation for mid-career and senior surgeons is in development.

An ad hoc committee has provided direction for these programs over the last four years. In October 2018, the B/R approved the appointment of a Standing Committee on Professional Opportunities for Senior Surgeons. The committee has been working with the Division of Education to develop programs and activities for senior surgeons, pre- and postretirement.

SESAP
The Surgical Education and Self-Assessment Program (SESAP) is now in its 47th year and remains the premier self-assessment and guided cognitive skills education program for practicing surgeons. The education and cognitive learning model of SESAP is designed to promote expertise in surgery. SESAP 17 is expected to be released in October 2019.

Summit on Surgical Training
The Fourth Annual ACS Summit on Surgical Training took place May 22–23 in Chicago and focused on competency-based surgical education and training. A panel on competency-based surgical education and training addressed the perspectives of the College, American Board of Surgery (ABS), Association of Program Directors in Surgery, and Resident and Associate Society of the ACS. Small group discussions focused
on cognitive skills, technical skills, nontechnical skills and teamwork, and programmatic and operational issues, within the context of competency-based surgical education and training.

Surgeons as Educators Course
The ACS Surgeons as Educators Course, now in its 26th year, is considered the gold standard for all faculty development courses in surgery. The intense, six-day course addresses curriculum development, teaching skills, educational administration, educational leadership, and performance and program evaluation. The 2019 Surgeons as Educators Course will take place September 7–13 in Atlanta, GA.

Surgeons as Leaders: From Operating Room to Boardroom Course
The Surgeons as Leaders: From Operating Room to Boardroom Course continues to establish new benchmarks. The 15th anniversary of this program was celebrated during the April 2019 course in Durham, NC.

DROPC
The Division of Research and Optimal Patient Care (DROPC) encompasses the areas of Continuous Quality Improvement, including ACS research and accreditation programs.

Quality and Safety Conference
The 2019 Quality and Safety Conference (QSC) took place July 19–22 in Washington, DC, and focused on putting the patient first. Sessions highlighted techniques to improve quality and safety, leadership, advocacy, communication, and a full track to focus on important clinical topics, such as enhanced recovery, Strong for Surgery, emergency general surgery, and transplant, geriatric, and trauma surgery. More than 500 abstracts were selected to showcase surgical quality improvement initiatives and the implementation or validation of best practices from institutions nationwide. The keynote speaker, Rana L. Awdish, MD, an intensive care physician at Henry Ford Hospital, Detroit, MI, shared her journey from near death to recovery, as well as the passion she has for improving the patient experience. The 2020 QSC will take place July 24–27 in Minneapolis, MN.

Red Book
In 2017, the ACS published Optimal Resources for Surgical Quality and Safety (the Red Book). The development of adjunctive and integrated resources/standards based on this manual are near completion and ultimately will be used to launch a Surgical Quality Verification Program. Pilot visits began last year at targeted hospitals and continue in 2019. The goal is to refine and revise the set of standards based on the findings from the pilot phase. Since its release, nearly 10,000 manuals have been distributed.

ACS NSQIP
A total of 839 hospitals participate in the National Surgical Quality Improvement Program (ACS NSQIP®), with 706 participating in the adult option. The pediatric option represents 16 percent of overall participation, and another 28 hospitals are in the onboarding process. At present, 124 hospitals outside of the U.S. participate in ACS NSQIP—approximately 15 percent of all participating hospitals. Interest from Canada remains strong, and sites in Taiwan and Pakistan recently joined the program.

The ACS NSQIP Geriatric Pilot, launched January 2014 by the Geriatric Task Force, is ongoing, with 23 sites collecting data on 19 geriatric-specific variables. The intent of this initiative is to assess what impact the collection of data relevant to the older population may have on the overall ACS NSQIP dataset and outcomes and to work toward developing strategies to improve the overall surgical care of the geriatric patient. The pilot will continue to inform the development of the Geriatric SEP 2019 BULLETIN American College of Surgeons
Surgery Verification (GSV) Quality Improvement Program.

MBSAQIP
A total of 889 facilities participate in the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP); 829 are fully accredited. MBSAQIP recently released its third version of standards. Important changes include improved direction and support for centers on quality improvement projects, the addition of a patient risk assessment and follow-up protocol, and a medical weight loss accreditation option to recognize centers that offer nonsurgical weight management treatment to their patients. These standards represent the inaugural harmonization of the prescribed nomenclature that all standards for ACS Quality Programs will be using moving forward. This alignment will ensure that ACS Quality Programs can deliver a similar and more unified product.

