Surgeons lead effort to establish a sustainable eye bank in a developing nation.
FEATURES

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In March, I visited the University of Michigan (U-M) Health System, Ann Arbor, at the invitation of Hasan B. Alam, MB, BS, FACS, Norman W. Thompson Professor and section head, general surgery; and Michael Mulholland, MD, PhD, FACS, chair, department of surgery. There I had the opportunity to learn about the impressive work carried out at the U-M Institute for Healthcare Policy & Innovation (IHPI), the Blue Cross Blue Shield of Michigan Collaborative Quality Initiatives (BCBSM CQI) program, and the Michigan Value Collaborative (MVC).

These programs, which all work together, exemplify the type of synergistic efforts that will shape health policy moving forward. As the nation seeks to implement a patient-centered health care system that emphasizes quality, safety, and cost controls, it will become increasingly necessary for surgeons and their institutions to participate in collaborative quality improvement activities.

About the IHPI
The director of the IHPI, John Z. Ayanian, MD, MPP, provided an overview of the institute’s work. Established in 2012, the not-for-profit IHPI builds on the U-M’s accomplished history in health services research in an effort to improve the quality, safety, accessibility, and affordability of patient care. The IHPI evaluates the effect of health care reforms, improves the health of communities, promotes value-based health care, and develops innovations in health information technology and health care delivery. The IHPI strives to achieve its mission through collaboration, research to support evidence-based approaches to care, and public-private partnerships.

More than 460 researchers contribute to the IHPI’s efforts to resolve health policy issues. The IHPI’s 87,000 square-foot headquarters was designed to support multidisciplinary interaction, housing formal and informal spaces for collaboration.

Central to the effectiveness of any modern quality improvement program is a common data registry. The IHPI’s data hub processes records from a private sector health services and innovation company, the Centers
As the nation seeks to implement a patient-centered health care system that emphasizes quality, safety, and cost controls, it will become increasingly necessary for surgeons and their institutions to participate in collaborative quality improvement activities.

for Medicare & Medicaid Services, Veterans Affairs, the state of Michigan, and other sources. The institute devoted $123 million to health services research in fiscal year 2015. One of the IHPI’s most important projects at present focuses on the evaluation of the state’s Medicaid expansion program, known as the Healthy Michigan Plan, which provides coverage to 625,292 Michigan residents.

**BCBSM CQI**

Major contributors to the work of the IHPI are participants in the BCBSM CQI. The BCBSM CQI comprises 70 Michigan hospitals; 92 percent of eligible hospitals in the state participate in at least one of the program’s 20-plus CQIs, including the Michigan Surgical Quality Collaborative (MSQC). The MSQC is affiliated with the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP®) and was established under the leadership of Darrell A. “Skip” Campbell, Jr., MD, FACS, chief medical officer and Henry King Ransom Professor of Surgery, department of surgery, U-M Health System. Many other surgeons in the U-M are vital in the MSQC, including Mark R. Hemmila, MD, FACS, professor of surgery, section of general surgery, Trauma Burn Research Laboratory; Justin B. Dimick, MD, MPH, FACS, George G. Zuidema Professor of Surgery, chief, division of minimally invasive surgery, director, Center for Healthcare Outcomes and Policy, and associate chair, strategy and finance; and Michael J. Englesbe, MD, FACS, associate professor of surgery, section of transplantation surgery.

The participants in the BCBSM CQI are referred to as Value Partners for their efforts to improve the quality/costs of the health care services they provide. According to David A. Share, MD, senior vice-president, and Tom Leyden, MBA, director, BCBSM Value Partnerships, the most common and costly areas are surgical and medical care.

Participating hospitals and providers collect, share, and analyze data through clinical registries, then design and implement changes to improve outcomes and reduce spending for complex, technical areas of care. CQI registries allow for a more robust analysis of the link between processes and outcomes than can be achieved by examining one group or institution alone.

This innovative and highly regarded program helps providers to self-assess and optimize their care by identifying opportunities to develop best practices or more closely align health care procedures with best practices. As a result, participants are experiencing improved quality and lower costs for certain high-cost, high-volume, high-complexity procedures.

**MVC**

David C. Miller, MD, MPH, FACS, director, MVC, and associate professor, urology; and James M. Dupree, MD, MPH, FACS, co-director, MVC, and assistant professor, urology, described the MVC’s efforts. A partnership between Michigan hospitals and the BCBSM/Blue Care Network (BCBSM/BCN), the MVC builds on the MSQC’s legacy and seeks to improve health care quality across the state through rigorous performance feedback, empirical identification of best practices, and collaborative learning. The MVC hosts semi-annual meetings where representatives from participating hospitals discuss performance data, analyses of best practices, and collective strategies for improving quality and efficiency.

