The ACS
Strong for Surgery
program:
Optimizing health
before surgery
“I am Dr. Patricia Turner, a Fellow of the American College of Surgeons.”
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Steven C. Stain, MD, FACS

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BULLETIN

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OCT 2019 BULLETIN American College of Surgeons
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The American College of Surgeons (ACS) and the Harvard School of Business (HBS) Institute for Strategy and Competitiveness have collaborated to develop ACS THRIVE (Transforming Health Care Resources to Increase Value and Efficiency). This partnership started in January when the authors all participated in an HBS course arranged by Dr. Opelka.

Two audiences learned about this initiative prior to the ACS Quality and Safety Conference, July 19–22, 2019. On July 18, we briefed congressional staff on Capitol Hill on the purpose and goals of this collaborative initiative, and July 19, we described the proposal to conference attendees. Details about the latter are provided in the Quality and Safety Conference news story on page 57 of this issue. In this column, we provide a broad overview of what was discussed during the Capitol Hill program.

Speakers at the briefing included all three authors of this column; Mary Witkowski, MD, MBA, fellow, HBS Institute for Strategy and Competitiveness; Robert Kaplan, MS, PhD, senior fellow and Marvin Brower Professor of Leadership Development, emeritus, HBS; and Bruce Hall, MD, PhD, MBA, FACS, vice-president and chief quality officer, BJC Healthcare, St. Louis, MO, and consulting director, ACS National Surgical Quality Improvement Program (ACS NSQIP®).

Better outcomes equal less spending
Most stakeholders, including the government, which is the nation’s largest health insurer, agree that the current health care system is challenged on a number of levels. Health care delivery approaches reflect legacy/historical organizational structures, management practices, and payment models. Similarly, although medical science has advanced rapidly, service delivery organizational practices have failed to evolve. Furthermore, health care delivery has become an extremely complex and fragmented enterprise with multiple stakeholders pursuing multiple goals, including improved patient experience, safety, efficacy, access, cost, research, and training.

Many thought leaders have suggested that many of these issues can be addressed by moving to a value-based health care system—one that is patient-centric, delivered by teams, focused on quality, and reduces unnecessary costs.

The College’s role
Whereas value is defined as the sum of quality divided by cost, we explained to the congressional staff the ACS’ track record of improving outcomes with its four-point model for developing Quality Programs: set standards backed by research; ensure that health care facilities have the right infrastructure (staffing, specialty mix, equipment, and checklists); apply rigorous data from medical charts and postdischarge tracking; and verify through external peer review. We noted that when hospitals measure outcomes using ACS NSQIP, they can lower costs and improve quality of care. In fact, 82 percent of ACS NSQIP-participating hospitals have decreased complications and 66 percent have experienced decreased mortality. Both complications and mortality take a toll financially on our patients, our institutions, and the entire health care system—not to mention the emotional repercussions for our patients and colleagues.

ACS THRIVE’s model for achieving value-based health care would apply many of the concepts outlined in the ACS Red Book—Optimal Resources for Surgical Quality and Safety—including the provision of integrated, multidisciplinary patient care, data collection and analysis, performance improvement, transparency, and accountability. It incorporates these principles into the science of economics, calling for measurement and reduction of health care costs and the development of payments for integrated, successful patient outcomes. This is where the HBS takes center stage.
While the College’s role in the collaboration is to define quality for particular condition or procedure, HBS offers a formula for determining the reasonable and equitable cost for all services appropriate to a surgical episode of care.

**HBS’s role**

While the College’s role in the collaboration is to define quality for particular conditions or procedures, HBS offers a formula for determining the reasonable and equitable cost for all services appropriate to a surgical episode of care.

HBS has found that when health care is organized around medical conditions, or integrated practice units (IPUs) comprised of all health care professionals and facilities involved in every stage of patient care—from diagnosis to postdischarge care—cancer patients, for example, have better outcomes.

In addition to establishing IPUs, HBS calls for applying time-driven, activity-based costing (TDABC) to health care. TDABC involves three steps: (1) study and map processes across the entire episode of care; (2) calculate the capacity cost rate for resources used in the process; and (3) use capacity cost rate and process times to compute total cost.

The ACS and HBS maintain that the best reimbursement mechanism for a value-based health care system is bundled payment. Under the bundled payment model, a single risk-adjusted payment covers all of the care required to treat a patient’s medical condition, contingent on achieving good condition-specific outcomes and at a price that provides a fair margin of return for delivering effective and efficient care.

**Looking forward**

So, what will ACS THRIVE mean for patients, clinicians, and payors? Patients can anticipate a better understanding of the surgical care they receive and how it will affect their quality of life; few, if any, out-of-network billings; and improved access to the care they need. Clinicians will have the opportunity to work in a culture of excellence with integrated teams, review reliable episode-specific quality metrics, receive risk-adjusted and actionable data for performance improvement, get a clearer picture of the total costs of care, play a leadership role in reducing wasteful services, and experience fewer administrative burdens. Payors will enjoy the benefits of cost predictability, efficient processes, and a healthier population.

It was an honor to have the opportunity to present the ACS THRIVE vision for establishing a value-based health care system to congressional staff. Our proposal was well received, and we anticipate that we have opened a few minds and doors on Capitol Hill. We look forward to working with members of Congress and ultimately government agencies to help patients, surgeons, and the health care system not just survive, but thrive.

If you have comments or suggestions about this or other issues, please send them to Dr. Hoyt at lookingforward@facs.org.
The ACS Strong for Surgery program: Changing clinician and system behavior to optimize health before surgery

A QUALITY PROGRAM of the AMERICAN COLLEGE OF SURGEONS

by Thomas K. Varghese, Jr., MD, MS, FACS;
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and David R. Flum, MD, MPH, FACS
Health care systems around the world are struggling with rising costs and variations in the delivery of quality care. Medical care often is administered without sufficient evidence-based protocols, with U.S. patients receiving only about half of the preventive, acute, and chronic care recommended by current research and evidence-based guidelines. One-third of hospitalized patients may experience harm or an adverse event, often as a result of preventable errors. Infections and complications once were viewed as routine consequences of medical care; however, advances in perioperative medicine demonstrate that evidence-based strategies and interventions can significantly reduce the incidence and severity of these events. With nearly 40 percent of health care expenditures in the U.S. related to surgical interventions, opportunities exist to bring about true health care reform through the dissemination of effective evidence-based practices in surgical care.

In 2001, the National Academy of Science’s Institute of Medicine (now known as the National Academy of Medicine) released Crossing the Quality Chasm: A New Health System for the 21st Century, which focused on the divide between what is known about quality health care and the health care that people actually receive. The report emphasized that making incremental improvements in health care delivery is not enough to significantly improve outcomes and defined six pillars of health care quality: safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity.

Surgery has made notable progress with the first pillar: safety. Although trends toward safer surgery are encouraging, wide variations in outcomes suggest further opportunities for improvement. In 2013, a further call to action was issued centered on maximum value for patients: achieving the best outcomes at the lowest cost.

Most surgical quality initiatives undertaken by hospitals focus on the inpatient experience of surgical care—from the time the patient is admitted until discharge. Although these initiatives are important and meritorious, a patient’s risk of negative outcomes from surgery may be both predetermined and modifiable before entering the operating room. Therefore, the scope of surgical quality improvement (QI) efforts must expand to incorporate the preoperative setting by engaging surgeons in their clinics, and thus toward the realization of optimal surgical quality and perioperative care.

Preoperative, clinic-based QI initiatives face a unique set of challenges related to infrastructure, time constraints, professional overlap in the field, reimbursement issues, and conflicts with a fee-based culture (that is, more patients undergoing operations leads to greater remuneration). Ideally, QI programs should engage multidisciplinary stakeholders, educate the public, maximize value, improve efficiency in clinic workflow, and incorporate seamlessly into robust surveillance and data feedback platforms to initiate and sustain results after implementation.

In 2012, a novel public health initiative was piloted in the Pacific Northwest: Strong for Surgery, which aims to identify and improve evidence-based practices for elective surgical patients in the preoperative setting. After the 2012 pilot year, the program spread in the Pacific Northwest, until 2015 when it transitioned to the American College of Surgeons (ACS), officially becoming an ACS Quality Program in 2016. This article reviews the initial growth of the Strong for Surgery program, its impact on elective surgical patient outcomes, and plans for the years ahead.

The early years of Strong for Surgery
Building on the success of the Surgical Care and Outcomes Assessment Program (SCOAP), in May 2012, the team at the University of Washington Comparative Effectiveness Research Translation and Information Network (CERTAIN), Seattle,
launched Strong for Surgery.6,9 This program is a platform that allows evidence-based interventions to be implemented in the preoperative time period, thus facilitating the optimization of patient health before elective operations. Strong for Surgery has two primary components: raising patient awareness and changing surgical practice.

The raising patient awareness component was achieved with the help of a public outreach campaign that included events, media reports, social media interactions, and the formation of strategic partnerships with regional specialty societies (see Figure 1, this page). The campaign focused on four areas with robust evidence-based interventions intended to help optimize patient health before elective surgery: nutrition optimization, blood sugar control, medication reconciliation, and smoking cessation (see Table 1, page 14). A website was created (www.StrongforSurgery.org) to provide background information about the program, evidence from the literature for checklist components, and details on outreach events.

Changing surgical practice was achieved when hospitals participating in the Strong for Surgery program entered into formalized agreements that led to site visits from trained surveyors who performed workflow mapping, assessed resources, and facilitated training of clinic staff. Implementation guides were developed to support these efforts (see Tables 2 and 3, page 14). Strong for Surgery change teams—composed of at least a surgeon champion, clinic nurse lead, nutritionist/dietitian, quality improvement database representative, and administrative support—were formed at participating sites. These team members were expected to participate in monthly stakeholder calls (see Figure 2, page 15).

Implementation occurred in three formal phases: explore, initiate action, and learn together (see Table 4, page 15).

In 2012, six sites representing a diverse spectrum of practice environments—academic medical center, large-volume private practice, medium-volume private practice, health maintenance organization, community hospital, and county hospital—pilot-tested the program (see Figure 3, page 16). Feedback from these sites led to the refined version of these checklists that was spread through the Strong for Surgery collaborative from 2013 onward. Funding in the early years of the initiative was achieved through grants from the University of Washington’s Patient Safety Innovations Program, the State of Washington’s Life Sciences Discovery Fund, Nestle HealthScience (nutrition optimization), Pacira Pharmaceuticals (opioid minimization), and Pfizer (smoking cessation). Strategic partnerships were developed with commercial industries rather than through the promotion of their products.

Impact
The Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) framework offers a comprehensive approach to considering five dimensions important for evaluating the potential public health impact of an intervention.10 The RE-AIM components are defined as follows:
**Reach:** The reach of the campaign was defined as the number of outreach events, strategic partnerships, and digital presence (Internet and social media) attained in years two and three following the pilot-testing year.

**Effectiveness and adoption:** Program adoption was measured as the percentage of health care professionals and their respective specialties that agreed to deliver the program. Effectiveness was assessed using process of care measures tracked in quarterly SCOAP reports for both nutritional interventions and blood sugar control—both specific targets of Strong for Surgery.

**Implementation:** Implementation was defined as uptake of the intervention and was measured in weekly electronic scorecard reports (number of checklists used divided by the number of eligible patients), observational site visits, and on-site interviews six and 12 months postintervention. Interview questions addressed familiarity with the implementation guide, feedback regarding sections that were the most and least helpful, actual use and implementation of the program, and barriers to adoption of the Strong for Surgery program. Focus interviews were conducted to assess whether the goals of implementation were reached and improvement in workflow was demonstrated.

**Maintenance:** Maintenance was defined as the degree to which the program is sustained within each institution at 12 months after implementation.

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**TABLE 1.**
**INITIAL FOUR PREOPERATIVE MODIFIABLE AREAS FOR OPTIMIZATION OF HEALTH BEFORE ELECTIVE SURGERY**

<table>
<thead>
<tr>
<th>NUTRITION</th>
<th>BLOOD SUGAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Screening for malnutrition</td>
<td>• Screening for risk of diabetes</td>
</tr>
<tr>
<td>• Testing albumin levels for risk stratification</td>
<td>• Screening for blood sugar</td>
</tr>
<tr>
<td>• Evaluating for evidence-based use of immunonutrition</td>
<td>• Monitoring perioperative glucose management</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SMOKING</th>
<th>MEDICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Screening to identify smoking habits and history</td>
<td>• Identifying drugs that could cause bleeding and cardiac risks</td>
</tr>
<tr>
<td>• Advising patient on how to establish a quit plan</td>
<td>• Reconciling herbal medications</td>
</tr>
</tbody>
</table>

**TABLE 2.**
**STRONG FOR SURGERY DESIGN PRINCIPLES**

- Perform needs assessment at site prior to initiation.
- Design with DATA.
- Do the hard work to make it simple.
- Iterate. Then iterate again.
- Standardize principles, allow flexibility for sites.
- Make things open (transparency).

**TABLE 3.**
**PRINCIPLES OF WORKFLOW MAPPING**

- Maximize patient value + eliminate waste
- Optimize the flow of services through the system
  - Map out processes
  - Identify value and nonvalue steps
  - Create implementation bundles, including checklists
  - Empower staff
Results
Six pilot sites tested the Strong for Surgery platform in 2012. Strong for Surgery was initiated at 11 SCOAP hospitals in year two (2013), and 21 SCOAP hospitals in year three (2014). The public awareness campaign was active, with 94 outreach events in two years (2013 and 2014), consisting of invited presentations at grand rounds at SCOAP sites, panel discussions and presentations at regional and national specialty society meetings in 10 states with a total of more than 4,000 U.S. attendees, and meetings with patient advocates. Strategic partnerships were formed with Washington State surgery, anesthesia, nutrition, patient safety, nursing, and QI organizations. Social media presence (Twitter accounts: @tomvarghesejr, @Strong4Surgery) grew during the two years, with 5,695 followers for the two Twitter accounts, 26,000 posts, and 159 followers on Facebook. The Strong for Surgery website received 16,227 hits over the two years, including 11,473 unique visits (that is, views that went beyond the home page with deep dives into content). Demand for the program came from well beyond the SCOAP collaborative, with 186 requests to participate from U.S. sites outside Washington State and from 13 countries around the world.

A total of 5,287 patients (median age 62 years) underwent elective colorectal surgery with anastomosis at SCOAP hospitals in 2013 and 2014. The Strong for Surgery intervention was used in 46.1 percent of SCOAP patients during the two-year study period, with 30.1 percent in 2013 and 62 percent in 2014. In the fourth quarter of 2014, Strong for Surgery hospitals provided for 83.2 percent (594/714) of elective colorectal procedures with anastomosis in SCOAP.

During on-site visits, leadership at Strong for Surgery hospitals indicated that they were familiar with and used the implementation guide. Predictors and barriers to successful Strong for Surgery implementation were identified based on site visits and focus interviews (see Tables 5 and 6, page 17). Baseline clinical and demographic characteristics were similar between patient groups that did and did not participate in the Strong for Surgery program (see Table 7, page 18).

Optimizing nutrition
Decreased albumin has been associated with significant increase in morbidity and mortality in the colorectal surgical patient population. In 2011, SCOAP data identified that 45 percent of all elective colorectal surgical patients had routine albumin measurements, and 15 percent of patients undergoing colon resection in Washington State had an albumin level of less than 3 grams per deciliter (g/dL) without documented attempt at nutritional intervention. The patients had reoperation rates of 5 to 12 percent and 30-day mortality rates of 3 to 14 percent. After the launch of Strong for Surgery, improvements were seen in all the nutritional process-of-care measures in both Strong for Surgery and nonparticipating hospitals. Albumin was measured in 70.45 percent of Strong for Surgery colorectal surgical patients and 56.7 percent of non-Strong for Surgery patients. Albumin levels less than 3.0 g/dL were identified in 3.6 percent of program patients, with 24.15 percent referred to a nutritionist or dietitian.
non-Strong for Surgery patients, albumin levels less than 3.0 g/dL were identified in 4.1 percent of the patients, with 48.8 percent referred to a nutritionist or dietitian. Although the referral rates were low, 88.9 percent of the Strong for Surgery patients and 59.2 percent of non-Strong for Surgery patients received oral nutritional supplementation.

To assess whether Strong for Surgery was effective only if a targeted intervention was performed (nutritional intervention), or if nutritional awareness by itself influenced other areas, blood sugar control was used as a comparator at those Strong for Surgery sites where only nutritional intervention was provided (see Table 8, page 18). In the first year of statewide dissemination (2013), we found a significant increase in testing of blood sugar in diabetics, as well as perioperative use of insulin for patients with high blood sugar levels at Strong for Surgery hospitals. However, this positive effect was short-lived as both metrics were no different than at non-Strong for Surgery hospitals in 2014, highlighting the importance of specific interventions for maintenance.

Because evidence-based immunonutrition was the most common nutritional intervention used in the program’s early years, measuring its use was taken as a surrogate for compliance with and maintenance of implementation efforts. At 12 months, 78 percent of participating Strong for Surgery sites were continuing to implement immunonutrition interventions (see Figure 4, page 18). Most sites followed a similar pattern of initially slow adoption, followed by a plateau phase for the first six months (fluctuation between 20 to 40 percent use), followed by rapid uptake and use. The tipping point toward rapid ascent was notably sooner (between a few weeks and a couple of months) at sites where surgeon champions and clinical practices were predominantly providers of colorectal surgery in contrast to mixed general surgery practices.

Transition to the ACS
For more than a century, the ACS has been at the forefront of improving the delivery of surgical care by implementing quality programs. The ACS has applied four key principles to consistently improve quality of care and increase value:

- Set the standards
- Build infrastructure
- Collect robust data
- Verify through a surveillance and feedback platform

From 2011 to 2015, the ACS conducted the Inspiring Quality tour, which was a series of community forums aimed at stimulating discussions about how QI programs in U.S. hospitals can reduce patient readmissions, prevent medical errors, improve patient outcomes, and reduce costs.73 These community forums brought together health care leaders and policy experts to describe best practices and key elements of surgical quality programs. The Strong for Surgery
program was announced at the Seattle event in April 2012, at which point the ACS began closely monitoring the progress of the program. Discussions about transitioning the program to the College began in 2015, and in 2016, Strong for Surgery became a formal ACS Quality Program, with the College launching Strong for Surgery public awareness initiatives in 2017.12

The program has continued to grow under the leadership of the ACS. Notable achievements include the following:

• When discussions were initiated with the ACS, Strong for Surgery was active at 50 sites. As of the end of 2018, the program was active at 230 clinical sites across the U.S., spanning the specialties of general, vascular, thoracic, bariatric, and spine surgery.

• Most U.S. sites use Strong for Surgery in conjunction with enhanced recovery programs (see Figure 5, page 19).

• From 2013 to 2015, the Strong for Surgery website had a total of 173,519 page views and 122,038 unique page views. A new ACS Strong for Surgery website, facs.org/strongforsurgery, launched in 2017.

• From 2013 to 2015, 268 surgical care facilities outside of the Pacific Northwest, including 15 countries, submitted requests to participate in Strong for Surgery.

The number of adverse event rates (reintervention, infection, anastomotic leak +/- death) in elective colorectal surgical patients receiving immunonutrition declined from 9.5 percent to 7 percent, a difference that became even more pronounced after propensity score matching (11.6 percent to 7.2 percent), which translated to a decrease in length of stay from 6.9 days to 5.8 days.13

In an observational study of nearly 24,000 patients between the ages of 46 and 72 undergoing cervical

continued on page 19
TABLE 7. 
DEMOGRAPHIC AND CLINICAL CHARACTERISTICS BY ASSIGNMENT GROUP

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Strong for Surgery hospital</th>
<th>Non-Strong for Surgery hospital</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number (No.) of patients (%)</td>
<td>2,437 (46.1%)</td>
<td>2,850</td>
<td>Not significant (NS)</td>
</tr>
<tr>
<td>Age, Median, Y</td>
<td>62</td>
<td>62</td>
<td>NS</td>
</tr>
<tr>
<td>Male Sex, No. (%)</td>
<td>1,055 (43.3%)</td>
<td>1,274 (44.7%)</td>
<td>NS</td>
</tr>
<tr>
<td>Charlson Comorbidity Index, No. (%) ≥3</td>
<td>28 (11.5%)</td>
<td>33 (11.6%)</td>
<td>NS</td>
</tr>
<tr>
<td>Albumin level &lt;3 g/dL, No. (%)</td>
<td>85 (5.4%)</td>
<td>80 (4.2%)</td>
<td>NS</td>
</tr>
</tbody>
</table>

TABLE 8. PROCESS OF CARE

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood sugar testing among diabetics (preoperative clinic)</td>
<td>119/126 (94.4%)</td>
<td>224/275 (81.5%)</td>
<td>223/266 (83.8%)</td>
<td>128/159 (81.8%)</td>
<td>&lt;0.05 in 2013; NS in 2014</td>
</tr>
<tr>
<td>Insulin used perioperatively among those with high blood sugar levels</td>
<td>37/44 (84.1%)</td>
<td>41/66 (62.1%)</td>
<td>46/72 (63.9%)</td>
<td>27/39 (71%)</td>
<td>&lt;0.05 in 2013; NS in 2014</td>
</tr>
<tr>
<td>Beta-blockers continued postoperatively among current users</td>
<td>131/140 (93.6%)</td>
<td>345/366 (94.3%)</td>
<td>294/325 (90.5%)</td>
<td>216/230 (94.7%)</td>
<td>NS</td>
</tr>
<tr>
<td>Arginine-based immunonutrition supplement use</td>
<td>628/796 (78.9%)</td>
<td>368/1,843 (20%)</td>
<td>1,419/1,641 (86.5%)</td>
<td>244/1,006 (24.3%)</td>
<td>&lt;0.05</td>
</tr>
</tbody>
</table>

FIGURE 4. 
LENGTH OF TIME TO ADOPTION AND UPTAKE FOR EVIDENCE-BASED IMMUNONUTRITION USE AT STRONG FOR SURGERY HOSPITALS
TABLE 9.
SECOND SET OF STRONG FOR SURGERY CHECKLISTS
addressing modifiable areas for preoperative optimization of health

<table>
<thead>
<tr>
<th>PAIN CONTROL</th>
<th>PATIENT DIRECTIVES</th>
<th>PREHABILITATION</th>
<th>DELIRIUM SCREENING</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Appropriate pain control</td>
<td>• Advance directive</td>
<td>• Screening for frailty</td>
<td>• Assessment</td>
</tr>
<tr>
<td>• Strategies for those with chronic pain</td>
<td>• Financial health</td>
<td>• Screening for cardiac disease</td>
<td>• Review of medications</td>
</tr>
<tr>
<td>• Return of unused pain medications</td>
<td>• Shared decision making</td>
<td>• Screening for pulmonary disease</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Enhancement of physical function</td>
<td></td>
</tr>
</tbody>
</table>
Efforts are under way to build a web-based platform where multiple checklists/areas for optimization of a patient can be performed efficiently to generate individualized, patient-centered checklists with future goals of delivery via mobile apps and tracking within an electronic health record.