At the 2019 QSC, MBSAQIP released a Bariatric Risk and Efficacy Calculator, the first of its kind, with more than four years of data and millions of patients to drive the tool’s analytics. The tool functions similarly to the Adult NSQIP Surgical Risk Calculator. The Bariatrics Calculator will support clinician and patient decision making preoperatively, with the added ability to allow patients to select a particular procedure and estimate its risk of complications, body mass index reduction, and co-morbidity resolution postoperatively.

CSV
The Children’s Surgery Verification (CSV) Quality Improvement Program launched in 2017 with the goal of ensuring access to high-quality care for pediatric surgical patients. The program comprises 133 active children’s surgery centers. Approximately 45 of these centers are in the various stages of verification, a 16 percent increase from 2018. 15 active sites are fully verified as Level I children’s surgery centers, a 60 percent increase from 2018. Plans are under way to create CSV standards for children’s specialty hospitals, which provide a limited range of services specific to various conditions or related to a specific disease process. Program leadership has met with leaders from oncology and musculoskeletal specialty hospitals to assess how these facilities can apply for CSV. The need for standards specific to specialty hospitals will be addressed by adjusting CSV standards to fit the narrow scope of these specialty hospitals. The modified Level I standards will be applied to allow specialty hospitals to apply to the CSV program and achieve a designation of Level I specialty oncology or Level I specialty musculoskeletal hospital. The designation of specialty hospitals is expected to launch this summer.

CQGS Project
The Coalition for Quality in Geriatric Surgery (CQGS) Project, funded by the John A. Hartford Foundation, aims to systematically improve surgical care for patients older than 65 years old by establishing a verification program. Work from the Coalition has culminated in the development of the GSV Quality Improvement Program. The GSV formally launched at the 2019 QSC with 30 new surgical standards designed to systematically improve surgical care and outcome for the aging adult population.

ISCR Program
The Agency for Healthcare Research and Quality Improving Surgical Care and Recovery (ISCR) Program, a collaborative effort between the ACS and the Johns Hopkins Armstrong Institute for Patient Safety and Quality, Baltimore, MD, is under way. The program continues to attract hospitals throughout the nation that are interested in partnering with the ISCR national program team to
implement enhanced recovery practices. Approximately 60 percent of enrolled hospitals also participate in the ACS NSQIP and 40 percent are not NSQIP participants. Several health systems have enrolled in the ISCR program to drive quality improvement efforts throughout their member hospitals. A new opportunity for enrollment, cohort 3B, has been introduced and is scheduled to start September 2019 to allow hospitals to join and implement enhanced recovery pathways for colorectal, total joints, hip fractures, and gynecologic surgery.

**Strong for Surgery**

Strong for Surgery (S4S), a joint program between the ACS and the University of Washington, Seattle, is aimed at identifying and evaluating evidence-based practices to optimize the health of patients before surgery. The program empowers hospitals and clinics to integrate checklists into the preoperative phase of clinical practice for elective operations. As of April 2019, the program grew from 178 sites to 538 sites after the release of the tool kit. The program now comprises eight checklists, including new ones on delirium, prehabilitation, advance directives, and safe and effective pain control. The new checklists were developed in collaboration with the CQGS project. Future plans are for S4S to complement the standards developed for CQGS and other quality programs at the ACS.

**SSR**

The Surgeon Specific Registry (SSR™) continues to evolve with more features as an online software application and database that allows individual surgeons to track their cases and outcomes from their computer or mobile device. Since its launch, more than 1.6 million cases have been entered into the SSR by a user base of 5,500 surgeons. The SSR has been refined to continue addressing many of the regulatory requirements for surgeons. The system supports the ABS Continuous Certification requirements, including the transmittal of cases to the Board. The SSR also continues to work closely with the Centers for Medicare & Medicaid Services (CMS) to implement the Quality Payment Program (QPP) Merit-Based Incentive Payment System (MIPS).

**Quality Data Platform Project**

The ACS Quality Data Platform Project began in 2015 with the goal of consolidating and improving all ACS clinical registries by moving them to a common platform hosted by QuintilesIMS, now known as IQVIA. The project will create a consolidated platform for data collection, data warehousing, and reporting for existing ACS quality programs, as well as the integration of educational and programmatic resources to be housed within the platform for each program. Efforts for the remainder of the year include preparing to integrate the MBSAQIP and Cancer registries into the new platform.