At present, the MVC uses BCBSM claims data to assess hospital performance. Measures are based on utilization and payments for different services, as well as Medicare fee-for-service data. Hospitals receive risk-adjusted measures of 30- and/or 90-day episode

EXECUTIVE DIRECTOR’S REPORT

As the nation seeks to implement a patient-centered health care system that emphasizes quality, safety, and cost controls, it will become increasingly necessary for surgeons and their institutions to participate in collaborative quality improvement activities.
To drive the changes that will lead to better quality and higher standards of cost-effective care, all stakeholders—patients, providers, health care professionals, insurers, government payors, and so on—must join together.

Payments for common conditions and procedures. Episode costs are risk-adjusted to account for differences in case mix across hospitals and are price-adjusted to reflect utilization rates rather than negotiated fees. Hospitals can examine their data to determine their comparative utilization of services, trends over time, and root causes of variation.

Hospitals use this information to help MVC target improvement opportunities; identify and share best practices; and design, implement, and evaluate statewide interventions with the goal of identifying and sharing best practices and benchmarks for quality and cost.

MVC meeting participation is voluntary. In the future, however, BCBSM expects to include MVC-generated measures in its value-based hospital payment incentive models.

The future of health policy
I commend the U-M and the surgeons, researchers, and public and private sector partners that are leading these efforts. Of course, the U-M is not alone in its efforts to provide leadership in health care policy and quality improvement. Many other academic medical centers are working with a range of affiliates and partners to develop meaningful, value-based health care reforms, including the Center for Surgery and Public Health, a joint initiative of Brigham and Women’s Hospital, Harvard Medical School, and Harvard T. H. Chan School of Public Health, Boston, MA; the Institute on Healthcare Systems, Brandeis University, Waltham, MA; the Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill; the University of California, Los Angeles, Health Policy Research Center; and the University of Wisconsin-Madison Population Health Institute, to name a few.

These think tanks, as well as the provider-run quality improvement collaboratives at work in Florida, Tennessee, Washington, and other parts of the country, have the resources and collective intelligence to develop the policies that will lead to higher-quality, more cost-effective patient care. The government will continue to issue rules and develop legislation that will affect health care delivery; however, as these groups develop value-based reforms, legislators and policymakers will turn to them for advice in shaping the health care system of the future.

“These efforts, so well-developed by the Michigan collaboratives, are exemplars of how we can use health policy to improve care,” said Clifford Y. Ko, MD, MS, MSHS, FACS, Director, ACS NSQIP.

To drive the changes that will lead to better quality and higher standards of cost-effective care, all stakeholders—patients, providers, health care professionals, insurers, government payors, and so on—must join together. I want to congratulate Dr. Mulholland and the U-M faculty on their leadership. I encourage you to find out how your institutions and practices can get involved in these types of efforts in your region. Don’t let these opportunities to better serve your patients pass you by.

If you have comments or suggestions about this or other issues, please send them to Dr. Hoyt at lookingforward@facs.org.
Surgeons lead effort to establish a sustainable eye bank in a developing nation

by Stephen G. Waller, MD; Joseph Pasternak, MD; Shailendra Sugrim, MD; Kathan Mehta, MD, MPH; Ronak Soni, MD; and Rahul M. Jindal, MD, PhD, MBA, FACS
Corneas are among the most commonly and successfully transplanted tissues worldwide.\textsuperscript{1,2} However, transplantation is dependent on the availability of donor tissue—a limiting factor in most developing countries. Because eye banks in developed nations cannot match the demand worldwide, it is important that developing countries create their own sustainable local corneal tissue and transplant systems.

In the May 2015 issue of the Bulletin, the authors reported on the inception of a successful corneal transplant program in the South American nation of Guyana.\textsuperscript{3} That public-private partnership (PPP) corneal transplant mission began in 2014, first with an educational visit that included talks with the host nation’s Ministry of Health, hospital leaders, and a city-wide lecture to the ophthalmologists on corneal transplantation.

Since that article was published, we have carried out additional missions aimed at creating independently sustainable eye bank and corneal transplantation services. To date, the program has supervised 34 successful corneal transplants, including the procurement of donor tissue, in Guyana.

Our work occurred in five stages and shows that specialized surgical services can be sustained through training of the local surgeon, establishing infrastructure to support the program, and following up with program participants to address any unforeseen challenges.

This article also provides insight into the global burden of eye disease and the wider ramifications of building a successful corneal transplant program in underdeveloped countries.