**Acknowledgments**

The Strong for Surgery Collaborative represents the comprehensive work performed by engaged frontline health care teams dedicated to the highest ideals of patient care. We are indebted to the amazing commitment, countless hours, and ongoing efforts of all our partners who inspire quality by setting the highest standards in the pursuit of better outcomes for all.

And to all our patients past, present, and future: thank you for letting our teams be a part of your lives.

**REFERENCES**

In 1965, Ralph Nader published Unsafe at Any Speed: The Designed-In Dangers of the American Automobile to draw public attention to the high rate of death and disability resulting from motor vehicle crashes in the U.S. Mr. Nader subsequently testified before Congress, which led to the National Traffic and Motor Vehicle Safety Act of 1966. That landmark legislation mandated that automobiles be equipped with basic safety features, such as seat belts, padded dashboards, and shatter-resistant windshields. This act also established the Department of Transportation, which evolved into the National Highway Traffic Safety Administration (NHTSA) in 1970. The NHTSA established data systems to track motor vehicle fatalities across the U.S. and supported research to develop interventions to address this public health crisis.

Fifty years later, through a multifaceted public health approach, which included addressing roadway and vehicle safety features and efforts to modify driver behavior, we have witnessed a dramatic decline in mortality. Achieving this goal required recognition of the problem and a commitment to address it at...
both the federal and state levels. It required regulation of the vehicle manufacturers, upgrades to roadway infrastructure, state legislation to require use of safety devices and impose consequences for intoxicated driving, and public awareness campaigns to change driver behaviors. It required investment in research to understand the most effective interventions and the support of the entire health care community to advise patients how best to keep their families safe. Notably, now more people in the U.S. die per year from firearm injuries than motor vehicle collisions.

Although the parallels are imperfect, if we mirror the public health approach taken to address motor vehicle safety, it is likely we can significantly reduce injuries and deaths related to firearms.

A public health approach to firearm injury and death

What can we learn from the public health approach to roadway and vehicle safety today as we face the challenge of nearly 40,000 deaths per year in the U.S. from firearm injury? This public health epidemic is especially sobering when you also consider the untold number of nonfatal injuries and an increasing incidence of mass shooting events. How can we raise awareness at both the state and federal levels? How can we make firearm ownership safer? What injury prevention interventions will make a difference?

Although the parallels are imperfect, if we mirror the public health approach taken to address motor vehicle safety, it is likely that we can significantly reduce injuries and deaths related to firearms. A challenge in dealing with the issue of firearm injury is that we often get caught in a polarizing political debate regarding the right to firearm ownership. As co-author of this article Ronald M. Stewart, MD, FACS, Medical Director, American College of Surgeons (ACS) Trauma Programs, points out in an article published in the Journal of the American College of Surgeons, “Freedom with responsibility: A consensus strategy for preventing injury, death and disability from firearm violence,” the chasm is not as wide as it seems, and though people may hold firmly to their views regarding the benefits or harms of firearm ownership, a large majority agree that we must act to reduce unnecessary death and disability. The ACS Committee on Trauma (COT) has developed a common narrative focused on identifying and addressing the underlying causes of violence while making firearm ownership as safe as possible. This approach recognizes firearm ownership as a constitutionally protected liberty, while moving forward together to reduce unnecessary deaths and suffering among our patients, our colleagues, and our communities.

In a comprehensive approach to this issue, in February 2018 the ACS Board of Regents approved a nine-point strategic action plan to address firearm violence, including support for the following initiatives:

1. Engage in trauma system development and promulgation of the Stop the Bleed® program
2. Create a Firearm Strategy Team (FAST) Workgroup of firearm-owning surgeons to inform injury prevention and advocacy
3. Survey all U.S. ACS members on their views regarding firearm injury prevention
4. Develop collaborative partnerships with other organizations
5. Implement firearm injury prevention initiatives by the ACS COT Injury Prevention Committee
6. Develop a research agenda and advocate for federal and private research funding
7. Promote responsible firearm ownership and nonviolent conflict resolution
8. Advocate for increased mental health funding
9. Support expanded background checks
Achieving consensus

A major component of this nine-point strategic action plan was to engage firearm owners as part of the solution by forming the FAST Workgroup. This team includes surgeons who own firearms for hunting, sport shooting, self-defense, law enforcement, and military service. Analogous to engaging bicyclists to help develop an action plan to decrease bicycle injuries, the ACS engaged members who own firearms to help develop durable and informed injury prevention and advocacy strategies. Although their recommendations do not represent the perspective of all firearm-owning ACS members, this group’s initial suggestions addressed ownership, registration, licensure, education and training, mandatory reporting and risk mitigation, safety innovation and technology, research, culture of violence, social isolation, and behavioral health.2

Because addressing this problem requires a multidisciplinary approach, the College hosted a historic Summit on Firearm Injury Prevention in February, which brought together 43 major medical and injury prevention organizations and the American Bar Association to build consensus and collaboration on a public health approach to minimize death and disability related to firearm injuries in the U.S. The three objectives of the summit were as follows: identify opportunities for the medical community to reach a consensus-based, nonpartisan approach to firearm injury prevention; discuss the key components of a public health approach and define interventions this group will support; and develop consensus on actionable items for firearm injury prevention using the public health framework.

The publication of the proceedings from this conference demonstrated the commitment of the professional medical and legal community to address this public health crisis. The proceedings provide a road map for a comprehensive public health approach that can be implemented through collaboration among medical, legal, and community organizations (see Figure 1, this page). The report summarizes the activities of each participating organization and includes nine consensus statements that were subsequently supported by 47 medical and injury prevention organizations (see Table 1, page 24).
Briefly summarized, these consensus statements include the following recommendations:

- **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 prevention programs

- **Empower** the medical community across all health care settings to counsel patients and families on safe firearm storage, screen for patients at risk of firearm injury, and engage the community in addressing the social determinants of injury and violence through partnerships with hospitals and health care systems

- **Commit** professional stakeholder organizations to ensure that these statements lead to constructive actions for improving the health and well-being of our nation

### The road ahead

A comprehensive public health approach requires an in-depth understanding of the epidemiology of violence and culturally competent, evidence-based interventions. This tactic will require significant investment in firearm injury prevention research. In March, Dr. Stewart testified before the U.S. Congress on the ACS’ support for dedicated Centers for Disease Control and Prevention and National Institutes of Health funding for firearm injury prevention research.

<table>
<thead>
<tr>
<th>ORGANIZATIONS THAT SUPPORT THE CONSENSUS STATEMENTS FROM THE MEDICAL SUMMIT ON FIREARM INJURY PREVENTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Academy of Family Physicians</td>
</tr>
<tr>
<td>American Academy of Pediatrics</td>
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<tr>
<td>American Association for the Surgery of Trauma</td>
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<tr>
<td>American Association of Neurological Surgeons</td>
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<tr>
<td>American College of Emergency Physicians</td>
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<tr>
<td>American College of Obstetrics and Gynecology</td>
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<tr>
<td>American College of Physicians</td>
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<tr>
<td>American College of Radiology</td>
</tr>
<tr>
<td>American College of Surgeons</td>
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<tr>
<td>American Congress of Rehabilitation Medicine</td>
</tr>
<tr>
<td>American Foundation for Firearm Injury Reduction in Medicine</td>
</tr>
<tr>
<td>American Geriatrics Society</td>
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<tr>
<td>American Medical Association</td>
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<tr>
<td>American Medical Women’s Association</td>
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<td>American Pediatric Surgical Association</td>
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<td>American Psychiatric Association</td>
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<tr>
<td>American Psychological Association</td>
</tr>
<tr>
<td>American Public Health Association</td>
</tr>
<tr>
<td>American Society of Plastic Surgeons</td>
</tr>
<tr>
<td>American Society for the Surgery of the Hand</td>
</tr>
<tr>
<td>American Surgical Association</td>
</tr>
<tr>
<td>American Spinal Injury Association</td>
</tr>
<tr>
<td>American Trauma Society</td>
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<tr>
<td>Association of Academic Chairs of Emergency Medicine</td>
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</tbody>
</table>
The medical summit proceedings also outline the evidence for specific interventions to address suicide, unintentional injury, and intentional interpersonal violence, such as counseling patients and families regarding safe storage of firearms, lethal means safety for suicide prevention, hospital-based violence intervention programs, identifying patients at risk for violence, the relationship between mental health and firearm injury, and issues of public policy. The medical community can implement many of these practical interventions without the need for political debate or policy change.

The ACS COT Injury Prevention Committee is working with partners from the summit to develop resources to support the implementation of these strategies. In addition, the report highlights the need to address the social determinants of health that contribute to structural violence in our communities. Under the leadership of Rochelle Dicker, MD, FACS, the ACS is convening a collaborative working group of experts to develop strategies in this regard. This team will be known as ISAVE—Improving Social Determinants to Attenuate Violence—and will complement the ongoing efforts of the FAST Workgroup. These two workgroups are aligned with the strategy of understanding and addressing the root causes of violence while making firearm ownership as safe as possible.

Although this journey has just begun and much work needs to be done, the ACS COT is committed to solving this complex problem. As trauma surgeons, we witness the tragic consequences of firearm injury every day. We believe that by investing in research and empowering the professional community to address this issue, we can achieve the same success we have had in the reduction of death and disability from motor vehicle collisions. As Dr. Stewart and colleagues wrote, “The time is now for political differences to be set aside, for polarizing and incendiary language to be avoided, and for our energies to be devoted to thoughtful policy development and specific actions in the context of a public health model.”

The Proceedings from the Medical Summit on Firearm Injury Prevention provides a road map for those seeking to implement practical, collaborative injury prevention programs in their communities.

REFERENCES

Profiles in surgical research: Barbara Lee Bass, MD, FACS

by Angela Ingraham, MD, MS, FACS

Editor’s note: The Bulletin is collaborating with the American College of Surgeons (ACS) Surgical Research Committee to present a series titled “Profiles in surgical research.” These interviews are published periodically and highlight prominent surgeon-scientist members of the ACS.

A CS Past-President Barbara Lee Bass, MD, FACS, FRCS(Hon), FRCSI(Hon), FCOSECSA(Hon), is the John F., Jr. and Carolyn Bookout Distinguished Presidential Endowed Chair, department of surgery; professor of surgery, Houston Methodist Institute for Academic Medicine and Weill Cornell Medicine; full member, Houston Methodist Research Institute; and executive director, Houston Methodist Institute for Technology, Innovation & Education (MITIE), Houston, TX.

Dr. Bass is a general surgeon whose clinical focus is primarily in surgical oncology, which over the span of her career has included pancreatic, gastrointestinal, breast, and endocrine disorders. Her current research focuses on clinical trials in breast cancer, surgical performance, health care education policy, and computational surgery. Her research programs have been funded by the National Institutes of Health, the National Science Foundation, and the U.S. Department of Veterans Affairs (VA) Office of Research and Development, along with multiple endowments. A longtime champion of the ACS National Surgical Quality Improvement Program (ACS NSQIP®), Dr. Bass helped launch the program in the VA health care system and later served as a member of the national trial that brought ACS NSQIP into the private sector.
Dr. Bass earned a bachelor of science degree from Tufts University, Medford, MA, graduating summa cum laude. She earned her medical degree from the University of Virginia, Charlottesville, and was inducted into the Alpha Omega Alpha Medical Honor Society, followed by a general surgery residency at George Washington University, Washington, DC. She completed a gastrointestinal research fellowship at Walter Reed Army Institute of Research (WRAIR), Silver Spring, MD (originally located in Washington, DC), and served as a Captain in the U.S. Army Medical Corps (1982–1984).

Dr. Bass was interviewed by Dr. Ingraham in November 2018.

**Can you start by reflecting on the evolution of your career and success as a surgeon-scientist?**

When I think about it, I've been a surgeon-scientist my entire career. It's truly a marathon. My focus has changed considerably over the course of the 40 years that I've been in practice, but I've certainly had a lab, broadly defined, for my entire career, a place where I've pursued a portfolio of interests. It complemented where I've happened to land and where my interests have led me.

I don't think being a surgeon-scientist is for everyone, but I do believe it is very, very rewarding and stimulating—asking questions and using the tools around you to advance the field. It's also very challenging. If you like a challenge, try being a scientist. You're constantly making hypotheses and testing them, and about one time out of 10 you are correct. It can be a real exercise in frustration, but the challenges and rewards drew me to it.

Overall, I think my greatest contribution is truly believing in the concept that if you want to advance a field, you have to think creatively. You have to be supported and engaged and have science bleed into your life as a clinician. It enriches your career to be in a place where you think about science as a daily part of what you are doing clinically, however broadly defined that science is.

**What led you down the path toward a career as a surgeon-scientist? What stimulated that interest?**

When I enrolled in medical school back in the mid-1970s, I went in with the intention of becoming a clinician-scientist. Before the era of MD/PhD (doctor of medicine/doctor of philosophy) degree programs, becoming a physician was a pathway to a meaningful research career. I went to medical school thinking I would be a scientist, or at least a medical researcher, and never, ever expected to be a surgeon. I certainly didn’t know anyone personally who had followed that pathway. It was the early days of, for example, cancer being viewed as a disease to be studied as opposed to being feared. It was just the beginning of human genetics as a clinical discipline. It was just the beginning of understanding things like atherosclerosis. It was such a crazy, primitive time, in hindsight. The notion of bringing science to the practice of medicine drew me to it and, of course, that was based on my undergraduate experience as a biology major.
In college, biology was the king of discovery in terms of meaningful application to the human condition, so I went in thinking that I would be a geneticist, entering that young field of human biology. I did all of my summer research on storage diseases with funding from the March of Dimes. My primary mentor was a pediatric geneticist named Thaddeus Kelly, MD, PhD, at the University of Virginia. We knew genes existed, but we couldn’t isolate RNA (ribonucleic acid) and DNA (deoxyribonucleic acid); we had only proteins and visible phenotype. Genetics was a young, crude science in those days, but that’s what drew me into biological discovery and human disease.

My last rotation in medical school, of course, was surgery, and oops, by the way, I discovered that I was a surgeon. There I was, suddenly changing my path from pediatrics and genetics to surgery at the very last minute. During my surgery residency at George Washington University, I did a two-year research fellowship at WRAIR. WRAIR has an incredibly fascinating surgical history. It was a place with a rich surgical heritage during the Vietnam War era, with many surgeons who served in the U.S. Army during that period doing their service both at WRAIR and in the war zone. The distinguished list of WRAIR surgical alumni includes many national leaders in academic surgery. The surgical focus of WRAIR surgeon-scientists over the decades includes military-relevant conditions, such as resuscitation and injury and, specifically for my research, mucosal injury—trying to define what damaged the gut using good old-fashioned integrative physiology. Believe it or not, before the days of H2 blockers, critically ill patients used to bleed to death from gastritis all the time. We used animal models, and we measured blood flow and mucosal injury using the scientific models of the time.

This experience led me to the discovery that being a surgeon-scientist really was fun. It was important to me as a surgeon and practicing physician to be able to take care of patients, but also to have the core of my identity, my interests, and my goals be embedded in scientific discovery and its application to the human conditions that we treat as surgeons.

**How did research factor into your first faculty position?**

I specifically picked a job that would foster that ability to do both patient care and research. In that era, the place where you could absolutely be assured that you could have a hunk of time to invest in your scientific efforts was the VA health care system. I was not only continuing my work with my wonderful mentor, John Harmon, MD, FACS, but I also was able to be a general surgeon in the VA health care system while starting my academic career as a faculty member at George Washington. At least 50 if not 60 percent of my time was protected; in hindsight, it feels like I had an infinite amount of time. I had a big chunk of time that I could, in a very legitimate way, apply to my research program.

The VA also gave me access to two different funding strings; you could go the National Institutes of Health (NIH) route or the merit review research
route. Within two or three years of finishing my training, I was funded by both of them. I had my first R29, and I had a VA merit review, which really gave me that shot in the arm to say, “Okay, this is important work; you’re doing the right thing.” It gave me that burst of energy that comes with funding success.

The first research award I ever got was an ACS Faculty Development Award during my first year out in the late 1980s. Then I got another one from the Society for the Surgery of the Alimentary Tract (SSAT), and I thought, “Oh my gosh, this is amazing!” It wasn’t that it was a massive amount of money; it was more that it was a great confidence builder to say that somebody saw that you were doing work that is worthwhile. I cannot overstate the value of those society-based, especially College-based, grants. The ACS gives out about $4 million a year in these kinds of grants to young investigators. Getting that first jump-start, that positive shot in the arm, makes such a difference.

Research also introduces you to this wonderful world of young surgeons, whether the research opportunity is with the Association of Academic Surgery (AAS) or your discipline-specific group. For me, it was the SSAT, the AAS, and later the Society of University Surgeons. Research also introduces you to the ACS Surgical Forum, now known as the Scientific Forum, which is, of course, the first place I ever presented anything, in 1983. I think I presented something at that venue, myself or my resident, for the first 20–25 years of my career. It was great—a fabulous gathering spot for young and old surgeon-scientists.

How have collaborations influenced your research career?

Along the way, you have important mentors, but you also have important collaborators who serve both as mentors and partners. They stimulate your thinking and, of course, they know things you don’t. You can actually make bigger and better contributions by virtue of collaboration. I think in the first 10 to 20 years or so, back in the 1960s, ’70s, and even the early ’80s, we didn’t think we needed full-time PhD scientists with that depth of scientific skill and 100 percent effort. We, as surgeons, in all honesty, no matter how hard we try, now realize that we can’t have the depth of expertise, knowledge, and focus that a full-time PhD scientist must have. We realize we can’t be effective scientists without partnering and collaborating with those individuals who have that incredible intensity and depth and fund of knowledge. As your career advances, you come to realize the value that those partnerships bring to the discovery process, and that’s been fun.

Over the years, my collaborative partnerships have changed. If I look broadly at my career, I had three phases. I had that era of gastrointestinal mucosal injury and repair, which was primarily done with one group of mentors and one group of PhD scientists. I also had a pretty meaningful period of contribution and participation in the early phase of health services research relative to measuring and improving quality in surgery. If I were to look at who was the most important role model and mentor I had there, it would have to be Shukri Khuri, MD, FACS, who, with
his partners, including William Henderson, PhD, structured in a formulaic way within the VA health care system how to measure surgery. Dr. Khuri figured out how you can gather people together in a collaborative, open process to measure the quality of surgery and then implement some improvement strategies. It was such an exciting time to be part of a process that really did, I think, bring transformative change to the discipline of surgery. I also met a wonderful group of investigators and partners along the way—from Darrell “Skip” Campbell, Jr., MD, FACS, to Dr. Khuri, of course, who was such an amazing, clear thinker and brilliant guy, to Leigh Neumayer, MD, MS, FACS. It was a very exciting wave to be part of that army of investigators in the early field of health services research within surgery. It certainly now is part of one’s everyday practice as a surgeon—to have a sharp focus on quality metrics and process improvement—so being part of birthing that movement was fun.

Lastly, once I got to Houston Methodist, I started a new interdepartmental collaboration. I rediscovered the value of collaboration in building, for example, MITIE, a training center focused sharply on retooling the skills of practicing health care professionals. We have had more than 55,000 health care professionals—more than 13,000 nurses, 13,000 surgeons in practice, trainees, and fellows—come through MITIE for hands-on simulation-based retooling experiences. It’s been an amazing program, but it’s also opened up a whole new door of research using a whole new toolbox—computational surgery, computer science, engineering, technology-related sciences. It’s been simply fascinating.

Over the last 15 years, our lab has had a wonderful opportunity to build a computational surgery program. My key partner and collaborator now, and adjacent office mate, is Marc Garbey, PhD, professor of computer science in surgery, a mathematician who’s a creative wonder. We have a new set of diverse students now—not just surgery residents but engineering students, mathematicians, and computer scientists, who come and work in the space and are part of the research team. To see that transformation, which is also happening nationally in terms of where surgical research and clinical scientists live, has been satisfying. It opens different funding pots as well, like the National Science Foundation and different engineering groups that are interested in funding that kind of work.

We need to be open to these new waves and know that we have to retool as scientists, too. That is where team science comes in. It used to be that the principal investigator was just the be-all and end-all. In many ways, this notion encumbered our opportunities to be as full thinking or successful as we could be as scientists because there was a sense of distinct ownership of ideas and competition, which are, in many respects, disincentives to the best practice of science. So as a community at large, we’ve come to embrace this notion of team science and to recognize the diversity of thought and abilities. We really can do better work as a team than we can individually.