**Trauma Programs**

In 2018 the ACS Committee on Trauma (COT) Executive Committee initiated a strategic planning process to create a five-year plan to serve as a blueprint to guide the priorities and activities of the committee. The process used project management principles to define, accept, operationalize, implement, and evaluate each program element. This summer, staff and leaders will collaborate on the development of formal project plans, with the intent to begin a structured process of communication and reporting by late fall.

Stop the Bleed® training is being provided in more than 100 countries. As of April 30, 2019, bleedingcontrol.org had more than 49,000 registered classes, 50,000 instructors, and 790,000 individuals trained worldwide. As of May 14, a total of 825 hospitals were participating...
in ACS Trauma Quality Improvement Program (TQIP), including 145 participating in Pediatric TQIP; 14 percent of Adult TQIP programs also participate in Pediatric TQIP.

The 2019 TQIP Annual Scientific Meeting and Training is set for November 16–18 in Dallas, TX. The conference will focus on error management and high-functioning teams.

Earlier this year, the Advancing Leadership in Trauma Center Management Course content experts began creating course materials. This course is designed to provide insight and direction on the critical infrastructure and organizational processes needed to develop and lead a successful trauma center. The course will launch November 2019.

The College hosted a Medical Summit on Firearm Injury Prevention in Chicago February 10–11. Representatives of 43 professional medical and injury prevention organizations, as well as the American Bar Association, participated. The purpose of the conference was to identify a consensus-based, apolitical approach to firearm injury prevention. Summit presenters focused on understanding and addressing the root causes of firearm violence, while making firearm ownership as safe as possible. Following the meeting, the planning committee compiled consensus statements and brought them to the attention of attendees for further internal consideration by their organizations. Recently released Summit proceedings identified a comprehensive public health approach to addressing this problem that 42 of the participating organizations have formally agreed to support via a road map that can be implemented through collaboration among medical, legal, and community organizations. The consensus-based points for potential action address the need to do the following:

• Recognize firearm injury as a U.S. public health crisis, and take a comprehensive public health and medical approach to address it
• Research this public health crisis using a disease model, and call for research funding at federal and philanthropic levels commensurate with the burden of the disease on society
• Engage firearm owners and communities at risk as stakeholders to develop firearm injury programs
• Empower the medical community across all health care settings to act in the best interests of their patients in a variety of palpable ways: counsel patients on safe firearm storage; screen patients at risk for firearm injury or death; and engage the community in addressing the social determinants of disease through hospitals and health care systems

• Commit professional stakeholder organizations to ensure that these statements lead to constructive actions to improve the health and well-being of our nation ♦
Participate in the Sponsor a Medical Student initiative and help support the Medical Student Program at CLINICAL CONGRESS 2019.

Your gift of $250 per student will help ensure that medical students can participate in this career-enhancing program to build their knowledge of surgical career options and enhance their engagement with the College.

Your tax-deductible gift made to the American College of Surgeons (ACS) Foundation supports the ACS Division of Education, which organizes this and other innovative programs for medical students.

CONTRIBUTE TODAY!

VISIT facs.org/acsfoundation, CALL 312-202-5338, OR TEXT FACS to 41444
It was a great honor to attend the American College of Surgeons (ACS) Clinical Congress 2018 in Boston, MA, to receive the Nizar N. Oweida, MD, FACS, Scholarship for surgeons who serve small communities. The generosity of the family of the late Dr. Oweida gave me the opportunity to share my experience at different events at the conference. My main goal was to remind my fellow rural surgeons to focus on the advantages of working in small hospitals and to inspire them to provide specialized care locally. Given the scarcity of research originating in rural areas of the U.S., rural surgeons have a unique opportunity to generate quality research projects that reflect the characteristics of their patients.

Research in a small community
I was fortunate to graduate from the Carilion Clinic, Roanoke, VA, residency program. The program director, John Ferrara, MD, FACS, emphasized the goal of transferring the skill and medical care to the patient. When I started working at Aspirus Iron River Hospital, Iron River, MI, in a town of approximately 3,000 people, I quickly realized the challenges our patients and their families endure when they are transferred to tertiary hospitals. My top priority became developing a plan to safely manage our patients locally—a goal that can only be achieved with the assistance of a committed team.