**Five stages of the program**

The corneal transplant program in Guyana used a PPP model with funding from the Subraj Foundation, New York, NY, founded by Guyanese-American
philanthropist George Subraj. U.S. eye banks donated corneal tissue, U.S. surgeons donated their time and talents, and the Guyanese government supplied operating room (OR) facilities and postoperative medications. Media outlets in Guyana promoted the corneal transplant program’s mission and goals, which resulted in additional support from the community. Using the PPP model, we were able to bring the best available medical expertise from the U.S to a developing country, at no cost to patients, without relying on direct funding from any U.S. governmental agency.

Our mission was completed in five stages: an exploratory visit, initial performance of corneal transplant operations, heightened local involvement, refinement, and gaining of independence.

Exploratory visit
The purpose of the exploratory stage was to become familiar with Guyana’s health care infrastructure and licensing requirements, as well as to become acquainted with the level of education and motivation of the typical local surgeon who we would train to establish the corneal transplant service at a private hospital in Georgetown. During this stage, Stephen G. Waller, MD, a co-author of this article, joined an existing program in renal transplantation in Guyana, founded by co-author Rahul M. Jindal, MD, PhD, MBA, FACS, and Mr. Subraj. This visionary program, described in the June 2013 issue of the Bulletin, was implemented over the course of more than 20 visits to Guyana and resulted in the successful transplant of 26 living-related donor kidneys and other associated procedures.4,5

Building on the credibility that the U.S. kidney transplant team established, Dr. Waller traveled to Guyana in 2014 to meet with local ophthalmologists and government officials. He established his own credentials for local medical privileges, investigated the clinical and surgical capacity of the region, and delivered lectures on corneal transplantation and eye banking to approximately 50 local eye care providers, including George Norton, MD, now Minister of Public Health in Guyana. Both Guyanese and U.S. stakeholders agreed that this first stage was a success.

Initial corneal transplant operations
On the second mission in August 2014, we performed six successful corneal transplants in a private hospital with donor tissue given ex-gratis by U.S. eye banks. However, we soon realized that sustainability was only possible in a public system, free of cost to the patient. For example, the private hospital charged $3,000 (U.S.) for each corneal transplant even though the corneas, instruments, sutures, and services of the U.S.-based surgeons were provided free of charge.

These successful corneal transplants drew substantial positive publicity, building momentum for the establishment of an eye bank in Georgetown. Georgetown is the headquarters city for a regional group of governments, the Caribbean Community (or CARICOM), which comprises 15 members—mostly small island nations with little hope of establishing a local eye bank. Thus, a regional eye bank in Georgetown seemed like a natural fit for the Caribbean Community.

Heightened local involvement
A total of 11 corneas were transplanted during the third mission in July 2015, this time at the Georgetown Public Hospital, which provides specialized services to the entire country. The local surgeon, Shailendra Sugrim, MD, a co-author of this article, was heavily involved in patient selection and the actual operations, and a second U.S. surgeon, co-author Joseph Pasternak, MD, led the surgical work. All of these efforts were conducted with the support of the local government and The Subraj Foundation, and the U.S. surgery team continued to assist with follow-up via e-mail after returning to the U.S.
Refinement
The fourth mission in October 2015 was designed to enhance the skills of the local surgeon by allowing him to be the primary surgeon for all steps of the operation, with U.S. surgeons assisting. In this stage, 12 corneas from multiple U.S. eye banks were transplanted. The successful procedures were again monitored postoperatively via e-mail communications.

Independence
The U.S. team left behind nine donor corneas that had not reached their expiration dates. These corneas were available for use by the local surgeon without supervision. He successfully matched five of them with appropriate recipients, experienced excellent outcomes, and garnered positive publicity. The following month, in December 2015, Dr. Norton, as the new Minister of Health, announced a legislative program to promote corneal transplantation in Guyana—the first step toward establishing an eye bank in Georgetown.

Global burden of corneal disease
The authors believe that their work in Guyana has widespread implications for easing the global burden of corneal disease. The World Health Organization (WHO) reports that 39 million people worldwide were blind as of 2010.8,9 Corneal disease is the second most common cause of blindness in the world after cataracts. The specific pathology and epidemiology of corneal disease varies from country to country and even from one population to another and correlates with socioeconomic and other factors. For example, in some parts of Africa, up to 90 percent of all blindness is related to corneal disease.

The major causes of corneal blindness are trachoma, ocular trauma, xerophthalmia, and onchocerciasis. Globally, 500,000 new cases of childhood blindness occur each year, 70 percent of which are attributable to Vitamin A deficiency leading to xerophthalmia. The impact of vitamin A deficiency on childhood blindness and mortality was described in England in 1932, and American ophthalmologist Alfred Sommer, MD, rediscovered its impact in his work in Southeast Asia in the 1970s.8,9 This situation is heartbreaking in an era when vitamin A supplementation can be offered for pennies per person per year.