What are the characteristics or skills that young scientists should look for to identify good collab-
orators and to gauge their own progress toward becoming a good collaborator?

There are several important points here. First, there is a little chemistry that has to work in these things. You have to have a shared sense of what the question is and the big-picture goal for the research initiative. I think you need to be very upfront, too, about the fact that this is a collaborative project and to explicitly make sure that everybody understands that research is a team sport, so you look for people who are willing to share ideas openly and people who share your same work ethic. I think one of the places where these collaborations fall apart is when there is an imbalance relative to expectations. You can participate in the process and be available and engaged in a particular focused area of investigation, but you need to look for the shared sense of enthusiasm and energy directed toward a particular problem. At the same time, I also think you as an individual need to realize that it takes some time to understand what somebody else might bring to an investigation, and ideally you get the same excitement out of realizing they’ve got a whole different way of thinking about this problem that you have long thought about. Dr. Garbey, my mathematician research partner, and the computational science graduate students will look at something—for example, the impact of breast-conserving surgery on breast contour—and start breaking it down into pieces that I would never have considered. It’s interesting to see them then reassemble these pieces, to see them struggle with our challenges as physiologists or as people who take care of these living organisms; it’s fascinating to see them come to grips with it. It’s such a refreshing thing to see when it works well.

And I think we forget, when we’re dealing with what we do every day, what extraordinary things we get to do, so we talk a little bit about that to the scientists. I don’t mean to say they’re struggling to find meaning in their work, but sometimes they’re struggling to find meaning in their research; they want to have a human connection with the work they are doing, and if you find someone who’s got that longing plus has a skill set, a toolbox that augments the project, boy, that’s an important collaboration, because what we do is meaningful—very meaningful.

How has your research experience influenced your leadership positions, or how you’ve carried out those responsibilities?

Two points here: I’ve had opportunities to step into leadership roles, fostered by the fact that I’ve been a successful, productive academic surgeon-scientist over the years. That’s one of the paybacks you get for this pathway; lots of institutions value that kind of accomplishment, so it’s a door-opener at times. In fact, in January 2020, I will begin a new stage in my career as the vice-president for Health Affairs and dean of the School of Medicine and Health Sciences at George Washington University. This is an opportunity to serve an institution committed to advancing discovery to improve human health while educating the physicians, health care providers, and the scientists of our future.
My mission, particularly in my current position as the chair of surgery, in the last 10 years or so, is to constantly reaffirm the value of clinician-scientists in a system that is highly competitive and resource-strapped. Even in an academic institution like mine, it’s easy to get the focus off the effort of discovery because it’s hard, and it doesn’t always pay back the way you think it will or as quickly as one might hope. My mission these days is to continually articulate the essential collaboration between science and surgery to make meaningful advancements in understanding our diseases, our cures, and our technology. It takes a tremendous, ongoing investment to keep moving that ball forward. Even in our best-funded academic research enterprises, it is a constant effort to keep clinicians engaged in that space because our incentives are not necessarily aligned with that. Many in leadership don’t recognize the absolutely essential role of clinician-or surgeon-scientists. We ask great questions, and we are great partners in our own way.

So my job is to make sure that shared vision and mission happens. I’ve had that chance here at my institution. I chaired our Strategic Research Committee seven or eight years ago. We formed specialized pathways for clinician-scientists, particularly for young surgeons and young physicians who are really, even in this challenging financial time, committed and prepared to becoming clinician-scientists. Obviously, these days that means buying their time. It means providing startup funds, setting them up in high-performance laboratories, and setting them up for team science. If we expect to do it the old-fashioned way, which is you versus the world, it’s never going to work. My job now is to create that environment for those special young people who really want to do that and have the skills, training, and experience to be set up for that success. They are a special breed.

Any closing thoughts?

Yes, I would say that blending scientific discovery, advancing our knowledge to inform the care we can provide to our patients, is an essential pathway for those in our wonderful discipline who choose to engage in this arduous pathway. We, as surgeons, see firsthand the current gaps in our knowledge and in our opportunities to intervene to benefit patients with surgical disease. We cannot delegate the focus of discovery to others without our direct clinical experiences. I believe that surgeon-scientists are special contributors to our professional landscape, that they are as vital a contributor as those remarkable surgeons who take care of patients every single day of their professional lives. We surgeons are part of a complete ecosystem to advance surgical care—discoverers, translators, and frontline deliverers—an amazing group of talented individuals. And I feel so proud and fortunate to be a member of this profession. ♦
The May 2003 issue of the Bulletin of the American College of Surgeons included a landmark article detailing the beginnings of a successful rural surgery training program. Subsequently, several additional programs have emerged, each with its unique characteristics, to address the challenge of training rural general surgeons. In 2015, Mayo Clinic’s campus in Rochester, MN, began its integrated community and rural training track in the general surgery residency program. Building on prior research in the field, the developers of the track had a particular skill set in mind in developing the program.

The initial goal of Mayo’s general surgery track was to address the growing shortage of community surgeons, specifically rural surgeons. The developers believed that a well-crafted residency should eliminate the need for a community track fellowship or transition to practice programs for physicians interested in community and rural practice. As such, the track was named the integrated community and rural general surgery track. This article highlights lessons learned in the first three years of the program that can be used with other previously produced works to guide the development of future training programs at other medical institutions.

**Why we did it**

The needs and express challenges of rural surgery practice in the U.S. have been well documented in several issues of the *Bulletin* and in *Surgical Clinics of North America*. These challenges also have been recognized by other stakeholders and publications that have a particular focus on advocacy efforts as related to rural surgery.

Thompson and colleagues calculated the number of general surgeons as 4.67 surgeons per 100,000...
persons in small or isolated rural areas, versus 6.53 per 100,000 in urban areas. They concluded that general surgeons constitute a critical component in the medical workforce throughout rural areas in the U.S. Furthermore, the estimated number of rural general surgeons per 100,000 persons declined by 21 percent from 1981 through 2005. The need for quality rural surgery training programs is supported by the continued decline of surgeon numbers in U.S. rural areas. The primary issues in rural surgery come back to isolation. In a rural hospital, full-time surgical subspecialists, such as obstetricians–gynecologists, orthopaedic surgeons, urological surgeons, otolaryngologists–head and neck surgeons, and plastic surgeons, may be in less demand. A rural health care staff can function without a gastroenterologist and almost certainly will not include an interventional radiologist. In fact, subspecialists trained in general surgery who completed fellowships in vascular, thoracic, pediatric, cancer, endocrine, hepatobiliary, breast, trauma, and colorectal surgery also are less likely to be found in rural practice. The available staff at a nonurban center differs widely but often consists of a core of primary care physicians and one or two general surgeons. The rural health care setting often leads to other workforce issues, such as lack of mentorship, excessive on-call hours, a perceived lack of desired local recreational activities, location preferences of significant others, and difficulty in keeping up with technical and intellectual advances.

With these variables in mind, Mayo’s focus in providing a rural track was to improve the training and thus the confidence of surgical residents freshly out of training. The track developers wanted to give these residents the skills they would need to sustain a rural practice by becoming lifelong learners with a link to academic practices for ongoing support (see the track structure in Table 1, this page).

The differences between a large urban practice and a general rural practice are numerous. In the large urban hospital, for example, general surgeons are not called on to set fractures, perform cesarean sections, or operate on a testicular torsion or peritonsillar abscess, and sometimes they are not even called on to perform endoscopy, thoracoscopy, or elective colon resection. However, a small rural hospital that lacks the same array of specialists needs health care professionals who can provide these important services.

The spoke-and-hub model has emerged as a general surgery option, particularly in a rural setting, and expedient patient transport in these often remote areas has improved. Still, these approaches can be impeded by extreme distances in the rural west and uncooperative weather in the north. In addition, transport adds major cost and inconvenience for patients who prefer to continue their care at the local hospital. Perhaps more importantly, transport out of town to receive health care will do little to revive the vibrant and bustling rural U.S.

The skill set needed in the rural surgery environment is distinct and can be specifically taught through senior-level rotations in surgical subspecialties. This approach deviates from most training programs that simply touch on these skills in the first or second year of residencies. This model teaches competency in basic subspecialty procedures at a time in residents’
training when they are more likely to focus on how to do the procedures and, more importantly, to develop the skills to do the procedures confidently in practice. An added benefit is the insight gained concerning which procedures can be performed safely in their rural hospitals and when it is best to refer these patients elsewhere.

The Mayo Clinic Health System (MCHS) is a large network that spans across U.S. state lines and encompasses a primarily rural geographic area. Many people throughout the world have heard of Mayo Clinic in Rochester, but few patients know that MCHS hospitals are located in the smaller, more rural communities of Mankato, Owatonna, and Red Wing, MN, as well as La Crosse and Eau Claire, WI. However, the people who live in and near these locales know of the hospitals that provide necessary services to patients interested in obtaining their care locally—for whom the thought of traveling to Rochester seems excessive when local options are available. Indeed, previous studies have shown that many patients prefer to accept second-line therapy—or to forgo care altogether—before making the financial and time commitments of travel to a larger commercial center.9 Rather than offer second-line therapy, the goal of Mayo Clinic is to deliver cutting-edge, appropriately triaged care at all of its sites.

The rural track uses many of the MCHS campuses in rural Minnesota and Wisconsin for its various clinical rotations. Our goal was to ensure that Mayo-trained general surgeons would see the benefits of practicing at rural hospitals throughout the U.S.

Address one goal at a time

A main observation in the development of this program was that perhaps dual lofty goals are too much for a single resident track to bear. The rural track is designed beautifully with the altruistic goal of addressing the needs of the most rural segments of the U.S. It comprises all necessary components and has been expanded since its inception to include a more robust endoscopy experience. In the short term, residents adjust or develop rotations to suit their desired goals. In the long term, the expansion of the residency to both a community track and a rural track may be a better option.

As the program developed, we saw progressive curiosity from applicants interested in a global health care preparatory training. Although overlap between rural and global training needs is easy to see, we believed that the ultimate goals and product look different. Many trainees interested in global health-related training do not fit the model of surgical trainees who will be interested in entering practice in a rural or community setting. We have chosen to focus on the rural or community goal in our initial efforts to develop a rural track.

Tailor training to the program’s intrinsic qualities

This program offers the best of both worlds, combining the quaternary care of Mayo Clinic’s Rochester campus with the breadth of the MCHS. Each training program has its own intrinsic strengths and weaknesses. Some program directors believe that tertiary care centers, where most of the surgical training occurs, do not represent the environment in which rural surgeons practice, and therefore a specific curriculum to train future rural surgeons is beneficial.10 One obvious characteristic of Mayo Clinic is the high-level, complex, coordinated care that surgical specialists frequently administer. Cancer operations involve multiple subspecialties and include laparoscopic and robotic Whipple procedures. In this environment,

How we did it, and what we’ve learned

We have learned several lessons in the process of developing and implementing the MCHS rural surgery track. We share them here to serve as guideposts for other health care systems looking to assist in training the next generation of rural general surgeons.
Previous researchers have sought to determine which surgical residents are most likely to pursue practice in a rural environment. They report that statistically significant correlations are primarily based on the individual’s background.

subspecialty surgical fellows could easily interfere with the solid broad-based training of a general surgeon.

To protect the exposure of residents to their designated subspecialties and maximize the skills they are likely to continue to put into practice, we have planned that senior-level rotations in the subspecialties will be completed exclusively within the MCHS during an emersion year. On the MCHS rotations, the general surgery resident frequently is the only resident in the county. As a result, the resident is positioned to take advantage of full exposure to operating room (OR) cases, clinic visits, emergency department consults, and a dedicated surgical resident clinic during the general surgery rotation. Additionally, this approach ensures that the resident has exposure to the bread-and-butter cases in their subspecialty, and it protects the trainee’s time from the uncommon and high-level subspecialty cases that are more often seen at Mayo Clinic’s Rochester campus, where such cases may consume an entire day.

For example, an otolaryngology rotation in a rural track should consist of the following: tonsillectomy and adenoidectomy, placement of tympanostomy tubes, emergency department call, thyroid resections, tracheostomies, foreign body removal, epistaxis management, and the occasional parotid operation. An ear, nose, and throat rotational experience at the Rochester campus would be much different, with an altogether separate case mix and with residents and fellows in competition for the cases. The mix at Rochester might include radical head, neck, and face procedures and endoscopic operations—procedures that would rarely be performed at a rural surgery center.

Case volume matters
Case volume is an important aspect of a robust surgical training experience. Prior guidelines suggest that deliberate practice and quality case volumes are required for surgical competency, and therefore site selection is crucial. Although the rural track trains surgeons to work in critical access locations, certain sites may not be the best for training. A short rotation in the most rural sites can have the benefit of simple exposure to the rural surgical environment, but for training purposes a busier hospital with full-time subspecialists and no other residents may be the ideal.

Most (65 percent) of our rotations outside the Rochester campus take place at the La Crosse hospital. Since 2009, third-year residents have gone to this site for a general surgery rotation. The Accreditation Council for Graduate Medical Education case logs were evaluated for these six- to seven-week rotations. The logs showed that per rotation, residents had 80 to 140 junior surgeon cases—two or three times the standard amount on the Rochester campus. Cases ranged from laparoscopic cholecystectomies to lung resections, carotid endarterectomies, and spine exposures.

Several factors influence this difference in case volume, including less case acuity and length, the lack of resident competition, and more efficient OR use. Cases that are exclusive of residents in all specialties are seen every day. The unrivaled success at Mayo Clinic’s campus in La Crosse has set the stage for development of the rural track residency.

Obtain administrative and clinical support
A working relationship has been established at each MCHS site. Site visits by the rural track program director, who is based in La Crosse, are necessary to ensure rotation quality and teaching faculty engagement. Importantly, administrative decisions are made well in advance, administrative support is available at all levels, and faculty support of resident training is accessible. To date, all sites have been receptive to surgical trainees and to the idea of a rural track generally. In fact, MCHS site participants continue to volunteer to work with our residents, including subspecialists who
have quickly allowed graded responsibility to trainees appropriate to their level of personal training.

Include acute endoscopy skills
Gastrointestinal tract endoscopy can comprise more than 50 percent of a surgeon’s case volume in a rural environment. All general surgery residents at Mayo Clinic complete a rotation in Owatonna, exclusively for a robust endoscopy experience. At the Owatonna site, general surgeons do endoscopy five days per week, with a total of 1,700 to 1,800 endoscopies annually. In 2017, second-year rural track residents performed an average of 131 endoscopies and participated in 78 major cases during a seven-week Mayo Clinic endoscopy rotation. One identified challenge to the gained experience is that most of these endoscopies were for nonacute pathologic characteristics.

This experience level is excellent for learning the technical skill of endoscopy. However, in rural practice, the surgeon is asked to perform interventional endoscopy for bleeding and obstruction, in addition to screening colonoscopy and diagnostic esophagogastroduodenoscopy. A dedicated rotation on a team in interventional gastrointestinal tract endoscopy at a tertiary center could improve the resident’s exposure to acute care endoscopy.

Plan recruitment carefully
Previous researchers have sought to determine which surgical residents are most likely to pursue practice in a rural environment. They report that statistically significant correlations are based primarily on the individual’s background. Rural experiences at high school, college, medical school, and residency, as well as enjoyment of rural activities and a spouse from a rural area, are associated with future practice as a rural surgeon. This observation raises the central concern that true recruitment for the rural surgery subspecialty should begin at the high school level by community organizations that identify a need for a surgeon. For a residency program, the timing is too late if recruitment is at the medical school level. Continually, a subset of graduating medical students grew up on a farm or in a rural environment and would prefer to practice in a rural area. The early identification of these students and their match to a rural track is central to the subversion of the “brain drain” and placement of surgeons into critical access hospitals around the country.

Prepare for housing and travel needs
Housing and payment should be planned well in advance of specific rotations. The travel from site to site can be challenging for surgical trainees with
The challenges in rural surgery practice are great, and a new generation of rural surgeons is needed to meet these challenges.

**Conclusion**

The challenges in rural surgery practice are great, and a new generation of rural surgeons is needed to meet these challenges. Training of new surgeons continues to be a topic of discussion. This article details one model for this training and discusses the benefits and shortcomings of this approach. Follow-up is required to determine the efficacy of the placement of trainees from this surgical track into rural environments and to monitor their eventual practice patterns.

To date, we have recruited five trainees into the program (one per year). The first trainee will graduate in June 2020. All trainees are on track to pursue careers in rural locations. As the program has developed, we have adjusted which sites are involved in which postgraduate years to optimize the experiences based on technical skill versus case mix. The program will likely expand the number of graduates per year once we are certain the program is designed appropriately to ensure our graduates are set up for success.

**REFERENCES**

The American College of Surgeons (ACS) Chapter Lobby Day Grant Program continues to grow year after year, leading to increased surgeon influence on public health policy moving through state legislatures. In 2019, the College’s Lobby Day Grant Program received the largest number of applications in the nine years since it was established.

ACS chapters in 27 states—Alabama, Arizona, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Kansas, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Nebraska, New York, North Carolina, Ohio, Oregon, Tennessee, Texas, Virginia, Washington, and Wisconsin—received lobby day grants, with Delaware, Maryland, and Minnesota receiving the lobby day grant for the first time. The financial grants can be as much as $5,000 with a $2,500 match, along with ACS State Affairs staff support for planning and on-site implementation of the lobby day event.

For the third year, an ACS Chapter Lobby Day Enhanced Grant was awarded to qualifying College chapters. The Michigan Chapter received the Enhanced Advocacy Grant of $15,000 in 2019 to engage the state legislature on securing funding for the state’s trauma system. The Michigan Chapter held a lobby day in Lansing on May 23, in conjunction with the Michigan State Trauma Coalition and the Michigan Committee on Trauma. An array of multidisciplinary trauma professionals from around the state met at the capitol to promote bleeding control education and funding for the statewide trauma system. Because Michigan is a year-round legislature, the chapter will continue to work with elected officials and stakeholders throughout the year to pursue comprehensive trauma system legislation. At this time, Michigan is one of the only state systems in the nation that lacks permanent funding for its trauma system.
In 2019, the College’s lobby day program received the largest number of applications in the nine years since it was established.

**Chapters achieve wins for Stop the Bleed**

ACS chapters in 11 states incorporated Stop the Bleed® training into their 2019 lobby days: California, Delaware, Illinois, Indiana, Louisiana, Maine, Nevada, New York, Ohio, Tennessee, and Virginia. Additionally, the Indiana, North Carolina, and Texas Chapters used their lobby days to garner support for state legislation to require Stop the Bleed training in schools, as well as placement of bleeding control kits in public schools and buildings.

The Stop the Bleed program has gained significant interest among the state legislatures through its inclusion in state lobby days. In 2019, 10 states—Arkansas, California, Illinois, Indiana, Massachusetts, Michigan, Missouri, New York, Tennessee, and Texas—introduced ACS-supported bills specific to Stop the Bleed, with legislation being enacted into law in Arkansas, Indiana, and Texas as a result of direct efforts from chapter lobby day advocacy.

On January 24, the Arizona Chapter hosted its annual Chapter Lobby Day in Phoenix to promote Stop the Bleed and colorectal cancer awareness, and to discuss legislation aimed at improving trauma care in the state. The chapter hosted a luncheon for elected officials who serve in leadership roles on state health care committees, as well as their staff and health care lobbyists. At the luncheon, the chapter offered Stop the Bleed training to attendees, who learned to pack wounds and apply tourniquets. In addition, Ross Goldberg, MD, FACS, addressed the state legislature in his capacity as Doctor of the Day, which helped to improve the chapter’s visibility before the entire legislative body. Doctor of the Day is a program where a physician volunteers as the on-call doctor in the state capitol building. The programs are typically run by the state medical societies; however, not all state capitols have the program.

The Northern and Southern California and San Diego Chapters met for their joint lobby day on April 24. This event took place in conjunction with the California Medical Association Doctor Day in Sacramento, with more than 600 physicians in attendance. Representatives from all three ACS chapters engaged with state legislators to advocate for A.B. 1708, legislation mandating the placement of trauma kits in all public facilities. In addition, they conducted Stop the Bleed training for physicians attending the event. A highlight of the event was the keynote speech by California Gov. Gavin Newsome (D), who reiterated his support for ensuring access to health care for all Californians.

The Delaware Chapter cohosted a Stop the Bleed training session May 14, with several groups, including the Office of Lt. Gov. Bethany Hall-Long and the Office of Emergency Medical Services (EMS)—the EMS and Preparedness Section in the Delaware Department of Health and Social Services Division of Public Health. The training for legislators and their staff occurred in the capitol building.

The Metro-Chicago and Illinois Chapters organized a joint lobby day May 15 centered on gaining support for legislation to require Stop the Bleed training and bleeding control kits in public schools. The chapters provided Stop the Bleed demonstrations in the capitol building for legislators and staff. Illinois Rep. Camille Lilly (D) and Sen. Laura Fine (D) both introduced and read resolutions in their respective chambers recognizing the Stop the Bleed campaign. Both women declared May 15 as Stop the Bleed Day in Illinois and noted the chapter members in the capitol for the lobby day.

The Indiana Chapter of the ACS had a productive year, achieving passage of H.B. 1063, legislation mandating the placement of bleeding control kits in public buildings. At the chapter’s lobby day February 12, surgeon-advocates worked with the Indiana State Medical Association, representatives from state agencies, and trade groups to educate lawmakers and stakeholders on the importance of bleeding control education, training, and readiness, as well as to highlight other relevant issues, including scope of practice for advanced practice registered nurses and physician Maintenance of Certification. The chapter’s efforts
were successful, and H.B. 1063 passed the House and Senate unanimously. Gov. Eric Holcomb signed the law June 14.