My first year of practice was slow, and I was concerned about losing my surgical skills. I started visiting nursing home residents and managing their wound care. The community appreciated my commitment to providing this care, as it prevented multiple trips to outpatient clinics and unnecessary emergency room visits and did not disturb the routine of these frail patients.

In my second year, I decided to develop a structured anti-reflux program that encompasses all diagnostic workup, uses cutting-edge laparoendoscopic approaches, and collects objective outcome data. I received overwhelming support from...
The dilemma facing rural surgeons is to demonstrate that they have comparable outcomes to tertiary hospitals despite low surgical volume. Our experience is different—we are clearly a high-volume program with comparable outcomes and original research activities. We believe that academia is a mindset that is not associated with a place or position.

Advantages of rural research projects
A notable dilemma facing rural surgeons is to demonstrate that they have outcomes that are comparable to tertiary hospitals, despite low surgical volume. Our experience is different—we are clearly a high-volume program with comparable outcomes and original research activities. We believe that academia is a mindset and is not associated with a place or position.

Our research output is unique in many aspects. First, it avoided fragmentation of care of GERD patients, as we performed the diagnostic and therapeutic procedures. This approach gave us unfiltered access to GERD patients and enabled us to evaluate the entire spectrum of GERD. Second, our research is focused purely on rural patients. Third, these patients are more likely to attend clinic visits at their local hospital and to comply with local postoperative protocols, which have the potential to deliver long-term follow-up data.

A wonderful opportunity
I greatly appreciate that the ACS recognized this clinical and research output through the Nizar N. Oweida Scholarship. I was given the honor to be a stage participant in the Opening Ceremony of the ACS Clinical Congress and to hear the vision of Ronald V. Maier, MD, FACS, FRCS(Eng)(Hon), FRCSI(Hon), FCOSESCA(Hon), 2018–2019 ACS President. I also attended the Martin Memorial Lecture, The National Institute of Hope, delivered by Francis Collins, MD, PhD, head of the National Institutes of Health. It was inspirational to envisage the effect of more “Institutes of Hope” on patients’ welfare through patient-centered care and research.

It was a great honor to receive the Nizar N. Oweida Scholarship certificate from the 98th ACS President, Barbara Lee Bass, MD, FACS, FRCS(Eng)(Hon) FRCSI(Hon), FCOSESCA(Hon). This award is not only for me, but also for my team of amazing individuals who embraced change, adapted new strategies for growth, and moved outside the established comfort zone to provide excellent care in our local community. This energetic team comprises the entire staff of the Aspirus Iron River Hospital, which transformed it from a critical access hospital to a critical access site of hope.
Applications for 2021 international Traveling Fellowships due November 15

The International Relations Committee of the American College of Surgeons (ACS) has announced the availability of traveling fellowships to Australia and New Zealand (ANZ), Germany, and Japan. The closing date for receipt of completed applications for all three destinations is **November 15, 2019**.

The traveling fellowships are intended to encourage the international exchange of information concerning surgical science, practice, and education and to establish professional and academic collaborations and friendships. These are exchange fellowships—meaning, for example, a U.S. or Canadian ACS Traveling Fellow will visit Japan for the annual meeting of the Japan Surgical Society, and a Traveling Fellow from Japan will visit the U.S. for the ACS Clinical Congress.

**Basic requirements**
The traveling fellowships are available to Fellows of the ACS in most of the surgical specialties who meet the following requirements:

- Have a major interest and accomplishment in basic sciences related to surgery
- Hold a full-time academic appointment in the U.S. or Canada
- Are younger than 50 years of age on the date the application is filed
- Are enthusiastic, personable, and possess good communication skills

**Activities**
The Traveling Fellows are required to spend at least two or three weeks in the countries that they visit and engage in the following activities while abroad:

- Attend and participate in the annual scientific meeting of the host country, as follows:
  - ANZ: Royal Australasian College of Surgeons, Perth, Australia (May 3–7, 2021)
  - Germany: German Society of Surgery, Munich (April 13–16, 2021)
  - Japan: Japan Surgical Society, Chiba (April 8–10, 2021)

- Participate in the formal convocation ceremony of that annual meeting

Financial support
The College will provide $10,000 U.S. to each successful applicant. The awardees must meet all travel and living expenses as appropriate to the country visited. Senior chapter representatives will consult with the Fellows about the centers to be visited, the local arrangements for each
Contact us to learn more about how your cancer program can become accredited.