The Louisiana Chapter organized a May 22 lobby day. Chapter members met with Lt. Gov. Billy Nungesser to get his support for a bill to study expanding insurance access to bariatric surgery and met with Louisiana Speaker of the House Taylor Barras to attain support for legislation to require Stop the Bleed training and bleeding control kits in public schools. The chapter also partnered with the Louisiana Emergency Response Network to provide Stop the Bleed demonstrations in the capitol rotunda.

This year, the Nevada Chapter hosted its first state chapter lobby event April 11. Surgeons from across the Silver State traveled to Carson City to meet with their legislators to discuss legislation addressing balance-billing, firearm trigger locks, and bleeding control education and training. Working with the Nevada State Medical Association, the Nevada chapter hosted Stop the Bleed training in the capitol building, which was well attended by elected officials, legislative staff, and members of the public.

The New York and Brooklyn-Long Island Chapters joined together to host a Stop the Bleed training for legislators and staff as part of their lobby day at the state capitol April 30 in Albany. The morning began with a Stop the Bleed training in conjunction with Albany Medical Center.

Before heading to the capitol building, members of the chapters met to review the key legislative issues pending before the legislature, including a state-run single-payer health system, authorization for physicians to collectively negotiate with health plans, prior-authorization reforms, and requirements for pretrial expert witnesses in medical liability cases. New York Fellows met with legislative leaders and their staffs, including Senate Majority Leader Andrea Stewart-Cousins (D), Senate and Assembly Health Committee Chairs Sen. Gustavo Rivera (D) and Assemblyman Richard Gottfried (D), Senate Insurance Committee Chair Neil Breslin (D), and Senate Higher Education Committee Chair Toby Ann Stavisky (D), in addition to meeting with personal legislators.

A small group of Fellows returned to the New York State capitol building May 20 to support Assemblyman Colin Schmidt and Senator Rivera as they introduced a resolution calling on Gov. Andrew Cuomo to proclaim May 2019 as Stop the Bleed Month in the State of New York.

Surgeons from throughout the state convened May 1 in Raleigh for the North Carolina Chapter’s Second Annual Lobby Day. Following a breakfast briefing at the North Carolina Medical Society’s office, participants met with legislators to discuss support for placing bleeding control kits in public schools and addressing distracted driving.

The Ohio Chapter hosted a Stop the Bleed training event May 9 at the statehouse in Columbus. Chapter leaders also hosted a luncheon, which more than a dozen legislators and their staff attended. Elected officials sat down with surgeons to discuss issues of importance to the chapter, including advanced practice registered nurse independent practice and bleeding control education and training.

As part of the Tennessee Chapter’s initiative to pass legislation providing Stop the Bleed training and kits for public classrooms and buildings, the February 5 lobby day played a key role in meeting with legislators, legislative staff, and other officials to advocate for H.B. 215/S.B. 259. A total of 25 chapter members, nurses, and injury prevention professionals staffed the Stop the Bleed training stations, and more than 50 legislators and staff attended the event and spoke with surgeons about the Stop the Bleed legislation. Both the House and Senate sponsors of the bill attended and had an opportunity to talk with their colleagues about the bill, and surgeons attending the lobby day visited their legislators’ offices to talk about it as well. Media coverage was amplified by the local National Public Radio affiliate covering the lobby day.
In addition to Stop the Bleed, ACS chapters used their lobby days to advocate for public policy to advance patient access to care, including coverage for bariatric surgery coverage and Medicaid expansion, as well as to raise concerns about expanding scope of practice for nonphysician health care practitioners.

The **North** and **South Texas** Chapters hosted a joint lobby day April 11. Participating Fellows and residents met at the office of the Texas Medical Association (TMA) to receive a briefing from TMA government affairs staff on the status of several important physician-related bills, including a surprise out-of-network bill before the legislature. Additionally, Tim Schauer, a lobbyist for the American Board of Medical Specialties, described the political environment in the capitol, as well as the status of a bill related to Maintenance of Certification. After the updates, participants headed to the capitol to meet with their representatives and senators to garner support for the chapters’ Stop the Bleed in school bill H.B. 496, as well as the chapters’ positions on other active health care legislation, such as tobacco 21, optometry scope expansion, and graduate medical education funding. The chapter members also provided each of their legislators with a bleeding control kit and demonstrated its use. The chapters’ advocacy efforts during the lobby day were instrumental in securing the votes to pass H.B. 496 later in the legislative session. Gov. Greg Abbott (R) signed H.B. 496 into law on June 15.

The **Virginia** Chapter hosted a Stop the Bleed training session April 3 during the legislature’s veto session.

**Patient access to care**

In addition to Stop the Bleed, ACS chapters used their lobby days to advocate for public policy to advance patient access to care, including bariatric surgery coverage and Medicaid expansion, as well as to raise concerns about expanding scope of practice for non-physician health care practitioners.

The **Connecticut** Chapter cosponsored a March 1 Physician’s Day at the capitol with the Connecticut State Medical Society. Chapter members lobbied on several priority issues, including opposing a bill that would prohibit trauma centers from charging a trauma activation fee and supporting legislation to expand private insurance coverage for bariatric surgery, and requiring all motorcycle riders and passengers to wear a helmet.

The day’s event included a breakfast program, featuring guest speakers Lt. Gov. Susan Bysiewicz (D); Rep. Jonathan Steinberg (D), co-chair of the Public Health Committee; and deputy president pro tempore Sen. Saud Anwar, MD (D).

Members of the **South Florida, Jacksonville, and Florida** Chapters met in Tallahassee January 23 to discuss surgeon-specific priorities in the state. Representatives from the Florida Medical Association, leaders from numerous state specialty societies, and elected officials and their staffs attended. Four state legislators—Sen. Dennis Baxley (R), Sen. Gayle Harrell (R), Sen. Lori Berman (D), and Rep. Ralph Massullo (R)—spoke at the event and discussed issues pertinent to Florida surgeons, including scope of practice and opioids.

The **Kansas** Chapter cosponsored a January 30 Advocacy Day with the Kansas Academy of Family Physicians. Chapter members met with their state legislators to discuss their legislative priorities, including broadening private health insurance coverage for bariatric surgery and expanding the state’s Medicaid program.

The Kansas Advocacy Day program included speeches from Kansas Gov. Laura Kelly, state insurance commissioner Vicki Schmidt, and state legislators, including Rep. John Eplee (D), vice-chair of the House Health and Human Services Committee, and Sen. Barbara Bollier (D), ranking member of the Senate Public Health and Welfare Committee. Expanding the state’s Medicaid program, KanCare, dominated the discussion. In 2018, the state legislature passed a Medicaid expansion bill only to be vetoed by the previous governor. Governor Kelly is a strong proponent of expanding Medicaid, but the new House and Senate leadership oppose it.

The **Maryland** Chapter hosted its first lobby day March 22 in Annapolis. Participating Fellows and...
residents met at the office of the Maryland State Medical Society for a briefing on the top health care issues before the legislature. The group met with Sen. Clarence Lam, MD (D), staff for Delegate Terri Hill, MD (D), and staff for Sen. Steve Hershey (R) to discuss support for legislation to reform the prior authorization process, as well as the potential for Stop the Bleed legislation next year.

The Nebraska Chapter organized its first chapter lobby day, joining with the Nebraska Medical Association to host a legislative breakfast February 12. Chapter members met with legislators throughout the breakfast to discuss priority issues, including support for legislation to prohibit the use of tanning beds by individuals younger than 18 years old and opposition to a bill to expand the scope of practice of optometrists to include surgery.

The Oregon Chapter of the ACS hosted its chapter lobby day March 4 at the state capitol in Salem. Working with the Oregon Medical Association, surgeon advocates from around the state met with their elected officials to discuss legislation addressing surgical smoke evacuators, caps on noneconomic damages in liability lawsuits, and tobacco taxation and regulation. Moreover, the chapter invited speakers from the Oregon Healthcare Authority; representatives from the insurance industry, the Nation Federation of Independent Business, and medical specialty societies; and state legislators. The speakers shared unique perspectives on issues that affect the practice of surgery in Oregon and took time to answer questions and learn about the state Stop the Bleed program.

The Wisconsin Surgical Society cosponsored the Wisconsin Doctor Day 2019 on May 19, joining more than 400 physicians from around the state. The main program included a speech by Gov. Tony Evers (D) outlining his support for expanding Medicaid in Wisconsin, as well as policy to promote the use of vaccinations. Chapter members then joined other physicians to meet with legislators and their staffs.

The Washington Chapter had planned a lobby day for February 12; however, bad winter weather forced the chapter to cancel the event.

Fall Lobby Days

Most state legislatures convene the first half of the year, but a few meet year-round, which provides an opportunity for chapters to schedule their lobby days later in the year. Additionally, scheduling meetings when the legislature is out of session can make it easier to gain key lawmakers’ attention and participation. The Minnesota Surgical Society will host a legislative event as part of its fall meeting October 3 in St. Paul, and the Massachusetts Chapter is scheduled to host its lobby day October 10.

To learn more about how to participate in a state chapter lobby day, contact your local chapter or visit the College’s website at facs.org/advocacy/state. For more information, e-mail state_affairs@facs.org or call 202-337-2701.
As tired and simplistic as leadership clichés may be, I believe that many hold truth, such as “There is no ‘I’ in team,” and “Lead by example.” These adages find their way into everyday medical practice. Equally trite are medical clichés—“Treat the patient as you would want to be treated or how you would want a loved one treated.” I, myself, am guilty of using these phrases often in practice when educating residents and medical students in an attempt to have them take ownership of the patient and become effective leaders to ensure the best health care outcomes for our patients. Yet even in my early career, I have the sense that the underlying meaning behind these common phrases is all too often lost not only on my trainees, but also on myself. The daily demands of complex multidisciplinary treatment, research, education, and administrative duties routinely dilute the energy we dedicate to serving as leaders on behalf of our patients.

A recent experience has reinvigorated my understanding of what it means to be a leader for the patient. Allow me to first preface this story by saying that this personal experience is very complex and that the health care professionals involved are all hardworking, intelligent, and dedicated to achieving the best possible result as it pertains to their area of expertise. In addition, as a surgical oncologist, I understand the current atmosphere and limitations of health care that all physicians face. It is within this challenging context that leadership for the patients must be performed and improved.

Shifting from health care professional to patient advocate

This story is about my mom, who was recently diagnosed with an aggressive form of leukemia. After three days of waiting for transfer from a small community hospital ill-equipped to deal with her condition, she was admitted to a large academic center. To the credit of all of her physicians, she recovered from a multitude of acute, life-threatening conditions and was able to start novel chemotherapy, giving us cautious optimism and hope that she would survive her latest disease process.

However, her battle was not without its bumps, which I witnessed firsthand staying with her 20 to 24 hours each day. For example, she went into flash pulmonary edema following a red blood cell transfusion,
which is not unexpected given her previous resuscitation and petite stature. However, the next day, it was thought that she was still intravascularly depleted and was challenged with a crystalloid infusion at 150 milliliters per hour, again resulting in flash pulmonary edema. During her three-week hospital course, the changing nurses, sometimes on different units, would try fluid boluses, at which point I had to intervene and suggest gentler rates of infusion.

Another example of my mom’s battle occurred when she received an appetite stimulant one night. The stimulant’s side effects caused acute delirium, resulting in her removing her high-flow nasal cannula, rotating 180 degrees in bed, and desaturating to the 60s. I recognized the problem in the middle of the night, and the nursing staff promptly responded after I alerted them. However, that medication remained on her order list and was again offered to her the following two nights, which I promptly refused.

My mom was being followed by multiple teams, with hematology/oncology as the primary team. At times, communication between the teams was suboptimal. Morning recommendations would not be followed-up on or the recommended orders would be entered the following day when the tests were not entirely relevant anymore. There was uncertainty as to when and who was placing these orders. This miscommunication is a source of frustration that patients know all too well and is a common complaint my own patients have expressed.

These are a few of the challenges that we encountered during my mom’s hospital stay. Whether these events would have affected her overall outcome is debatable. In no way do I feel that these issues arose intentionally. Having trained at major academic centers, I have witnessed similar events firsthand and received similar complaints myself. It is all too easy to become complacent and accept these occurrences as the best that we can do. This experience was profoundly enlightening to me as a health care professional, but also as my mom’s advocate.

It’s a team effort
In our story, leadership for the patient, my mom, really equated to an unyielding vigilance and thoughtful coordination of a complex health care plan to optimize not only the oncologic outcome, but also the overall patient experience and her mental and emotional well-being. I provided that vigilance in anticipation of events that could cause harm, trying to minimize potential problems as best I could. I also acted to coordinate my mom’s care among her different teams, keeping a detailed log of her vitals, labs, diagnostic studies, and daily recommendations, and questioning plans of care when they did not seem to conform with our understanding of the recommendations or were not fully coordinated.

Physicians are well-trained to raise these issues, but many of our patients do not have medical expertise or family members with medical backgrounds to advocate on their behalf. Hence, it naturally falls to us on the physician side to maintain this level of vigilance and care coordination on behalf of our patients. In other words, it is up to us to be leaders for our patients, whether we are on the primary care team or a consulting team and whether the patient is a family member or a complete stranger.

I liken this experience to watching a 100-meter sprint, where each care team represented a runner in his or her own lane. Each runner crosses the finish line, but is separate from the other competitors. Leadership for the patient should look more like a crew team rowing a race. There is a designated captain of the boat, but all members work in harmony to reach the finish as effectively as possible. In this way, we can truly be leaders for our patients and obtain not only positive outcomes, but also enrich patient well-being and satisfaction, as well as emulate some of the truths in those leadership and medical clichés.

Dedication
This essay is dedicated to Dr. Gabriel’s mom.
Urinary tract infection (UTI) accounts for up to 40 percent of health care-associated infection, and up to 80 percent of UTIs are catheter-associated (CAUTI). Routine use of indwelling urinary catheters (IUCs) in the perioperative setting contribute to CAUTI, which, in turn, commonly leads to unnecessary antimicrobial use, prolonged hospitalization, bacteremia, and increased health care costs.

In bariatric surgery patients at Stony Brook University Hospital, Long Island, NY, an American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP®) institution, UTI accounts for 17 percent of all postdischarge complications. IUC use was independently found to be significantly associated with UTI following laparoscopic bariatric surgery, regardless of the duration of catheterization. CAUTI, therefore, has been identified as a preventable complication leading to morbidity in bariatric surgery patients.

In fact, the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) uses incidence of UTI as a marker of bariatric surgical outcome.

When comparing Stony Brook University Hospital’s outcomes to national benchmarks, we found that our institution had a relatively higher rate of UTI in the bariatric patient population. Given the hospital’s commitment to delivering quality patient care, we felt that measures needed to be taken to improve these outcomes.

Putting the QI activity in place
Stony Brook University Hospital is a tertiary academic medical center with more than 600 beds that provides care to a suburban community. The surgical volume is 24,000 cases per year. Stony Brook University Hospital was named one of Healthgrades’ “America’s 100 Best Hospitals” for 2019 based on actual clinical outcomes. The Stony Brook Bariatric Surgery Center has been an MBSAQIP-accredited bariatric center since 2013. This QI project was undertaken in 2015 to address the hospital’s high rate of CAUTI.

The Centers for Disease Control and Prevention (CDC) guidelines suggest using IUCs only when absolutely necessary, removing them as soon as possible, and has advised against their use for the convenience of patient-care personnel. The CDC indicates that the most effective primary prevention of CAUTI is to limit the use of IUCs to when it is clinically indicated and necessary. No guidelines have been published regarding the placement and removal of IUCs in patients undergoing bariatric surgery.

Our bariatric group is composed of four attending surgeons, all of whom would routinely place IUCs intraoperatively before this QI activity was implemented. IUCs would be removed the morning of postoperative day one. We first organized multiple team meetings to review our postoperative outcomes related to CAUTI. This process then led to a consensus among all surgeons that routine use of IUCs was not clinically necessary for all bariatric operations. The surgical group subsequently met with the anesthesia team to achieve consensus on perioperative catheter use.

Description of the QI activity
Based on the incidence of UTI in the MBSAQIP report, the team concluded that a patient outcome improvement measure was required. A urinary catheter avoidance protocol was constructed to address
the problem. With this new protocol, IUCs were no longer placed intraoperatively in adult patients undergoing bariatric surgery. Instead, IUCs were only placed for postoperative urinary retention (that is, if the patient is unable to void within six hours postoperatively). This catheter avoidance protocol was first implemented July 1, 2014. Data were collected prospectively after implementation of the catheter avoidance protocol and were compared to preprotocol outcomes.

Staff involved in this activity included four bariatric surgeons, two anesthesiologists, one minimally invasive and bariatric surgery fellow, one physician assistant, one nurse practitioner, and three nursing and 10 ancillary staff from the bariatric office, preoperative units, postoperative recovery units, medical surgical units, and operating room. Initially, our anesthesia colleagues hesitated to implement the new protocol because they use perioperative IUCs as a method of perioperative monitoring. However, after a multidisciplinary meeting and a review of clinical outcomes, we were able to reach a consensus in an effort to improve outcomes.

No additional costs were required beyond normal hospital operations to implement and maintain the QI program, and no additional funding sources were necessary.

**Results**

Five years of pre- and postprotocol UTI rates were compared. We identified 171 patients in the precatheter avoidance protocol group and 523 patients in the postprotocol group (see Table 1, this page).

| TABLE 1. INCIDENCE OF POSTOPERATIVE UTI BY YEAR |
|---------------------------|---------------------------|---------------------|---------------------|---------------------|---------------------|
| UTIs | 2 | 3 | 1 | 1 | 1 |
| Total cases | 62 | 109 | 168 | 170 | 185 |

**FIGURE 1. INCIDENCE OF POSTOPERATIVE UTI BEFORE AND AFTER DISCONTINUATION OF ROUTINE IUC PLACEMENT BY YEAR**

![Graph showing UTI incidence before and after discontinuation of routine IUC placement.](chart.png)
Routine use of IUCs in the perioperative setting contribute to CAUTI, which, in turn, commonly leads to unnecessary antimicrobial use, prolonged hospitalization, bacteremia, and increased health care costs.

The average incidence rates of postoperative UTI differed significantly in the preprotocol (2.924 percent) versus postprotocol (0.574 percent) groups ($p = 0.0009$) (see Figure 1, page 47). Discontinuation of routine IUC placement resulted in an 80.4 percent relative risk reduction in postoperative UTI compared with routine IUC placement.

Avoiding routine urinary catheter placement led to a reduction in postoperative UTI for patients undergoing bariatric surgery. These data support the discontinuation of routine urinary catheter placement in best practices protocols.

The per-patient cost to the hospital for a symptomatic UTI is approximately $911 and the cost of an IUC is approximately $17. Given the 80.4 percent relative risk reduction experienced after the protocol change, the estimated cost savings of catheter avoidance is approximately $6,704 per year ($3,644 for UTI treatment, $3,060 IUC cost, assuming 180 cases annually). In addition, the hospital operating room fee is approximately $66 per minute. Assuming it takes approximately two minutes to place an IUC, catheter avoidance saves an additional $23,760 annually, making an estimated total cost savings of $30,464 annually.

**Tips for others**

While additional funding is unnecessary, multidisciplinary buy-in is imperative to implementing a new protocol. We recommend a review of institutional CAUTI outcomes to determine room for improvement. With the data at hand, a meeting can be organized with surgeons, anesthesiologists, and other care team members to determine how best to implement change at a given institution. Collaboration between departments brings more attention and awareness to the problem at hand. Moreover, if positive change is seen, new practices may be adopted hospitalwide to further reduce the incidence of CAUTI.

**REFERENCES**

Desmoid tumors (DTs), also known as aggressive fibromatosis, are locally aggressive, nonmetastatic neoplasms that are difficult to manage and require multidisciplinary care. Approximately 5 to 10 percent of DTs arise in the setting of familial adenomatous polyposis, with the remainder occurring via sporadic mutations in the CTNNB1 gene encoding β-catenin. DTs most commonly occur in the abdominal wall and mesentery, but can arise in the extremities and head and neck region as well. Biopsy is critical for diagnosis before initiating treatment to differentiate DT from other soft-tissue tumors.

Historically, treatment of DTs consisted of wide surgical resection, which can be associated with significant functional morbidity because of the tumor location and size. Unfortunately, given the aggressive and infiltrative growth patterns, local recurrence remains a significant issue, with up to 30 percent of patients experiencing a recurrence even after a margin-negative resection. Because of the unpredictable natural history of DTs and surgical challenges, there has been recent interest in nonsurgical strategies that are guided by certain patient and clinical factors (see Table 1, page 50). Additional treatment options include active surveillance, radiation therapy (RT), cryoablation, and novel medical therapies.

Active surveillance
Although previously considered a primarily surgical disease, current guidelines advocate for active surveillance in patients with asymptomatic, locally resectable DTs; intervention is reserved for tumors that are either symptomatic, impair or threaten function, or may limit local therapy options if they progress further (see Figure 1, page 51). These recommendations have evolved based on several recent retrospective studies demonstrating progression-free survival rates of 50 percent at five years for asymptomatic patients managed with active surveillance, similar to patients treated with primary medical therapies. However, this strategy requires reliable patient follow-up and re-evaluation of multidisciplinary treatment plans if there is significant tumor growth or development of symptoms.

RT
RT is an alternative standard local therapy for extra-mesenteric DTs. Tumor location and tumor size are a less-limiting factor for RT than they may be for surgical resection given modern conformal RT techniques that allow for maximized tumor control and minimized toxicities. For patients with DTs, RT is commonly employed in the definitive setting, and some encourage postoperative RT following an R1/R2 resection. Regardless of whether RT is delivered definitively or postoperatively, conventionally fractionated RT over the course of five to six weeks provides favorable local control outcomes, upward of 70 to 80 percent in most patients. However, the oncology community increasingly recognizes that tumor control is not uniformly favorable across all patient groups, and, therefore, patient selection is
essential. Given the durable local control in most patients who receive RT, it remains an integral component in the management of DTs, either as an upfront or a salvage therapy.

Cryoablation
As nonsurgical therapies are increasingly pursued, percutaneous cryoablation has been explored as primary and salvage treatment. Cryoablation involves computed tomography-guided insertion of cryoprobes with the goal to treat tissue 5mm beyond the tumor margin. Multiple and repeat ablations are possible for recurrence or incomplete ablation. Data are relatively limited but early results are encouraging, with reported high rates of stable disease and symptomatic improvement. This strategy is promising, but continued research is required before it becomes a standard upfront therapy; ongoing clinical trials (NCT02476305) are actively enrolling patients.

Medical therapy
Several studies in recent years have shed light on the natural history of DT and demonstrated the efficacy of newer agents in this disease. A randomized, placebo-controlled phase III study of the tyrosine kinase inhibitor (TKI) sorafenib was notable, not only for RECIST (Response Evaluation Criteria in Solid Tumors) responses in 33 percent of patients receiving active therapy, but also 20 percent of patients receiving a placebo. This demonstrated not only the activity of the drug, but also documented prospectively for the first time the phenomenon of spontaneous regression of DTs in a subset of patients receiving placebo and supported an initial trial of active surveillance for asymptomatic DTs. Another recent study compared the TKI pazopanib against methotrexate and vinblastine—an older standard chemotherapy regimen—and showed that pazopanib had a higher rate of nonprogression at six months (86 percent versus 50 percent) with improved pain control in the TKI arm.

These studies and the increased availability of alternative systemic agents have necessitated reconsideration of the role of

TABLE 1. PATIENT OR TUMOR FACTORS THAT INFLUENCE TIMING AND TYPE OF TREATMENT

- Progression demonstrated
- Worsening symptoms
- Tumor location
- Tumor size
- Functional morbidity of treatment
- Cosmetic impact of treatment
- Patient age
- Prior treatments

Because of the unpredictable natural history of DT and surgical challenges, there has been recent interest in nonsurgical strategies that are guided by certain patient and clinical factors.
FIGURE 1.
GUIDELINES FOR PATIENTS WITH ASYMPTOMATIC, LOCALLY RESECTABLE DTs

After multidisciplinary evaluation of a biopsy-proven, asymptomatic desmoid

Recommend initial period of observation

Stable disease and asymptomatic?

Yes
- Continue observation

No

Consider local therapy

Resectable with minimal morbidity?

Yes
- Consider resection

No

Targetable RT volume with low toxicity risk?

Yes
- Consider radiation therapy

No

Consider systemic therapy

Fast or reliable response required

Yes
- Consider cytotoxic chemotherapy

No

Consider TKIs or other systemic agents

older treatments. Therapies like tamoxifen, imatinib, and NSAIDs all have modest response rates in single-arm studies, which are not clearly superior to the placebo arm of the sorafenib study. Moreover, while doxorubicin-based therapies have high response rates, the acute and potential long-term toxicity of these treatments should limit their use to cases where a response urgently is needed.

Finally, a randomized phase III study with the gamma-secretase inhibitor nirogacestat for patients with progressive desmoid fibromatosis is ongoing (NCT03785964), and, if positive,
may provide yet another novel systemic option for patients.

Conclusion
A clearer understanding of the natural history and pathophysiology of DTs has evolved over the last decade, which has influenced the therapeutic approach. Although aggressive, upfront surgical resection was historically recommended for all DTs, newer systemic agents and improved techniques in RT provide excellent local control for these locally aggressive tumors. Surgical intervention is warranted for symptomatic tumors or tumors that are threatening function but should only be considered after multidisciplinary discussion.

For more information, contact clroland@mdanderson.org.

REFERENCES

Joint Commission to start reporting on high rate of C-sections, adds new standards

by Carlos A. Pellegrini, MD, FACS,FRCSI(Hon), FRCSEng(Hon), FRCSEd(Hon)

Earlier this year, The Joint Commission announced plans to begin reporting on hospitals with high rates of cesarean sections (C-sections) in July 2020. The high-rate designation will be based on hospitals’ rates on the perinatal care (PC) cesarean birth measure—PC-02—reported to The Joint Commission.

PC-02 measures the rates of cesarean births among a subset of the general obstetric population of low-risk women having their first birth with a term, singleton baby in a vertex position. The three criteria that will determine whether a hospital is identified as having a high rate will be based on data reported for 2018 and 2019, as follows:

• 30 or more cases reported in both years

• PC-02 rate of more than 30 percent for the current year

• Overall two-year average PC-02 rate greater than 30 percent

Why were the new standards developed?

After the announcement, David Baker, MD, MPH, FACP, executive vice-president, Health Care Quality Evaluation, The Joint Commission, penned an article for The Joint Commission’s monthly blog Leading Hospital Improvement to provide answers to commonly asked questions, such as:

• Will overall cesarean rates ever be listed?

• Is it possible to list all accredited hospitals for comparison purposes?

• Will there be a way to account for differences in patient population, demographics, or medico-legal factors that may impact these rates?

In the blog, Dr. Baker also stated that The Joint Commission decided to move forward in reporting high C-section rates after making the following observations:

• Analysis determined C-section rates had not improved over the last several years

• New evidence showed that hospitals can safely reduce

To improve the quality and safety of care provided to women during all stages of pregnancy and postpartum, The Joint Commission recently announced two new PC standards that are set to go into effect July 1, 2020, for all Joint Commission-accredited hospitals.

The new standard on maternal hemorrhage will require organizations to complete an assessment using an evidence-based tool for determining risk upon admission to labor and delivery, as well as upon admission to postpartum care.

What are the new standards?
In addition, to improve the quality and safety of care provided to women during all stages of pregnancy and postpartum, The Joint Commission recently announced two new Provision of Care, Treatment, and Services (PC) standards that are set to take effect July 1, 2020, for all Joint Commission-accredited hospitals. They are as follows:

- **PC.06.01.01:** Reduce the likelihood of harm related to maternal hemorrhage
- **PC.06.03.01:** Reduce the likelihood of harm related to maternal severe hypertension/preeclampsia

The new standard on maternal hemorrhage will require organizations to complete an assessment using an evidence-based tool for determining risk upon admission to labor and delivery, as well as upon admission to postpartum care.

**PC.06.01.01** also will require hospitals to develop written evidence-based procedures for stage-based management of pregnant and postpartum patients who experience maternal hemorrhage; the procedures include the following:

- Use of an evidence-based tool that includes an algorithm for identification and treatment of hemorrhage
- Use of an evidence-based set of emergency response medications that are immediately available on the obstetric unit
- Define required response team members and their roles in the event of severe hemorrhage
- Define how the response team and procedures are activated
- Provide a blood bank plan and response for emergency, as well as determine how to initiate the hospital’s massive transfusion procedures
- Offer guidance on when to consult additional experts and consider transfer to a higher level of care
- Suggest methods on how to communicate with patients and families during and after the event
- Supply criteria for when a team debrief is required immediately after a case of severe hemorrhage

To learn more about the new PC requirements, view the prepublication standards at [www.jointcommission.org/standards_information/prepublication_standards.aspx](http://www.jointcommission.org/standards_information/prepublication_standards.aspx).

**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.

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Bloodshot: Ocular lacerations from gunshot wounds

by Richard J. Fantus, MD, FACS, and Robert Joshua Fantus, MD

The word “bloodshot” is defined as red and inflamed by swelling of blood vessels, or subconjunctival hemorrhage. The term was coined in the 1550s and derived from bloodshotten—from the noun “blood” and the old past participle of “shoot,” a verb.† Many different ocular pathologies may result in conjunctival injection, or a bloodshot eye. The differential runs the gamut from allergies, dry eye, contact lens overwear, and viral or bacterial conjunctivitis, to more serious eye conditions, such as uveitis or glaucoma.

Keeping an eye out for complications

Gunshot wounds account for 6 percent of all ocular injuries reported to the U.S. Eye Injury Registry Database. These injuries often occur unintentionally at home and more commonly in young, minority men. The exposed surface of the eye accounts for 0.1 percent of the frontal surface area of the body; however, the projectile-related damage is 50 times greater than what one would expect based upon surface area alone. Nearly 30 percent of all facial and cranial gunshot wound victims present with ocular injuries, and, of those, more than 50 percent lead to permanent visual dysfunction.‡ Management of ocular gunshot wounds requires the fundamentals of wound care similar to gunshot wounds in other areas of the body, such as routine tetanus prophylaxis. However, as a result of the complex and delicate anatomy of this area, special challenges arise. Broad-spectrum antibiotics are administered more liberally in an effort to prevent posttraumatic endophthalmitis, a devastating complication of an open-globe injury. Patients with ocular lacerations undergoing wound closure greater than 24 hours, injuries occurring in a rural setting, having a retained intraocular foreign body, intraocular tissue prolapse, large wound size, and ruptured lens capsule are conditions associated with a higher risk of endophthalmitis.†

Another rare but significant complication of open-globe injuries is sympathetic ophthalmia, which is estimated to develop in less than 1 percent of cases. It is an incompletely understood autoimmune phenomenon initiated by the exposure of previously sequestered ocular self-antigens from the injured eye that results in a bilateral, diffuse, granulomatous non-necrotizing panuveitis and vision loss in the uninjured, or sympathizing, eye. This condition has been reported as early as five days and up to 56 years later. The overwhelming majority occur within three months to a year.† Initial treatment is with systemic corticosteroids, immunomodulatory therapy, topical corticosteroids, topical cycloplegics, and occasionally intravitreal corticosteroid injections. Enucleation of the traumatized (exciting) eye within 14 days should be considered in patients with severely disorganized eyes that have no discernible visual function to prevent the development of sympathetic ophthalmia in the other eye. Enucleation of the exciting eye offers no benefit once the disease process of sympathetic ophthalmia has started.‡
Incidence and outcomes

To examine the occurrence of ocular lacerations resulting from gunshot wounds, 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 that contained one of 192 nonwar-related E codes for penetrating injury and one of the following diagnosis codes:

- $S05.20XA$ (ocular laceration and rupture with prolapse or loss of intraocular tissue, unspecified eye)
- $S05.21XA$ (ocular laceration and rupture with prolapse or loss of intraocular tissue, right eye)
- $S05.22XA$ (ocular laceration and rupture with prolapse or loss of intraocular tissue, left eye)
- $S05.30XA$ (ocular laceration without prolapse or loss of intraocular tissue, unspecified eye)
- $S05.31XA$ (ocular laceration without prolapse or loss of intraocular tissue, right eye)
- $S05.32XA$ (ocular laceration without prolapse or loss of intraocular tissue, left eye)

A total of 405 records were found, 337 of which contained a discharge status, including 194 patients discharged to home, 83 to acute care/rehab, 12 to skilled nursing facilities, and six to law enforcement; 42 died (see Figure 1, this page). Of these patients, 67 percent were male, on average 35.2 years old, had an average hospital length of stay of 10 days, had an intensive care unit length of stay of 7.9 days, had an average injury severity score of 17.0, and were on the ventilator for an average of 6.4 days. Of those patients tested for alcohol, 30 percent (82 of 268) tested positive.

The eye is an organ that is roughly the size of a large marble, yet at least seven different ophthalmologic specialties are focused on its care. While taking an overnight red-eye airline flight and reading a computer screen until landing may result in bloodshot eyes, a good night’s rest and some artificial tears will resolve that malady. However, a gunshot wound that results in an ocular laceration has a significant chance of resulting in permanent vision loss.

Throughout the year, we highlight these data through brief reports that are published monthly in the Bulletin. If you are interested in obtaining Trauma Quality Programs (TQP) data for your own analysis, or your trauma center is interested in participating in the TQP, e-mail us at traumaquality@facs.org or find more information at facs.org/quality-programs/trauma/tqp.

Acknowledgment

Statistical support for this column was provided by Ryan Murphy, Data Analyst, NTDB.
More than 2,100 surgical team members, clinical registry experts, and allied and administrative health care professionals attended the American College of Surgeons (ACS) 2019 Quality and Safety Conference, July 19–22 in Washington, DC. The theme of the conference, Putting Our Patients First, was evident in the conference’s seven preconference sessions, nine general sessions, and many breakout and abstract sessions, as well as the formal launch of the Geriatric Surgery Verification (GSV) Quality Improvement Program.

In his welcoming remarks, Clifford Y. Ko, MD, MS, MSHS, FACS, Director, ACS Division of Research and Optimal Patient Care, said, “This is the largest Quality and Safety Conference ever, with the largest number of sessions and most abstract submissions (approximately 600).” In fact, the conference has grown so much over the last 12 years that it now needs to take place at a conference center rather than a hotel.

Dr. Ko focused his opening remarks on value improvement in surgery, noting that the value equation is the sum of quality divided by costs. He said the denominator—quality—means more than “first, do no harm.” It is defined by “making patients better” in a way that is meaningful to them. Dr. Ko said, “Quality should be defined as care and outcomes that matter to the patient.” Using this definition, quality metrics would include not only clinical data, but also patient-reported outcomes (PROs) and patient-reported outcome measures (PROMs).

Keynote address
Sometimes physicians learn the importance of putting the patient first by being patients themselves. Rana Awdish, MD, FCCP, FACP, a pulmonologist and critical care physician at Henry Ford Hospital, Detroit, MI, and Keynote Speaker at the conference, experienced this situation when she developed a ruptured hepatic adenoma at seven months into a pregnancy.

She spoke of being rushed to the hospital and then into the operating room (OR) for an emergency cesarean section. As she was going into deep sedation, she heard the anesthesiologist say, “She’s circling the drain.” When she awoke a few days later, she could hear the intensive care unit team rounding and heard the chief resident say, “She’s been trying to die on us.” I felt by him saying that, he was creating an adversarial relationship,” Dr. Awdish said, revealing that she had made similar comments just days before, but it was different to hear as a patient.

“For me, that immediate transposition from critical care physician to critically ill patient exposed things to me about medicine, this field that I had revered since I was a child,” Dr. Awdish said. “There were deficits in communication,
there was discoordination of care, and, at times, there was a complete lack of ability to attend to suffering. I saw us through the lens of our patients, and it frightened me."

Dr. Awdish pulled through and recovered from hepatic and renal failure as well as a stroke thanks to the medical treatment she received, which included 26 units of blood products on the night of her collapse, five major operations, and extensive physical therapy. The experience exposed her, though, to the shortfalls in how she and her colleagues would interact with patients.

Clinicians are trained to detect and treat illness. “What we’re less well-trained to do is decode the fear our patients are experiencing,” Dr. Awdish said. At that juncture, she said, she needed “things that medicine couldn’t give”—time to be with her family, to feel supported and valued as a person. “I never understood how much illness robs our patients of their identities,” she said.

“We don’t always take the time to integrate a patient’s values and emotions into their care,” Dr. Awdish said. When she returned to active practice, Dr. Awdish wanted to reconcile being a confident, proficient physician with what she learned as a patient. She recalled previously believing that her “value came from healing, from treating illness,” but she had come to understand how “holding space for the patient’s suffering, listening to their pain was in and of itself a therapeutic act.”

“Many of us were taught in medical school that if we give of ourselves, we’ll somehow be depleted. I think it’s the opposite,” Dr. Awdish said. “These channels of active listening, of empathy, of compassion, are reciprocal. We gain more than we ever give.”

GSV standards unveiled
One ACS initiative that has been developed with the goal of attending to patients’ overall goals of care is the GSV Quality Improvement Program, which was unveiled at a reception and dinner July 18. With the support of The John A. Hartford Foundation, the GSV program was developed over a four-year period with more than 50 stakeholders and two phases of hospital site visits, culminating in the creation of 30 standards that hospitals must meet to receive ACS GSV accreditation. These standards aim to concisely address the most important aspects of surgical care for patients ages 75 and older.

“This program really has the potential to do something,” said Ronnie A. Rosenthal, MD, MS, FACS, who led the Coalition for Quality in Geriatric Surgery (CQGS) Core Development Team, which produced the GVS Standards. “This is going to be a game-changer for older Americans.”

The guest speaker at the event was Shari M. Ling, MD, Deputy Chief Medical Officer, Center for Clinical Standards and Quality, Centers for Medicare & Medicaid Services (CMS). Dr. Ling said that CMS is the largest payor for health care services in the nation and that most beneficiaries have four or five medical conditions in addition to the one treated in a single episode of care. As a result, it is important that all providers work in alignment to provide care “to all the patients we touch upon in a true and earnest way,” Dr. Ling said.

Underscoring the importance of including patients in the discussion about the care they receive, patients now serve on all CMS advisory panels “to help us understand what care looks like when they receive it to help guide us in our program and policy development,” Dr. Ling said.

Speaking of the GSV program specifically, “I’ve been personally honored to watch this work evolve,” Dr. Ling
said. “Thank you for having the courage to go forward.”

The conference included a track of preconference workshops and breakout sessions on the GSV, which focused on how to become a geriatric surgery-verified center; the aging population and rising health care costs; improved geriatric outcomes; and emergency, cancer, and bariatric surgery for older adults.

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**PROs and quality measurement in surgery**

Assessing the quality of surgery and surgeons through clinically reported metrics is vital to quality improvement, but it is equally important to think about quality from the patient’s perspective.

Larissa Temple, MD, MSc, FACS, professor of surgery and chief of colorectal surgery, University of Rochester Medical Center, NY, spoke about how PROs can help improve clinical care. She noted that one study showed that collecting PROs from a group of stage IV cancer patients as they underwent treatment led to improved survival time, likely because their clinicians had a better understanding of their health status. Patient data collection can be difficult, so “we really need to make sure we’re asking the right questions, and we need to make sure we’re asking the questions that matter to the patient,” Dr. Temple said.

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**Improving communication with patients**

Effective communication is paramount to the provision of high-quality, patient-centered care.

Heather Neuman, MD, FACS, associate professor, University of Wisconsin School of Medicine and Public Health, Madison, said patient-centered communication “considers patient needs and values, builds a strong relationship, and includes the patient in care decisions.” These variables can be measured. “Thinking through what it is you’re trying to measure and what perspective is going to be the most important is one of the first things you need to do in measuring communication,” Dr. Neuman said. She explained different methods of measurement, including patient surveys, direct observation such as audio- or video-recorded interactions, and feedback from third-party observers. Each has its strengths and weaknesses, and it can be difficult to decide which option to pursue, but “we all agree communication is important, and it is a skill that can be developed through data.”

Setting expectations before and immediately after surgery is crucial in communicating with patients and developing a positive relationship, according to Muneera Kapadia, MD, FACS, clinical associate professor, University of Iowa, Iowa City. “Setting expectations allows patients and their families to participate in shared decision making,” Dr. Kapadia said. Classically, surgeons explain to their patients all of their expertise regarding possible outcomes, but “the reality is, preoperative expectation setting is much more effective if it is done as a dialogue and not a monologue.”

Dr. Kapadia suggested using a communication model called Ask-Tell-Ask. Begin by asking a patient’s perspective about what they know about their condition; tell the patient specific technical information about their procedure while prioritizing key information and avoiding jargon; and then ask the patient again what their expectations are as a “teach-back” moment to make sure they understand what has been discussed. Ask-Tell-Ask also is useful in the postoperative setting in cases that resulted in poor outcomes, Dr. Kapadia said.
Gretchen Schwarze, MD, MPP, FACS, associate professor of surgery, University of Wisconsin-Madison, spoke about different ways to improve communication with patients. “Patients want to participate in their own care—they just don’t always know how,” Dr. Schwarze said. One method she discussed was “patient activation” before the surgical consult, which means giving patients the ability to frame and communicate their questions beforehand. Question-prompt lists, decision aids, and patient navigators are useful resources in this stage. Dr. Schwarze also stressed the importance of talking about goals and tradeoffs. “We’ve all been taught to talk about risks and benefits, but really, if you’re going to talk about whether surgery is worth it, you need to talk about what the outcome is and whether all of the things you need to go through to achieve that outcome are absolutely worth it,” Dr. Schwarze said.

Surgeons should focus on discerning the patient’s goal for the operation—“I want to be healthy and functional”—over the surgeon’s—“I want to remove this tumor efficiently.” Finally, surgeons should “attend to emotion, because once you do, you can move forward and have a rational conversation.”

Avoiding burnout, increasing resilience
Providing patient-centered care goes beyond technique and data; it begins with surgeons taking care of themselves to avoid burnout and increase resilience in a demanding field, according to Taylor Riall, MD, PhD, FACS, professor and division chief, surgical oncology, department of surgery, University of Arizona, Tucson. The consequences of burnout, including emotional exhaustion, depersonalization, and a low sense of personal achievement, affect surgeons and their colleagues, leading to career dissatisfaction, depression, substance abuse, and suicide, among other issues. “For many of us, the concept of burnout resonates poorly. It suggests failure of resourcefulness or resilience, of suffering a ‘moral injury,’” Dr. Riall said. “But the moral injury of health care is being unable to provide high-quality health care from a lack of personal care,” and surgeons must be leaders in expecting better self-care for themselves and colleagues.

Beth Frates, MD, director of wellness programming, Stroke Institute for Research and Recovery, Spaulding Rehabilitation Hospital, and clinical assistant professor, Harvard Medical School, Boston, MA, said that part of self-care begins with lifestyle medicine—a holistic approach that addresses some of the root causes of mental distress or burnout. It is based on six pillars, including exercising regularly; eating healthy foods; getting enough sleep; having strong interpersonal relationships; managing stress; and cutting down on smoking, drinking, and other unhealthy habits. “When we talk about well-being for preventing burnout, we can’t just talk about exercise, diet, or sleep,” Dr. Frates said. “We also need a peaceful mind. We need to be able to unplug and to have a peaceful heart, which is born through connecting your sense of purpose to your work.” Dr. Frates recommended stress resiliency training and one-on-one therapeutic coaching for surgeons to “allow them to be their best selves.”