The ACS International Relations Committee will select the three Traveling Fellows after review and evaluation of applications. A personal interview may be requested prior to the final selection. Successful applicants and alternates will be selected and notified in March 2020.

Full requirements and links to the application forms are available on the ACS website at facs.org/member-services/scholarships/traveling. Send the application form plus the additional required documents in the form of a single PDF to scholarships@facs.org.

Accreditation makes a difference.

Accreditation by the American College of Surgeons Cancer Programs can help your organization gain a competitive advantage and lead the way to better cancer care for your patients.

Contact us to learn more about how your cancer program can become accredited.

312-202-5085 | canceraccreditation@facs.org

facs.org/cancerprograms
Calendar of events

*Dates and locations subject to change. For more information on College events, visit facs.org/events or facs.org/member-services/chapters/meetings.

**SEPTEMBER**

**Turkey Chapter**
September 5–6
Ankara, Turkey
Contact: Congress Secretariat, office@buto-org.com

**France Chapter**
September 12–13
Dijon, France
Contact: Dr. Olivier Monneuse, oliver.monneuse@chu-lyon.fr

**Jordan Chapter**
September 12–13
Amman, Jordan
Contact: Dr. Majdi Al Soudi, alsoudi@gmail.com, acsjordan.com

**UAE Chapter**
September 12–13
Dubai, UAE
Contact: Prof. Safwan Taha, Safwan.Taha@mediclinic.ae, acs-uae2019.com

**Kansas Chapter**
September 13–14
Lenexa, KS
Contact: Denise Lantz, dlantz@kmsonline.org, kansaschapteracs.org

**New Mexico Chapter**
September 13–14
Albuquerque, NM
Contact: Nallely Gomez, ngomez@nmms.org

**Arizona Chapter**
September 21–22
Scottsdale, AZ
Contact: Joni Bowers, joni@azmed.org, azacs.org

**Kentucky Chapter**
September 27
Louisville, KY
Contact: Linda Silvestri, lsiv2@uky.edu, kentuckychapter.facs.org

**Nebraska Chapter**
September 27
Omaha, NE
Contact: Emily Maurer, emaurer@facs.org, nebraskachapter.wildapricot.org

**Nevada Chapter**
September 28
Las Vegas, NV
Contact: Camille Spenner, camillespenner@gmail.com, nevadaacs.org

**OCTOBER**

**Minnesota Surgical Society**
October 4–5
Minneapolis, MN
Contact: Janna Pecquet, janna@msurgicalsociety.org, mnsurgicalsociety.org

**Argentina Chapter**
October 14–17
Buenos Aires, Argentina
Contact: Clara Mojica, capitulo@aac.org.ar

**Delaware Chapter**
October 23
Newark, DE
Contact: Sandy DelCoglin, SDelCoglin@christianacare.org

**Chapter Speed Networking Event at Clinical Congress 2019**
October 28
San Francisco, CA
Contact: Natalie Bell, nbell@facs.org, bit.ly/33PkYYA

**Wisconsin Surgical Society**
November 8–9
Kohler, WI
Contact: Terry Estness, wisurgical@att.net, wisurgicalsociety.com

**Oklahoma Chapter**
November 11
Oklahoma City, OK
Contact: Nathalia Granger, ngranger@facs.org

**NOVEMBER**

**Wisconsin Surgical Society**
November 8–9
Kohler, WI
Contact: Terry Estness, wisurgical@att.net, wisurgicalsociety.com

**Oklahoma Chapter**
November 11
Oklahoma City, OK
Contact: Nathalia Granger, ngranger@facs.org

**FUTURE CLINICAL CONGRESSES**

2019
October 27–31
San Francisco, CA

2020
October 4–8
Chicago, IL

2021
October 24–28
Washington, DC
A surgical champion since 2008 for Project Access, Sandra L. Freiwald, MD, FACS (middle), leads hundreds of volunteers to provide surgical care to low-income and uninsured San Diego County residents during local half-day *Saturday Surgery Days*. Along with her colleagues, Dr. Freiwald created a program that has empowered the surgical community and benefits individuals who otherwise would not have access to elective operations.

Making a difference in your community starts with you. One personal challenge. One decision to give back.

facs.org/ogb
San Francisco is famous for its eclectic Victorian architecture.