Leadership in providing patient-centered care
According to Patricia L. Turner, MD, FACS, Director, ACS Division of Member Services, “leadership is a process.” Anyone within an organization can and should lead. “Effective leadership styles can be learned,” but it is important
that leaders find a style that matches their personality. "It has to be authentic," she said.

Certain behaviors can derail leadership, Dr. Turner said. Examples include lack of enthusiasm, acceptance of one’s own mediocre performance, lack of vision and direction, poor judgment, unwillingness to collaborate, inauthenticity, resistance to new ideas, repeating the same mistakes, lack of interpersonal skills, failure to develop others, and ineffective communication.

Paramount to leadership is emotional intelligence, which involves self-awareness, self-management, and social awareness or relationship management, Dr. Turner said.

At the highest level, leadership is about creating change within the organization and encouraging others to grow. "It isn’t about you anymore," she said. "If your leadership isn’t all about you, it will live beyond you."

Jyotirmay (Joe) Sharma, MD, FACS, FACE, associate professor, general and endocrine surgery, division of general and gastrointestinal surgery, department of surgery, Emory University School of Medicine; and director, thyroid and endocrine surgery, Emory University Hospital, Atlanta, GA, said leaders in mid-level positions need to define patient-centered health care and quality for their teams.

The hallmarks of patient-centered, quality care include efficacy, efficiency, effectiveness, optimization, acceptability, and equity, Dr. Sharma said. When leading efforts to apply these concepts within institutions, it is important to ensure that the strategic plan reflects the values of the organization and to clearly define the criteria for success, he added. Leaders should "celebrate success, establish alignment, and clear the path."

ACS President-Elect Valerie W. Rusch, MD, FACS, said, "The top challenges in leadership arise from widely divergent opinions or an entrenched point of view." When this scenario develops, leaders need to open people’s minds to shifting paradigms, manage their anxieties, and thwart disruptive behavior.

To respond to challenges in leadership, Dr. Rusch recommended the following actions:

• Provide good data

• Engage all interested parties

• Establish agreed-upon mechanisms and time frames for implementation

• Display patience and perseverance

ACS THRIVE
To ensure patients continue to have access to high-quality care, the health care system needs transformative change, which ACS THRIVE (Transforming Health Care Resources to Increase Value and Efficiency) is designed to do. ACS THRIVE is the result of collaboration between the ACS and the Harvard Business School (HBS) Institute for Strategy and Competitiveness. THRIVE combines the knowledge the ACS has amassed in improving surgical outcomes to reduce costs with an HBS plan to create a value-based health care system. "Our goal is to deliver better care for lower care costs," said ACS Executive Director David B. Hoyt, MD, FACS.

"One of the things the ACS brings to this discussion most is experience," he said, through the establishment of standards-setting, accreditation, and quality improvement programs. Through these initiatives,
the ACS has found that “if you encourage hospitals to analyze their data, outcomes improve,” Dr. Hoyt said. “There are two definitions of quality,” Dr. Hoyt said: conformance quality, in which the provider hits the specifications and averts any preventable or avoidable complications; and performance quality, which means providing superior care and achieving patient goals. Moving toward performance quality will require that health care professionals “focus more on what patients want, not just what physicians think they want,” Dr. Hoyt said.

At the same time the College was developing its expanding array of Quality Programs, the HBS was developing a plan for a value-based health care delivery system, Dr. Hoyt said. According to Frank G. Opelka, MD, FACS, Medical Director, ACS Quality and Health Policy, the U.S. needs to move to a value-based health care system because “44 states now spend more on Medicaid than K−12 education, health care spending per person is growing twice as fast as household income, and 48 million people can’t afford their prescriptions.” Furthermore, health care has shifted from a cottage industry to a complex enterprise, but physicians are still paid using the same fee-for-service model used in the 1960s. As a result, patient care has become fragmented, with multiple clinicians providing distinct services without coordination across the continuum of care, leaving the nation with “a health care system that has an unknown value, is unaffordable, and unsustainable,” he said.

Mary Witkowski, MD, MBA, fellow, HBS Institute for Strategy and Competitiveness, outlined the strategic agenda for creating a value-based health care delivery system, as follows:

• Reorganize care around patient conditions or groups of related conditions into integrated practice units covering the full cycle of care
• Measure outcomes and costs for every patient
• Move to value-based reimbursement models and, ultimately, bundled payments for conditions
• Integrate and coordinate care in multi-site care delivery systems
• Expand or affiliate across geography to reinforce excellence
• Build an enabling information technology platform

Robert Kaplan, MS, PhD, senior fellow and Marvin Brower Professor of Leadership Development, emeritus, HBS, said, “The whole health care sector is behind in measuring cost.” To modernize the system, costs should be measured across the continuum of care using time-driven activity-based costing (TDABC), Dr. Kaplan said. TDABC involves three steps, as follows:

• Determine the care process; that is, what activities are performed, who performs each activity, and how long each activity should take
• Calculate the cost per unit of time for each type of personnel and resource
• Account for consumables, such as materials, supplies, and drugs

“We find that bundled payments are ideally suited to value-based care,” Dr. Kaplan said. A value-based bundle payment should include a single, risk-adjusted payment that covers all of the care required to treat a patient’s medical condition contingent on achieving good outcomes and at a price that provides a fair margin for delivering effective and efficient care, he said.
Bruce Hall, MD, PhD, MBA, FACS, vice-president and chief quality officer, BJC Healthcare, St. Louis, MO, and consulting director, ACS National Surgical Quality Improvement Program, said value-based care is about “taking better care of our patients and communities in a more sustainable way.” In a value-based health care system, patients, their families, and advocates should expect desirable outcomes that are consistent with their goals of care; to be informed of what to expect during the course of treatment; to feel confident that appropriate care is furnished; financial transparency; and that it is a positive, respectful experience. Physicians, other health care professionals, and health care facilities should expect acknowledgments and rewards for providing high-quality care, predictable and low administrative burdens, and support and rewards for innovations. Payors should anticipate reduced costs, less cost variations, and more efficient payment processes.

The value equation
Sandra L. Wong, MD, MS, FACS, chair of surgery, Dartmouth-Hitchcock and the Geisel School of Medicine at Dartmouth, and senior vice-president, surgical service line at Dartmouth-Hitchcock, Lebanon, NH, said the goal of value-based care is to optimize quality by using the right metrics, including PROMs, while decreasing costs. “There are problems with how we measure costs,” Dr. Wong said. “We still live in a fee-for-service environment.” Dartmouth engaged in an eight-year experiment to determine the effects of a global, or bundled, payment system for surgical care and after a period of time began realizing savings. “I think we are making some headway in decreasing costs,” she said.

Thomas Aloia, MD, FACS, chief value and quality officer, department of value and quality; chief medical executive; and professor, department of surgical oncology, division of surgery, University of Texas MD Anderson Cancer Center, Houston, said providers and patients define value differently. “Ninety percent of providers emphasize survival, while 90 percent of patients want recovery. They want to go home,” he said. Dr. Aloia noted that “60 percent of health care dollars are spent in the last six months of life. Stop doing things that don’t help people.” To provide care that is more meaningful to patients, he encouraged surgeons to use risk calculators for shared decision making.

Tying together the cornerstones of quality, safety, and value
The cornerstones of patient-centered, value-based care include ethical behavior, standardization, case review, and reduction of unnecessary spending.

Peter Angelos, MD, PhD, FACS, Linda Kohler Anderson Professor of Surgery; chief, endocrine surgery; and associate director, MacLean Center for Clinical Medical Ethics, University of Chicago, IL, explored the ethical dimensions of surgical care. He noted that key elements of ethical patient care include trust, communication, the surgeon-patient relationship, and shared decision making. “The surgeon-patient relationship is intensely personal. We are asking patients to trust us individually, and we have a responsibility to uphold that trust,” Dr. Angelos said.

Rachel Kelz, MD, MBA, MSCE, FACS, professor of surgery, Hospital of the University of Pennsylvania, Philadelphia, spoke on the role of standardization. A lack of standards leads to duplication, miscommunication, and ambiguity—all of which negatively affect patient care.
“Standardization establishes a relationship between people and their work processes,” Dr. Kelz said. In developing standardized practices within your institution, “act with integrity, act with reason, and act as a citizen” of your community, she added.

“Case outcomes are an indicator of structure or process,” noted Michael Chang, MD, FACS, chief medical officer, USA Health, and associate vice-president for medical affairs and professor of surgery, University of South Alabama College of Medicine, Mobile. Consequently, “Case review is foundational to any surgical performance improvement program.”

Dr. Chang noted that the ACS Red Book, *Optimal Resources for Surgical Quality and Safety*, describes the process for both single-discipline and multidisciplinary case review. “After case review, act on a single case or trend,” he said.

Martin Makary, MD, MPH, FACS, chief, islet transplant surgery, and professor of surgery, Johns Hopkins Medicine, Baltimore, MD, noted that “24 percent of Americans avoid care because of fear of medical bills.” He said a significant driver of high costs in health care is the “middlemen,” including group purchasing organizations and pharmacy benefit managers. Health care institutions and other providers that use these entities must “pay to play,” and often are asked to give these groups exclusivity, enabling them to set prices that are higher than if the resources were purchased directly from the manufacturer, thereby driving up costs, which are then passed on to patients.

Inappropriate care is another factor that adds to health care cost, Dr. Makary said. In fact, physicians say 21 percent of care is unnecessary. “The opioid crisis is a manifestation of the crisis of inappropriateness,” he added.

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**Continued developments in the opioid epidemic**

Opiate abuse and misuse continues to be a topic of concern in the health care community, with more than 100 people in the U.S. dying from overdoses each day. Because opioid prescriptions given at postoperative discharge create a significant risk factor for chronic opioid use one year later, it continues to be incumbent upon the surgical community to act responsibly.

Jennifer Waljee, MD, FACS, associate professor of plastic surgery, University of Michigan, Ann Arbor, said up to 80 percent of opioids prescribed postoperatively go unused and are at risk of being diverted into the community—and unlike in primary care or emergency medicine, data show that opioid prescriptions by surgeons actually increased from 2010 to 2016.

Through the Michigan Opioid Prescribing Engagement Network (OPEN) surgeons and other health care providers partnered to “get data, guide change, and collaborate on best practice guidelines,” Dr. Waljee said. They found that when 30–50 pills were prescribed postoperatively, only six were used on average, leaving many at risk for potential diversion. Since OPEN created new prescribing guidelines that lowered the number of given pills, “we have never seen any increase in calls for refills, no change in patient-reported pain, and when patients are prescribed fewer pills, they take fewer pills,” Dr. Waljee said. In fact, Michigan hospitals have experienced an approximately 50 percent decrease in prescribed pills while maintaining patient satisfaction after implementing the guidelines.

Other opioid initiatives are finding success across the country.

Jonah Stulberg, MD, PhD, MPH, FACS, assistant professor of surgery, Northwestern University Feinberg School of Medicine, Chicago, IL, provided an update on the work he and his colleagues at the Illinois...
Surgical Quality Improvement Program are doing with the Minimizing Opioid Prescribing in Surgery (MOPiS) program. Although MOPiS has resulted in fewer opioid prescriptions, “Where we still seem to be failing is in addressing this culture of pain we’ve developed over decades,” Dr. Stulberg said. He said that if the principles curated through MOPiS were applied to all procedures and across all specialties, a natural institutional culture shift in opioid prescribing patterns would emerge.

“We need to recognize that there are multiple dimensions to how our patients experience pain,” said Zara Cooper, MD, MSc, FACS, trauma surgeon and Kessler Director, Center for Surgery and Public Health, Brigham and Women’s Hospital, Boston, MA, speaking on the use of opiates in palliative care. Pain for patients in palliative care can be physical, psychological, social, or spiritual, Dr. Cooper said. Unfortunately, “too often, we try to treat all of them with opiates.” She suggested that surgeons and surgical teams think more broadly about the problem. To address the opioid crisis, surgeons need to employ a multimodal approach, not only with nonopioid medication, but with strong patient communication and attendance to emotional needs.

**Next conference**
The 2020 ACS Quality and Safety Conference will take place July 24–27 in Minneapolis, MN.
Surgeons honored for volunteerism and humanitarianism

by Matthew Fox

The American College of Surgeons (ACS) Board of Governors (B/G) Surgical Volunteerism and Humanitarian Awards Workgroup has announced the recipients of the 2019 ACS/Pfizer Surgical Humanitarian Awards and Surgical Volunteerism Awards. As in previous years, the workgroup received exceptional nominations, reflecting the remarkable commitment of ACS Fellows to providing care to underserved populations.

The contributions of the award recipients are summarized in this article and will be formally recognized at Clinical Congress 2019 in San Francisco, CA, during the annual B/G reception and dinner October 29. Clinical Congress attendees are invited to hear the honorees speak at a Panel Session, Humanitarian Surgical Outreach at Home and Abroad: Reports of the 2019 Volunteerism and Humanitarian Award Winners, 9:45–11:15 am October 28 at the Moscone Center South, 154.

Surgical Humanitarian Awards

The ACS/Pfizer Surgical Humanitarian Award recognizes Fellows who have dedicated much of their careers to ensuring that underserved populations have access to surgical care and have done so without expecting commensurate compensation. This year, the award will be presented to two surgeons.

Donald R. Meier, MD, FACS, a general surgeon from El Paso, TX, will receive a Surgical Humanitarian Award for his decades of surgical, training, and education service around the world, primarily in West Africa. After completing his surgical residency at the University of Texas (UT) Southwestern Medical School, Dallas, and serving for two years in the U.S. Army, in 1982 Dr. Meier and his family joined Dr. Meier’s UT Southwestern colleague John Tarpley, MD, FACS, FWACS, at the Baptist Medical Centre, Ogbomosho, Nigeria. Alongside Dr. Tarpley, he worked as a true general surgeon, performing urology, otorhinolaryngology, neurological, pediatric, plastic, and orthopaedic surgical procedures. He worked as a practicing surgeon and physician in this low-resource setting until 1999, periodically returning to the U.S. to rejoin faculty at UT Southwestern, but his most lasting accomplishments came through educating generations of African residents and faculty to help establish a self-sustaining general surgery training program, particularly in Nigeria. During his 17 years in Nigeria, Dr. Meier started a general surgery residency program, teaching general medical practice residents and medical students to provide quality surgery with limited resources. Dr. Meier was a key surgeon working with the Nigerian College of General Medical Practice, a group created to address the needs of Nigerians in rural areas where access to care is limited, to improve surgical capacity and care in those settings. Dr. Meier chose to focus on this area of...
great need in the 1990s, decades before providing aid in rural, low-income settings would become a focus in global surgery. Physicians who Dr. Meier trained provide fundamental surgical care, including cesarean sections, emergency obstetrics, incarcerated hernia procedures, and so on, at a district level in various states across Nigeria. Many of the physicians he trained are now health care leaders in the country. Throughout his career, Dr. Meier continued to broaden his skill set for the sake of surgical patients. At age 50, after many years of active practice, he saw the acute need for pediatric surgeons in Africa and returned to the U.S. and became the first pediatric surgery fellow at Children’s Medical Center, Dallas. After completing his board certification in pediatric surgery, he returned to Nigeria to care for children and to teach local physicians safe pediatric surgical techniques. After training in pediatric surgery, Dr. Meier completed many short-term mission trips to resource-poor areas such as Kosovo, Albania, Afghanistan, and Haiti, as well as other African nations, including Cameroon and Ethiopia. In 2003, Dr. Meier moved to El Paso, TX, which at the time had no pediatric surgeons, to establish pediatric surgical services. For several years after his arrival in El Paso, he was the only pediatric surgeon in a metropolitan area that served more than 1 million people. Dr. Meier has since participated in establishing a local medical school and children’s hospital.

Devendra S. Saksena, MBBS, FACS, a cardiothoracic surgeon in Mumbai, India, will receive a Surgical Humanitarian Award for his nearly 50 years of service in establishing cardiothoracic surgery services in India and throughout remote areas of Africa. After completing his cardiac surgery training in the U.S. in 1971, Dr. Saksena returned to his native India and helped to launch cardiac surgery services in several underserved areas in the country. After being given a small consulting room and one operating room slot at Bombay Hospital, Mumbai, at the recommendation of then Prime Minister Indira Gandhi, Dr. Saksena started the program that would become the Bombay Hospital Cardiac Surgery Center, the city’s first major cardiac center. It became a recognized center of excellence, and after Dr. Saksena started the Bombay Medical Aid Foundation in 1979, the hospital provided surgery to medically indigent patients at no charge. Dr. Saksena then began providing surgical services and training and building capacity in other locations in India. He and his surgical team visited Sawai Man Singh (SMS) Medical College in Jaipur for three years to teach the surgeons at the Heart Center, who primarily were trained in cardiothoracic surgery. He also brought the SMS Heart Center’s surgeons, perfusionists, anesthetists, and nurses to Bombay for training.
several times. As many as 900 operations are performed annually at the SMS Heart Center, and it is a major training center in the region. Dr. Saksena also was on staff in the cardiac surgery at Super Specialty Hospital, Nagpur, Maharashtra, and started the Nirmal Village Charitable Hospital to assist the tribal population of the village, which is approximately 50 miles from Mumbai.

Some of Dr. Saksena’s most impactful work has taken place in Mauritius, a remote African island nation of approximately 1.3 million people, hundreds of miles from the coast of Madagascar, leaving patients there without access to a developed medical center. Dr. Saksena was invited by the local government to help patients who lacked facilities and treatment for advanced heart disease. Because the cost of transporting patients was prohibitive, in 1986 Dr. Saksena began performing cardiac operations in a camp setting, which housed a small general surgery theater and no intensive care unit (ICU) or diagnostic facilities or tools except for electrocardiogram, chest X rays, and a stethoscope. Nonetheless, he performed more than 200 operations with a less than 2 percent mortality rate.

The services in Mauritius eventually developed to include dedicated diagnostic facilities, preoperative evaluation, and an ICU. A full suite of common cardiac procedures became routine, in part as a result of Dr. Saksena’s direct intervention and the training he provided to local physicians. He continues to visit Mauritius to provide surgical services at least twice a year for a two-week period. The people of the island valued Dr. Saksena’s services to such a degree that, in absence of a government plan, they began to construct a heart center. Eventually the government funded the effort and completed the Sir Seewoosagur Ramgoolam National Hospital, marking the first known instance where the foundation for a heart center was literally laid by local volunteers.

Surgical Volunteerism Awards
The ACS/Pfizer Surgical Volunteerism Awards recognize ACS Fellows and members who are committed to giving back to society through significant contributions to surgical care as volunteers. This year, three awards will be granted to the following individuals.

Steven Bolton, MD, FACS, a general surgeon in Pontiac, MI, will receive the Domestic Surgical Volunteerism Award for his efforts over nearly three decades to initiate and operate a medical clinic for underserved residents in Pontiac, MI. Although Pontiac is the county seat of relatively affluent Oakland County, the city, with a population of approximately 60,000, is home to many low-income people. After General Motors closed manufacturing plants in the city and the primary source of work disappeared, it
became increasingly necessary for the city’s residents to have access to medical care that could attend to their needs without adding more financial burden. Dr. Bolton joined forces with St. Joseph Mercy Oakland Hospital to open Mercy Place Clinic.

Mercy Place is a comprehensive patient care clinic that resembles a large, well-staffed, well-equipped physician’s office, and also serves as an urgent care center. Dr. Bolton started the clinic with two examining rooms in Pontiac’s St. Vincent DePaul Catholic Church Annex, which was staffed by only a nurse and a volunteer physician. After 10 years of helping poor patients and with increasing demand, Mercy Place moved to a modern 6,000 square foot medical center with a parallel increase in permanent staff. Mercy Place provides adult health care services, including surgical evaluation, case management, pharmacy, women’s health, health screenings, pregnancy testing, wellness exams and physicals, disease prevention, ophthalmology and eyeglasses, and chronic disease management.

Since Mercy Place opened, Dr. Bolton has operated at and had oversight of the facility. Originally, he managed both the facility and staff, especially the volunteer staffing physicians who were usually recruited from the medical staff at St. Joseph. Today, specialty surgeons including orthopaedic surgeons, urologists, and neurosurgeons are enlisted from St. Joseph for major operations. Dr. Bolton has solicited donations and grants to maintain and improve the clinic, as well as helped to obtain necessary contributions, such as furniture, medical equipment and supplies, and medications.

In addition to cofounding Mercy Place, Dr. Bolton has participated in other charitable related endeavors, including obtaining, packaging, and delivering leftover food from the physicians’ dining room at St. Joseph to a local shelter, the Grace Center of Hope.

Richard W. Furman, MD, FACS, a cardiothoracic surgeon from Boone, NC, will receive the International Surgical Volunteerism Award for his long career of providing medical care to underserved patients around the world and for cofounding World Medical Mission (WMM).

After beginning his medical missionary work with a trip to India in 1977 to teach pacemaker insertion to local medical workers, that same year Dr. Furman and his brother, Lowell B. Furman, MD, FACS, a 2003 recipient of the ACS Surgical Volunteerism Award, worked with Samaritan’s Purse International Relief to create WMM and fill a global medical need for short-term, volunteer assignments in low-income settings. In its second year, WMM sent seven physicians to areas of need; in its third, it sent 18; more than 40 years later, WMM sends approximately 600 volunteer medical professionals...
annually to underserved areas and recently sent its 10,000th volunteer. WMM volunteers now serve in 45 overseas hospitals, with more facilities in the process of receiving or requesting support. Dr. Furman has operated in many of these hospitals, on conditions ranging from common breast and colon cancer to more unique cases, including a thoracotomy to remove an arrowhead embedded in connective tissue between the aorta and superior vena cava.

One of WMM’s greatest successes has been in providing more permanent placement of physicians in these foreign hospitals. As many hospitals in low-income countries closed or were turned into nurse-run clinics, it became evident that these locations needed more U.S. physicians. To that end, WMM began the Post-Residency Program, which provided a two-year, on-site fellowship in global medicine. The purpose of the fellowship, which includes a stipend and travel and living expenses, is to place physicians in locations for long-term commitments. Since 2004, more than 185 physicians have participated in the fellowship program, and more than 80 percent of them have stayed in those locations beyond their initial commitment.

Throughout his time with the WMM, Dr. Furman has been active in visiting areas that require surgical or medical attention as the result of a natural disaster or war. During the Battle of Mogadishu, Somalia (also known as Blackhawk Down), he set up emergency care for wounds. He and other surgeons traveled to Kigali, Rwanda, a month after the Rwandan genocide because an entire hospital had been routed. He provided surgical care after the 2010 Haitian earthquake, 2015 Nepal earthquake, and 2016 Ecuador earthquake, and he operated in an emergency field hospital outside of Mosul, Iraq, in 2017, treating both enemy combatants and Iraqi citizens.

Dr. Furman has been a long-time advocate for sending U.S. medical aid to countries that need it most. He regularly traveled to Africa with former U.S. Sen. Bill Frist, MD, FACS (R-TN), to hospitals in low-income countries to assess their needs, which eventually led President George W. Bush to implement a program to provide more than $15 billion in aid to 15 countries. Beyond this indirect influence, Dr. Furman has helped to secure medical resources for WMM’s physicians and hospitals; in the last decade, the organization has sent more than 585 20-foot containers of equipment and supplies, valued in excess of $46 million, to these locations.

Alison Smith, MD, a general surgery resident at Tulane University, New Orleans, LA, will receive the Resident Volunteerism Award for the dedication she has shown in her early career to provide medical service to the people of Haiti.

Dr. Smith has an extensive history as both a domestic and international volunteer, starting as a teenager and continuing
in her time as a medical student and resident, including serving as a community volunteer in Minas de Oro, Honduras, in 2005; a medical student volunteer at Ozanam Inn Homeless Shelter, New Orleans, from 2007 to 2014; and a trauma/cardiovascular resuscitation volunteer in Kathmandu, Nepal, in 2014.

Among her most impactful volunteerism efforts have been in Haiti, where she first traveled in 2008 to assist in a medical clinic. Dr. Smith’s efforts grew precipitously in 2010 after the massive earthquake that killed more than 100,000 people and devastated Haiti’s already fragile infrastructure. She was one of the first medical volunteers to arrive at the General Hospital in Port au Prince, just 96 hours after the earthquake. There, she worked for two weeks helping to triage patients in the field and assist patients from remote areas find surgical care.

In the deadly cholera outbreak that followed the earthquake in November 2010, Dr. Smith was involved in developing and implementing a program in Jacsonville, Haiti, to help prevent the disease’s spread. More than 9,000 people across the country died, but Jacsonville, which is located in the Haiti’s Central Plateau and is the poorest region of the poorest country in the Western Hemisphere, had only one death.

Following these efforts, Dr. Smith and several other medical student volunteers from Tulane founded Sante Total, a not-for-profit organization with the goal of building a clinic in Jacsonville that will serve as a permanent access point to health care for the local population. With support from the Rotary Club in Ellicott City, MD, and private donors, the clinic is scheduled for completion in 2020. In the meantime, volunteers have constructed latrines to improve public sanitation; instituted a program to provide meals to elderly residents; and conducted public health programs aimed at improving hygiene, empowering women, and teaching about disease transmission. Sante Total also has worked to provide medical education scholarships to Jacsonville’s young adults, with the goal of having these individuals eventually run the clinic. The first scholarship recipient has been working on her nursing education and will begin working in the community soon. ♦
The American College of Surgeons (ACS) Division of Education provides Continuing Medical Education (CME) credit for more than 2,000 educational activities annually. Recognized as an Accredited Provider with Commendation through the Accreditation Council for Continuing Medical Education (ACCME), the ACS supports those who plan and achieve the highest level of compliance for each educational activity across a broad range of learning formats, including the following:

- Live meetings
- Live Internet courses
- Webcasts
- Journals
- Regularly scheduled series (RSS)
- “Other” nontraditional learning opportunities

CPDA Section-sponsored activities
The Division of Education’s Continuous Professional Development Accreditation (CPDA) Section is responsible for oversight of educational activities that the College offers (“Directly Sponsored”), as well as programs that external organizations offer through the PartnerCME Joint Providership Program (“JPP”). Directly Sponsored activities are those programs that an ACS division develops and implements, such as the following:

- Surgical Education and Self-Assessment Program (SESAP®)
- Selected Readings in General Surgery (SRGS)
- Journal of the American College of Surgeons Online CME Program
- Clinical Congress 2019
- ACS chapters meetings

In addition, since 2001, the ACS Division of Education has provided CME Credit for the educational activities of more than 600 not-for-profit surgical and medical organizations (outside of the ACS) through our PartnerCME JPP. Partnering organizations represent a diverse array of specialties, including the American Surgical Association, Cancer Treatment Centers of America, American Association for the Surgery of Trauma, the Voice Foundation, and many others. A range of learning formats are used to deliver educational content to physicians and other health care professionals. In addition to live meetings, Internet-based education, and other innovative learning formats, the PartnerCME program recently expanded opportunities for accreditation to RSS.

Competitive pricing
The CPDA Section reviews, approves, and supports Directly Sponsored activities free of charge, and charges a nominal fee through PartnerCME to accredit educational activities for external medical and surgical organizations, academic medical centers, and hospital systems. The program’s pricing is competitive compared with other Accredited Providers, with lower rates and no additional fees per participant or for total credits claimed. For example, RSS, including Grand Rounds, Journal Clubs, and Tumor Boards, can be offered quarterly for $1,500 per year, monthly for $2,000 per year, or weekly for $3,000 per year.

In addition to the ACS offering competitive pricing compared with other Accredited Providers, partnering with the ACS provides several other benefits for both the organization developing and offering the educational activity, as well as for learners.

Online portal for the accreditation process
The CPDA Section offers guidance for each step in the accreditation process. To better support partnering organizations with compliant, quality
educational programs, a fully web-based portal for the CME process will launch this year. The portal has been developed to ensure compliance with ACCME, American Medical Association, and ACS requirements, while offering guidance, ease, and convenience for the user. It will streamline the accreditation process by providing a systematic, step-by-step process for submission of the required components, prompt review and meaningful feedback, and real-time status updates for each CME file. In addition to lightening the administrative burden for all, the system will capture evaluative data on an individual and aggregate level, which can help inform future educational programming for the ACS and PartnerCME activities.

Creative learning formats
The ACS provides extensive support while encouraging innovation in accredited education. The CPDA Section will offer guidance related to relevant and meaningful formats that may work for each partner. An example of a creative learning format involves the use of social media for CME Credit. Participants engage in a weekly facilitated Twitter discussion about a trending topic in scientific and medical education. After evaluating the quality and impact of the educational experience, the learner may receive CME Credit for their participation.

Live educational activities calendar
All ACS-accredited live meetings and Internet-based activities (both those offered by the ACS and through PartnerCME) are posted on the CME Educational Activities Calendar. The Calendar provides added promotion and visibility for the partnering organization's educational activities by allowing individuals to search by date, CME state requirements, or topic of interest, for learning opportunities around the world.

MyCME Portal
After participating in an ACS-accredited educational activity, an individual's CME Credit is automatically transmitted to the MyCME portal. MyCME provides a personalized portfolio to assist ACS members with managing their continuing education and CME Credits. With MyCME, the ACS Division of Education is committed to helping Members organize and track CME Credits claimed from all Directly Sponsored and PartnerCME educational programs. Members can download, store, and print CME Certificates and transcripts, as well as electronically transmit CME Credit records to licensing and medical/surgical boards with ease.

Partner with the ACS
The ACS Division of Education’s CPDA Section strives to incorporate innovation in compliance for accredited educational programs. Accreditation from the ACS enhances educational activities by fostering creativity, providing robust guidance and support to partnering organizations, marketing and promoting educational offerings, and managing credit for ACS members.

The CPDA Section (CPDA@facs.org) is eager to collaborate with organizations that may be interested in receiving low-cost CME Credit for innovative and meaningful educational activities. As a special benefit to ACS members, the ACS will waive the standard PartnerCME $450 application fee for first-time accreditation in any format. Encourage your organization to partner with us to provide CME Credit for an educational activity and receive the benefits of ACS accreditation.

For more information on these programs, visit facs.org/education/accreditation/jpp to learn about accrediting your educational activity; and visit the College’s MyCME web page at facs.org/education/cme, and the Accreditation, Verification, and Validation Programs’ web page at facs.org/education/accreditation.
Associate Fellows who are interested in pursuing the next level of American College of Surgeons (ACS) membership and who meet the criteria for Fellowship are encouraged to start the application process now. Applications for induction into Fellowship at the 2020 American College of Surgeons (ACS) Clinical Congress in San Francisco, CA, are due December 1, 2019.

ACS Fellowship is granted to physicians who devote their practice entirely to surgical services and who agree to practice in accordance with the College’s professional and ethical standards. The College’s Fellowship Pledge and Statements on Principles, found on the ACS website at facs.org, outline the ACS standards of practice, to which all ACS Fellows and applicants for Fellowship are expected to adhere.

Surgeons voluntarily submit applications for Fellowship, thereby inviting an evaluation of their practice by their peers. In evaluating the eligibility of Fellowship applicants, the College investigates each applicant’s entire surgical practice. Applicants for Fellowship are required to provide to the appointed
ACS Fellowship is granted to physicians who devote their practice entirely to surgical services and who agree to practice in accordance with the College’s professional and ethical standards.

committees of the College all information deemed necessary for the investigation and evaluation of their surgical practice.

Criteria for Fellowship
To encourage the transition from Associate Fellow to Fellow, Associate Fellowship is limited to surgeons who have been in practice less than six years.

The basic Fellowship requirements for U.S. and Canadian Fellowship are as follows:

- Certification by an appropriate American Board of Medical Specialties surgical specialty board, an American Osteopathic Association surgical specialty board, or the Royal College of Surgeons in Canada

- One year of surgical practice after the completion of all formal training (including fellowships)

- A current appointment at a primary hospital with no reportable action pending

A full list of the requirements for North American applicants can be accessed at facs.org/member-services/join/fellows. The list of requirements for International Fellowship is online at facs.org/member-services/join/international.

Associate Fellows who are current with their membership dues may apply online for free by visiting facs.org/member-services/join and clicking on the link for either Fellow or International Fellow. You will need your login information to access the application. If you do not have your login information, contact the College’s Member Services staff at 800-293-9623 or at facsappplications@facs.org.

The application requests basic information regarding licensure, certification, education, and hospital affiliations. Applicants also are asked to provide the names of five Fellows of the College (three for International applicants), preferably from their current practice location, to serve as references. Applicants do not need to request letters of recommendation; simply list the names in your application, and the College staff will contact your references.

If you need assistance finding ACS Fellows in your area, go to facs.org and click on the “Find a Surgeon” button.

When your application is processed, you will receive an e-mail notification providing details about the application timeline along with a request for your surgical case list.

All Fellowship applicants are required to participate in a personal interview by an ACS committee in their local area. Exceptions are made for military applicants. Following the interview, you will receive notification by July 15 of the action taken on your application. Approved applicants are designated as Initiates to be inducted as Fellows during the Convocation Ceremony at the Clinical Congress.

Contact Member Services with questions at any time throughout the application process. We look forward to you becoming a Fellow of the American College of Surgeons. ♦
The members of the American College of Surgeons (ACS) Board of Governors (B/G) serve as an official, direct communications link between the Board of Regents (B/R) and the Fellows. The ACS has 290 Governors: 154 Governors at-Large, representing each U.S. state and Canadian province and territory; 87 specialty society Governors; and 49 international Governors.

Governors’ responsibilities
Governors’ responsibilities include the following:

- Attend meetings and events
  - Domestic Governors are expected to attend the Leadership & Advocacy Summit (International Governors also are welcome)
  - Participate in B/G meetings, the Convocation, and the Annual Meeting of Members at Clinical Congress
  - Attend chapter or specialty society meetings
- Communicate across all strata of the College
  - Provide bidirectional communication between the B/G and constituents
  - Provide reports to their chapter or specialty society
  - Welcome new Initiates/
- Fellows from the governor’s area/society into the ACS
  - Promote ACS Fellowship in state and specialty societies
- Participate in B/G activities
  - Actively participate in at least one B/G Workgroup
  - Complete the Annual Survey
  - Participate in local Committee on Applicants meetings and interviews
  - Be an active participant in the B/G online Community

Executive Committee activities
The B/G Executive Committee’s top priorities this year included the following:

- Helping chapters grow membership
  - Providing easy access to recruitment tools and resources
  - Establishing a competition to increase membership
- Increasing collaboration with ACS Divisions, Advisory Councils, B/R, and other committees
  - Holding Joint Pillar meetings with Advisory Council members at the 2019 Leadership Summit and Clinical Congress 2019
  - Expanding joint programming with B/R for 2019 B/G Annual Business Meeting
- Strengthening communication efforts
- Exploring additional efforts via ACS communication vehicles

In June, the B/G Executive Committee held its annual Strategic Planning Retreat to discuss progress on the priorities, evaluate the work of the Pillars and Workgroups, and finalize preparations for the Annual Business Meeting at Clinical Congress. This year’s Annual Business Meeting will review the progress that B/G Workgroups and Pillars have made in 2018–2019. The Joint Session with the B/R will include an interactive session on the Health Care Landscape in the Future, featuring brief talks on how the College, private practice surgeons, and quality programs fit into the picture. Another session will feature several brief talks on Surgeon Engagement in the Future. Both sessions will be followed by time for interactive and lively discussions.

The Executive Committee hosted two New Governor Orientation sessions in January and a Governors Overview and Networking Lunch at the 2019 Leadership & Advocacy Summit in Washington, DC. A new Governors Alumni Program to further maximize
the knowledge and enthusiasm former Governors have for the College also was approved for launch in 2020.

Pillar updates
The B/G is structured around five Pillars and 13 Workgroups. The Governors’ contributions to these Workgroups result in the development of resources for Fellows. Following is an update on the activities of the B/G Pillars and their respective Workgroups.

Advocacy and Health Policy Pillar
Mika N. Sinanan, MD, PhD, FACS, Pillar Lead
The Advocacy Pillar focuses on health care legislation and regulation at the local, state, and national levels, working closely with the ACS Division of Advocacy and Health Policy.

Health Policy and Advocacy Workgroup
H. David Reines, MD, FACS, Chair
Peter T. Masiakos, MD, FACS, Vice-Chair
The workgroup seeks to advance issues that ACS members have at the state or specialty society level by maximizing the relationship with College leadership in response to these regulatory and legislative initiatives. Another important role of the workgroup is to collaborate with ACS leadership, including the Regents, to ensure that Fellows’ perspectives are used to formulate College policies and positions.

The workgroup restructured in 2018–2019 to focus on the health policy issues of administrative burden, opioids, and firearm violence, resulting in several collaborative session proposals on these topics for Clinical Congress 2020.

Grassroots Advocacy Engagement Workgroup
Martin A. Schreiber, MD, FACS, Chair
Patricia M. Byers, MD, FACS, Vice-Chair
The purpose of the Grassroots Advocacy Engagement Workgroup is to enhance bidirectional communication between the ACS leadership and Fellows regarding important legislative and regulatory issues that affect surgical patients, surgeons and their practices, and society.

The workgroup developed session proposals for Clinical Congress 2020 and collaborated with the B/G Best Practices Workgroup for a session on opioids at Clinical Congress 2019. Along with the B/G Health Policy and Advocacy Workgroup, the workgroup continues to analyze data work to learn how to more effectively communicate advocacy concerns to constituents, especially at chapter and specialty society meetings.

Governors serve on the following health policy and advocacy-related ACS committees:

• ACSPA-SurgeonsPAC (ACS Professional Association Political Action Committee)—Mika N. Sinanan, MD, PhD, FACS
• General Surgery Coding and Reimbursement Committee—Chris K. Senkowski, MD, FACS
• Health Policy and Advocacy Group—Mika N. Sinanan, MD, PhD, FACS
• Health Policy Advisory Council—Scot B. Glasberg, MD, FACS
• Legislative Committee—Anthony James Vine, MD, FACS

Visit facs.org/advocacy for more information about these ACS initiatives and to learn how to get involved.

Communications Pillar
David J. Welsh, MD, MBA, FACS, Pillar Lead
The Communications Pillar is a conduit for bidirectional communication between the Regents and the Fellows. The Pillar participated in several joint meetings with members of the Advisory Councils, Resident and Associate Society, and Young Fellows Association (YFA) continuing conversation and collaboration on shared communication interests and efforts. Several joint session proposals were developed for Clinical Congress 2020.
Newsletter Workgroup
Dhiresh Rohan Jeyarajah, MD, FACS, Chair
Hiba Abel Aziz, MBBCh, FACS, Vice-Chair
The Newsletter Workgroup produces The Cutting Edge: News and Notes from the Board of Governors, the B/G’s biannual, fully electronic, mobile-friendly newsletter. Newsletter stories range from College business to human interest stories. The workgroup also explored new ways to more effectively communicate with Governors, Regents, and Fellows to promote the B/G’s activities. Increased posts in several ACS Communities have resulted in improved transparency and further awareness of College activities. Past issues of the Cutting Edge are available at facs.org/about-acs/governance/board-of-governors/resources.

Survey Workgroup
Peter A. Andreone, MD, FACS, Chair
David W. Butsch, MD, FACS, Vice-Chair
The Survey Workgroup published the results of the 2018 B/G Annual Survey in several formats over the last year, including three articles in the Bulletin. The 2019 survey results on regulatory burden, surgical workforce, work-life balance, and ACS communication and representation efforts are being analyzed.

• ACS Communities Representative—John P. Kirby, MD, FACS
• ACS Website Representative—Juan C. Paramo, MD, FACS

Education Pillar
Andre R. Campbell, MD, FACS, Pillar Lead
As the result of the work of the Governors on the Education Pillar Workgroups, the ACS has advanced a number of initiatives this past year.

Continuing Education Workgroup
Randy J. Woods, MD, FACS, Chair
Amy L. Halverson, MD, FACS, Vice-Chair
The members of the Continuing Education Workgroup collaborated with the ACS Division of Education to provide guidance on opportunities to enhance the quality of learning objectives included as part of Clinical Congress to benefit learners and faculty; provide members with a personalized menu of educational offerings tailored to their particular interests and needs; to better inform members on Continuing Medical Education (CME) and other regulatory requirements; to align the College’s educational offerings to the American Board of Surgery’s Continuous Certification Program to support members in lifelong learning; and to identify quality improvement-related activities for CME and evaluate the impact of education on individual (and institutional) performance and patient care outcomes.

Patient Education Workgroup
Ronald A. Squires, MD, FACS, Chair
Anne G. Rizzo, MD, FACS, Vice-Chair
The Patient Education Workgroup collaborated with the Patient Education Committee, Committee on Diversity Issues, and Committee on Medical Student Education to develop a Clinical Congress 2019 session on Health Literacy: Optimizing Care for the Underserved Populations. Several joint session proposals were developed for Clinical Congress 2020 on central line management, end-of-life care, optimizing healing at home, surgical quality indicators in public ratings, and using technology to improve communication, education, and outcomes.

Surgical Training Workgroup
Barbara J. Pettitt, MD, FACS, Chair
Timothy M. Farrell, MD, FACS, Vice-Chair
The workgroup submitted several joint session proposals for Clinical Congress 2020. The workgroup collaborated with the YFA and the B/G Physician Competency and Health Workgroup to develop a session on organizational strategies for physician well-being. The workgroup also proposed a joint session with the Committee on
Diversity Issues and the Women in Surgery Committee that will address generational diversity in the surgical workforce. Governors serve on the following related ACS committees:

- Clinical Congress Program Committee—Daniel L. Dent, MD, FACS, and Cynthia D. Downard, MD, FACS
- Committee on Continuous Professional Development—William S. Richardson, MD, FACS
- Committee on Emerging Surgical Technology and Education—Hisakazu Hoshi, MD, FACS
- Committee on Ethics—Mary L. Brandt, MD, FACS
- Committee on Interprofessional Education and Practice—Bruce D. Schirmer, MD, FACS
- Committee on Medical Student Education—Sarkis Hratch Meterissian, MD, FACS
- Committee on Patient Education—Terry Sarantou, MD, FACS
- Committee on Resident Education—Norma Michelle Smalls, MD, FACS

Member Services Pillar
Terry L. Buchmiller, MD, FACS, Pillar Lead

The Member Services Pillar continues to strengthen both domestic and international chapters by updating and developing resources, using a chapter performance metric, surveying all the chapters about their activities and needs, as well as providing best practices and strategies for chapter operations and activities. A competition was launched to help chapters grow their membership. Additional outreach was undertaken to increase applications for this year’s Surgical Volunteerism and Humanitarian Awards.

Chapter Activities
Domestic Workgroup
Scott D. Coates, MD, FACS, Chair
Philip R. Corvo, MD, MA, FACS, Vice-Chair

The members of the Chapter Activities Domestic Workgroup continue to establish a process to capture the health of ACS chapters and implement important initiatives, such as regularly updating the online Chapter Guidebook. The workgroup also hosted the third annual Chapter Officer Leadership Program in conjunction with the 2019 Leadership & Advocacy Summit. The workgroup will host the popular Chapter Speed Networking Event at Clinical Congress 2019, which allows attendees to hear about best practices and new strategies to enhance chapter operations in a fun, fast-paced educational and social environment.

Chapter Activities
International Workgroup
(Jorge) Esteban Foianini, MD, FACS, Chair
Richard Kwongyin Lo, MD, FACS, Vice-Chair

The Chapter Activities International Workgroup continues to advocate for all ACS international chapters by assisting chapters in implementing and promoting ACS programs. The workgroup developed tools to assist chapters enhance communications, analyzed data from the Annual Report, and provided feedback on the B/G Annual Survey. In collaboration with the International Relations Committee a list of interested International Governors and Chapter Officers also was provided to the ACS Program Committee to increase international representation at Clinical Congress.

Surgical Volunteerism and Humanitarian Awards Workgroup
Helen A. Pass, MD, FACS, Chair
Mark A. Dobbertien, DO, FACS, Vice-Chair

The members of the Surgical Volunteerism and Humanitarian Awards Workgroup conducted outreach through the ACS Communities, the Bulletin, military Governors, and Advisory Councils to further increase awareness of the awards. The workgroup has selected a slate of five recipients, which was presented to the B/G Executive Committee at the June retreat. The awardees will be honored.

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at the B/G Dinner at Clinical Congress 2019. The workgroup continues to improve the awards nomination process.

Governors have seats on the following related ACS committees:

• ACS Committee on Diversity Issues—Kenneth B. Simon, MD, FACS

• ACS Women in Surgery Committee—Hiba Abdel Aziz, MBBCh, FACS

• International Relations Committee—Katsuhiko Yanaga, MD, PhD, FACS

• YFA—Michael Seth Truitt, MD, FACS

Quality, Research, and Optimal Patient Care Pillar
Taylor Sohn Riall, MD, PhD, FACS, Pillar Lead
The Quality Pillar focuses on efforts to ensure that Fellows are able to provide the best care to surgical patients.

Best Practices Workgroup
Christine Laronga, MD, FACS, Chair
Reza Askari, MD, FACS, Vice-Chair
The workgroup continues to create guidelines developed from peer-reviewed best practices on topics relevant to the surgical community and to patient care. Primary efforts have focused on reviewing Evidence-Based Decisions in Surgery modules, such as bladder injury and lower gastrointestinal bleeding. The workgroup collaborated with ACS Clinical Scholar Lina Hu, MD, on a systematic review of perioperative pain management in the ambulatory setting and are finalizing a paper for submission to the Journal of the American College of Surgeons. Along with the B/G Surgical Care Delivery Workgroup and the Advisory Council for Rural Surgery, the workgroup has submitted a Clinical Congress 2020 session proposal on best practices in the optimization of patients in the perioperative period.

Physician Competency and Health Workgroup
Reid B. Adams, MD, FACS, Chair
Oscar Dean Guillamondegui, MD, FACS, Vice-Chair
The workgroup actively promotes the maintenance of physical and mental wellness in Fellows and addresses issues related to surgical competency. Several joint Clinical Congress 2020 session proposals were developed to address physician well-being and new opportunities and challenges for the aging surgeon. A thorough review of the 2016 ACS Statement on the Aging Surgeon has been initiated by the workgroup.

Surgical Care Delivery Workgroup
Kimberly A. Davis, MD, FACS, Chair
Nancy L. Gantt, MD, FACS, Vice-Chair
The workgroup’s primary objectives are as follow:

- Analyze and address surgeon workforce issues

- Assess patient access to quality surgical care

- Use the electronic health record to improve delivery and physician efficiency

- Evaluate the status of surgical care delivery in the ambulatory setting

The workgroup revised the ACS Statement on Patient Safety Principles for Office-Based Surgery Utilizing Moderate Sedation/Analgesia, which the B/R approved in June. Additional efforts have focused on electronic health records, the surgeon workforce, and patient access to care, which have resulted in several session proposals for Clinical Congress 2020.

The Committee to Study the Fiscal Affairs of the College, chaired by Ronald J. Weigel, MD, PhD, FACS, B/G Secretary, continues to review and monitor the fiscal health of the College.

Governors have seats on the following related ACS committees:

- Committee on Perioperative Care—Richard J. Shemin, MD, FACS

- Commission on Cancer—Helen A. Pass, MD, FACS

- Committee on Trauma—Christine S. Cocanour, MD, FACS

For more information about the B/G, visit facs.org/about-acs/governance/board-of-governors and/or to comment on these and other activities visit the BoR/BoG online community or contact governors@facs.org. ♦
Dr. Bass named vice-president for health affairs and dean of GW SMHS

Barbara Lee Bass, MD, FACS, FRCSEng(Hon), FRCSI(Hon), FCOSECSA(Hon), Immediate Past-President of the American College of Surgeons (ACS), has been named vice-president for health affairs and dean of the George Washington University (GW) School of Medicine and Health Sciences (SMHS), Washington, DC. A widely respected academic medicine leader, surgeon, and researcher who completed her residency and served on faculty at GW, Dr. Bass will be the first woman to lead the SMHS. She joins GW January 15, 2020.

At present, Dr. Bass is the John F. and Carolyn Bookout Distinguished Presidential Endowed Chair and chair, department of surgery, Houston Methodist Hospital (HMH), TX. In addition to her primary role at HMH, Dr. Bass chairs the surgery department in the Houston Methodist Specialty Physician Group and has contributed to the development of the organization’s partnership with the hospital system it serves, helping to align the entities’ academic, clinical, and research missions. She also is professor of surgery, Weill Cornell Medical College and the Houston Methodist Institute for Academic Medicine; adjunct professor of surgery, Texas A&M College of Medicine; and full member, Houston Methodist Research Institute.

Completing her residency in general surgery at GW, Dr. Bass expanded her training with a research fellowship at the Walter Reed Army Institute of Research while serving as a Captain in the U.S. Army Medical Corps, which launched her research career. After graduating, she began her career on the GW faculty as a general surgeon and surgeon-scientist at the Washington, DC, Veteran Affairs Hospital.

Dr. Bass has established a pioneering career defined by excellence in patient care, educational innovation, interdisciplinary research, and discovery and service. In her new role, Dr. Bass will be responsible for leading SMHS’ academic, clinical, and research missions and providing strategic direction on all aspects of GW’s medical enterprise, including the university’s relationships with the medical faculty associates and GW Hospital. Read the GW announcement at gwtoday.gwu.edu/barbara-lee-bass-named-vp-health-affairs-and-dean-smhs.

Coming next month in JACS and online now

Lung surveillance strategy for high-grade soft tissue sarcomas: Chest X-ray or CT scan?

Adriana C. Gamboa, MD; Cecilia G. Ethun, MD; Jeffrey M. Switchenko, PhD; and colleagues report in the November issue of the Journal of the American College of Surgeons (JACS) that lung surveillance with chest X-ray (CXR) did not result in worse overall survival when compared with computer tomography (CT). With considerable savings, a CXR-based protocol may optimize resource use for lung surveillance in high-grade soft tissue sarcoma; prospective trials are needed.

This article and all other JACS content is available at journalacs.org.
Dr. Joseph Sakran selected as 2019–2020 RWJF Health Policy Fellow

Joseph V. Sakran, MD, MPA, MPH, FACS, director, emergency general surgery; associate chief, division of acute care surgery; and assistant professor of surgery, Johns Hopkins Hospital, Baltimore, MD, recently was selected as a 2019–2020 Robert Wood Johnson Foundation (RWJF) Health Policy Fellow by the National Academy of Medicine (NAM) and RWJF. Beginning this month, Dr. Sakran and five other health professionals will spend a year in Washington, DC, working on health care-related legislative and regulatory issues with members of Congress and the executive branch.

According to the NAM press release (available at bit.ly/2lBrLDx), the fellows were chosen in a national competition for accomplished health and behavioral/social science professionals who have an interest in health policy. Their experiences in Washington will enrich their understanding of federal policy formation and how federal and state governments relate to the mission of their home institutions and local communities. The fellowship program will commence with an intensive three-month orientation, followed by a nine-month assignment in a congressional office or the executive branch, where the fellows will be involved in formulating health care legislation and policy. After their Washington assignment, the fellows will continue to receive support to sustain their development as health policy leaders.

“We live at a time where it is mission critical for our clinicians to be part of the solution in reforming our health care system,” Dr. Sakran said. “This unique opportunity will provide me with both a theoretical and practical understanding of how the numerous pieces of our system function to provide care for Americans, while learning how policy is implemented at a federal level.”

Visit the fellowship website at www.healthpolicyfellows.org for more information, and read more about the NAM at nam.edu and the RWJF at www.rwjf.org.
Domestic and international chapters of the American College of Surgeons (ACS) met in the last several months to host a variety of activities, including annual meetings, skills competitions, award ceremonies, and more. Following are highlights and photos from these programs.

**DOMESTIC CHAPTERS**

**Delaware Chapter:** Jason Weinberger, DO, Past-Resident and Associate Society (RAS) Chapter Representative, organized the American Board of Surgery In-Training Examination (ABSITE) Review Course. The inaugural two-day course took place January 12−13 at Christiana Care Health System in Newark. Dr. Weinberger (pictured, left) showcased the chapter’s work and his successful ABSITE Review Course March 31 at the Chapter Success Story session at the 2019 Leadership & Advocacy Summit in Washington, DC.

**Florida Chapter:** ACS Leadership and Advocacy Summit, March 30−April 2, Washington, DC. The chapter leadership’s visit to Capitol Hill focused on unanticipated medical billing and passage of the Removing Barriers to Colorectal Cancer Screening Act.

Photo, from left: Patricia M. Byers, MD, FACS, Governor; Christine Laronga, MD, FACS, Governor and Immediate Past-President; Jay Redan, MD, FACS, Governor and President-Elect; John H. Armstrong, MD, FACS, President; Mark Dobbertien, DO, FACS, Governor and Treasurer; Jason Wilson, MD, FACS, Chair, Communications Committee; and Subhasis Misra, MD, FACS, Chair, Membership Committee.
Tennessee Chapter (TNACS): 2019 Annual Meeting and Inaugural Tennessee Trauma Symposium, August 8–11, Chattanooga. More than 160 surgeons, nurses, and emergency medical service personnel attended the meeting and enjoyed presentations by surgeons and trauma care professionals. Four resident paper competitions were held in Trauma, Cancer, Basic Science, and Clinical Science. Residents from the University of Tennessee (UT)-Knoxville won Surgical Jeopardy.

Photograph (from left): R. Phillip Burns, MD, FACS, Chapter Past-President, ACS Past First Vice-President; Andrew Berke, Mayor of Chattanooga; Eileen Bulger, MD, FACS, Chair, ACS Committee on Trauma (COT); Oscar Guillamondegui, MD, FACS, Chair, Tennessee COT; Donald Barker, MD, FACS, Past-Chair, Tennessee COT, UT College of Medicine, Chattanooga; and James (Jim) Hall, Former Director of Planning, State of Tennessee.

North Carolina Chapter: North Carolina and South Carolina ACS Chapters 2019 Annual Meeting, July 19–21, Pinehurst, NC. At the President's Party, the following surgeons were recognized with awards for their outstanding service: South Carolina, ACS Honored Surgeon Award, Randolph ‘Randy’ Smoak, Jr., MD, FACS, Chapter Past-Secretary; North Carolina, ACS PAC Award, Matthew B. Martin, MD, FACS, Chapter Past-President; and North Carolina, ACS Distinguished Service Award, Jesse H. Meredith, MD, FACS, Chapter Past-President.

Photograph: Perry Shen, MD, FACS, Chapter President (left), with David Grantham, MD, FACS, Immediate Past-President.

Metropolitan Washington DC Chapter: All Surgeons Day Meeting, May 11. Barbara Lee Bass, MD, FACS, FRCS(Hon), FRCSI(Hon), FCOSECSA(Hon), ACS Immediate Past President gave a Keynote Address; Frank Opelka, MD, FACS, Medical Director, ACS Quality and Health Policy, provided a legislative update; and Howard University won a resident skills competition.

Photograph: Association of Women Surgeons presenters with DC Chapter Council members and Dr. Bass (far right).

North Carolina Chapter: North Carolina and South Carolina ACS Chapters 2019 Annual Meeting, July 19–21, Pinehurst, NC. At the President’s Party, the following surgeons were recognized with awards for their outstanding service: South Carolina, ACS Honored Surgeon Award, Randolph ‘Randy’ Smoak, Jr., MD, FACS, Chapter Past-Secretary; North Carolina, ACS PAC Award, Matthew B. Martin, MD, FACS, Chapter Past-President; and North Carolina, ACS Distinguished Service Award, Jesse H. Meredith, MD, FACS, Chapter Past-President.

Photograph: Perry Shen, MD, FACS, Chapter President (left), with David Grantham, MD, FACS, Immediate Past-President.
Iraq Chapter: January 19, Baghdad. The first assembly was convened to discuss the formation of the Iraq Chapter. The ACS Board of Regents granted the chapter a charter in June 2019.

Austria-Hungary Chapter: Annual Congress of the Austrian Society of Surgery, June 21, Innsbruck, Austria. Michael Gnant, MD, FACS, Chapter Governor (far left) and Albert Tuchmann, MD, FACS, Chapter President (third from right), with speakers from the event.

Chile Chapter: Third ACS General Surgery Review Course, July 19–20, Santiago. Photo (from left): Guillermo Rencoret, MD, FACS; Marcelo Vivanco, MD, FACS; Juan Hepp, MD, FACS(Hon), Chapter Governor; and Víctor Bianchi, MD, FACS, Chapter Second Vice-President.
**Lebanon Chapter:** Inaugural Stop the Bleed® Course, July 17, Beirut. Ghassan Nawfal, MD, FACS, Chapter Governor, led the course at the Lebanon Ministry of Public Health headquarters. Also in attendance were Ahmad Mustafa Zaatar, MD, FACS, Chapter President, and George Abi-Saad, MD, FACS, Region 17 Trauma Director. Attendees included government officials, ministers, members of parliament, and representatives of several high-profile institutions, such as the Lebanese Army, Internal Security Forces, and the Lebanese Red Cross and Civil Defense.

Photo: Dr. Nawfal (front row, second from left) and Dr. Zaatar (front row, last one on the right) with attendees.

**Nigeria Chapter:** General Surgery Review Course, July 8–10, Lagos.

Photo: Oluwole Ayoola Atoyebi, MBBS, FACS, President (seated, seventh from left); Emmanuel A. Ameh, MBBS, FACS, Governor (seated, fourth from left); Samuel Adesina Ademola, MBChB, FACS, Immediate Past-Secretary (seated, first from left); and Jerry Godfrey Makama, MBBS, FACS, Chapter Secretary (seated, second from left), among course attendees.

**Thailand Chapter:** 44th Annual Scientific Congress of the Royal College of Surgeons of Thailand, July 13–16, Pattaya. Travel scholarships were presented to Pornthip Rattanadechapitak, MD, and Pawan Krainara, MD, who will have the opportunity to attend the ACS Clinical Congress 2019.

Photo (from left): Art Hiranyakas, MD, FACS, Chapter Secretary, with Dr. Krainara.
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The American College of Surgeons (ACS) and the American Society of Breast Surgeons (ASBrS) are offering the ACS/ASBrS International Scholarship to surgeons who perform breast cancer surgery in countries other than the U.S. and Canada to improve the quality of breast cancer surgical services. Preference will be given to applicants from developing nations. All applications for 2020 and supporting documentation must be received by the International Liaison by November 15, 2019.

The scholarship award
This scholarship, in the amount of $5,000, provides the scholar with an opportunity to attend the annual meeting of the ASBrS, April 29–May 23, 2020, in Las Vegas, NV, and to visit the National Accreditation Program for Breast Centers headquarters in Chicago, IL, to learn about the standards for a breast cancer program/database and the importance of multidisciplinary breast cancer care. The awardee will receive gratis registration to the annual meeting of the ASBrS and to one available postgraduate course at the meeting. Assistance will be provided to obtain preferential housing in an economical hotel in the ASBrS meeting city. Hotel and travel expenses will be the responsibility of the awardee, to be funded from the scholarship award.

Criteria
To qualify for consideration by the selection committee, applicants must meet each of the following criteria:

- Medical school graduates who have completed their surgical training and are practicing attending surgeons.
- Members in good standing of both the ACS (Associate Fellow or Fellow) and the ASBrS (Active or Associate Member).
- At least 30 years old, but younger than age 50, on the date that the complete application is filed.
- Show evidence of commitment to high-quality breast cancer surgery, surgical teaching, and improving access to breast cancer surgical care in their community.
- Submit a fully completed application form, located on the ACS website at facs.org/member-services/scholarships/international/acsasbrs-intl. The application and accompanying materials must be prepared using a computer and submitted in English. Submission of a curriculum vitae only is not acceptable.
- Submit independently prepared letters of recommendation from three colleagues. One letter must be from the chair of the department in which they hold a clinical or academic appointment or from an ACS Fellow residing in their country. The chair’s or the Fellow’s letter is to directly address the applicant’s commitment to high-quality breast surgery, surgical teaching, and improving access to breast surgical care locally. The other two letters of recommendation should be from colleagues who can address the applicant’s breast cancer surgical, clinical, and teaching abilities and practice.
The ACS and the ASBrS are offering the ACS/ASBrS International Scholarship to surgeons performing breast cancer surgery in countries other than the U.S. and Canada to improve the quality of breast cancer surgical services.

Letters of recommendation should be submitted by the individuals making the recommendation.

Other guidelines
Preference will be given to applicants who have not already experienced training or surgical fellowships in North America. The scholarship must be used in the year for which it is designated—it cannot be postponed. Awardees are expected to provide a written report upon their return home specifically focusing on the value of the visit to the awardee and the potential beneficial effect to the breast cancer patients in the country of origin. Unsuccessful applicants may reapply only twice and only by completing and submitting a current application form provided by the College together with new supporting documentation.

All applicants will be notified of the selection committee’s decision in January 2020. Applicants are urged to submit their completed applications and supporting documents as early as possible to ensure sufficient time for processing. Supporting materials and questions should be addressed to the ACS International Liaison at kearly@facs.org or via fax at 312-202-5021.

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2019 Gerald B. Healy Traveling Mentorship Fellow announced

The Scholarships Committee of the College has announced the first Gerald B. Healy, MD, FACS, Traveling Mentorship Fellow—*Graeme E. B. McFarland, MD*, assistant professor of surgery, division of vascular surgery and endovascular therapy at the University of Alabama at Birmingham School of Medicine.

Mentorship is one of the hallmarks of academic and professional success. This Healy Fellowship is intended to help young surgeons develop new ideas, innovative approaches, and well-informed attitudes about safety, quality, and professionalism via visits to successful mentors. The award, in the amount of $5,000, will cover the recipient’s travel and per diem costs and subsidize lost revenue from days away from clinical duties.

Dr. McFarland will use his fellowship for mentoring visits to Joseph L. Mills, Sr., MD, FACS, at Baylor College of Medicine in Houston, TX. Dr. McFarland is building the UAB Limb Preservation Program, dedicated to the treatment of patients with chronic limb-threatening ischemia due to diabetes, renal failure, or arterial diseases. His mentor, Dr. Mills, was instrumental in developing the successful SALSA (Southern Arizona Limb Salvage Alliance) program during his years at University of Arizona, Tucson. Dr. McFarland will have an opportunity to observe and study with this subject matter expert as he establishes a comparable new program in Alabama.

2019 Nizar N. Oweida Scholars named

Three surgeons who serve rural or small communities have been selected to receive the American College of Surgeons (ACS) 2019 Nizar N. Oweida, MD, FACS, Scholarships—*Christian Eusebio, MD*, of Tamuning, Guam; *Courtney L. Olmsted, MD*, of Morrisville, TN; and *Wei Wei, MD, FACS*, of Galax, VA.

The 2019 Oweida scholars will attend Clinical Congress 2019 in San Francisco, CA, and address the annual meeting of the Scholarships Committee and the Rural Surgery Forum.

The Oweida Scholarship was established in 1998 in memory of Dr. Oweida, a general surgeon from a small town in western Pennsylvania. The $5,000 award subsidizes attendance at the annual Clinical Congress, or research supporting improved quality of care in a rural setting.

The requirements for the scholarship are available on the ACS website at facs.org/member-services/scholarships/special/oweida. The application deadline for the 2020 scholarship is *March 1, 2020*. ♦
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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.

**OCTOBER**

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

Connecticut Chapter
October 11
Trumbull, CT
Contact: Chris Tasik, info@ctacs.org, ctacs.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 at Clinical Congress 2019
October 28
San Francisco, CA
Contact: Natalie Bell, nbell@facs.org, bit.ly/33PkYYA

**OCTOBER**

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

ACS Region 17 Meeting November 14–16
Kuwait City, Kuwait
Contact: E.M. Philips, mathew_philips@yahoo.com

Keystone Chapter November 15
West Reading, PA
Contact: Jessica Winger, jwinger@pamedsoc.org, kc-acs.org

**DECEMBER**

Massachusetts Chapter December 7
Boston, MA
Contact: Brittany Fiore, meetings@mcacs.org, meeting.mcacs.org

New Jersey Chapter December 7
Iselin, NJ
Contact: Andrea Donelan, njsurgeons@aol.com

**FUTURE CLINICAL CONGRESSES**

2019
October 27–31
San Francisco, CA

2020
October 4–8
Chicago, IL

2021
October 24–28
Washington, DC

**NOVEMBER**

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

**JANUARY 2020**

Southern California Chapter January 10–12
Santa Barbara, CA
Contact: Tracey Dowd, socalsurgeons@gmail.com, socalsurgeons.org

Louisiana Chapter January 17–19
New Orleans, LA
Contact: Janna Pecquet, janna@laacs.org, laacs.org

Utah Chapter January 23–25
Snowbird, UT
Contact: Nathalia Granger, ngranger@facs.org

Bangladesh Chapter January 24–25
Dhaka, Bangladesh
Contact: Prof. Choudhury, qchoudhury@yahoo.com
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