In developing countries such as Guyana, most corneal blindness occurs in the working age group, unlike cataracts, which largely affect an older patient population. Trachoma and xerophthalmia are rare. Onchocerciasis is limited to a small endemic area along the border with Brazil, where the local indigent population is hostile to outside intervention, including ivermectin treatment. Trauma from road traffic accidents or industrial and agricultural injury is common and mainly affects young adult males. Herpes

### Table 1. First Mission Cases

<table>
<thead>
<tr>
<th>Recipient</th>
<th>Age (years) and sex</th>
<th>Diagnosis</th>
<th>Procedure</th>
<th>Previous visual acuity</th>
<th>Postoperative corrected visual acuity</th>
<th>Complications/remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>22F (female)</td>
<td>Keratoconus with apical scar</td>
<td>Penetrating keratoplasty</td>
<td>6/24</td>
<td>6/9 tested with pinhole (PH)</td>
<td>N/A</td>
</tr>
<tr>
<td>2</td>
<td>20M (male)</td>
<td>Keratoconus with apical scar</td>
<td>Penetrating keratoplasty</td>
<td>1/60</td>
<td>6/9</td>
<td>N/A</td>
</tr>
<tr>
<td>3</td>
<td>48M</td>
<td>Pseudophakic bullous keratopathy</td>
<td>Penetrating keratoplasty</td>
<td>Hand motions close to face (HM)</td>
<td>6/9</td>
<td>N/A</td>
</tr>
<tr>
<td>4</td>
<td>36M</td>
<td>Leucomatous corneal opacity</td>
<td>Penetrating keratoplasty</td>
<td>Hand motions close to face (HM)</td>
<td>6/6</td>
<td>N/A</td>
</tr>
<tr>
<td>5</td>
<td>72M</td>
<td>Post-bee sting corneal decompensation</td>
<td>Penetrating keratoplasty with cataract extraction with intraocular lens implant (IOL)</td>
<td>HM</td>
<td>6/36</td>
<td>Mild sub-epithelial haze with high astigmatism</td>
</tr>
<tr>
<td>6</td>
<td>36M</td>
<td>Keratoconus with apical scar</td>
<td>Penetrating keratoplasty</td>
<td>4/60</td>
<td>6/9</td>
<td>N/A</td>
</tr>
</tbody>
</table>
simplex keratitis is another common cause of corneal blindness, and, like trauma, is usually monocular. Keratoconus, a disorder of the corneal collagen, typically blinds adolescents and young adults, but is bilateral. As cataract surgery becomes more common, corneal failure from pre-existing conditions or intraoperative surgical trauma becomes the most common diagnosis for transplant patients we have seen, both in U.S. institutions and in the Guyana cohort (see Tables 1–4, pages 14–17).

Applying lessons learned
Through our experience with these missions in Guyana, we learned several lessons that we believe can translate to similar efforts in other underdeveloped and developing nations.

A key issue in establishing a sustainable corneal transplant capacity in a new location is the local surgical infrastructure. Having a well-educated and experienced local surgeon is essential. Our Guyanese partner, Dr. Sugrim, had the right set of skills and

### Table 2. Second Mission Cases

#### Second Visit: 11 Cases

<table>
<thead>
<tr>
<th>Recipient</th>
<th>Age (years) and sex</th>
<th>Diagnosis</th>
<th>Procedure</th>
<th>Previous visual acuity</th>
<th>Postoperative corrected visual acuity</th>
<th>Complications/remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>56F</td>
<td>Painful pseudophakic bullous keratopathy</td>
<td>Therapeutic penetrating keratoplasty</td>
<td>Light perception (painful eye)</td>
<td>No light perception (pain-free)</td>
<td>Uncontrolled diabetes</td>
</tr>
<tr>
<td>2</td>
<td>29F</td>
<td>Keratoconus and hydrops</td>
<td>Penetrating keratoplasty</td>
<td>Counting fingers (CF) 1'</td>
<td>20/70; 20/70 PH</td>
<td>N/A</td>
</tr>
<tr>
<td>3</td>
<td>21M</td>
<td>Keratoconus</td>
<td>Penetrating keratoplasty</td>
<td>CF 4'</td>
<td>20/100; 20/100 PH</td>
<td>N/A</td>
</tr>
<tr>
<td>4</td>
<td>58M</td>
<td>Painful pseudophakic bullous keratopathy (anterior chamber (AC) IOL)</td>
<td>Penetrating keratoplasty</td>
<td>HM</td>
<td>HM; no improvement with PH</td>
<td>Raised intracocular pressure (IOP) after 2 months, now controlled</td>
</tr>
<tr>
<td>5</td>
<td>74M</td>
<td>Keratoconus and pseudophakic bullous keratopathy</td>
<td>Penetrating keratoplasty</td>
<td>CF 1'</td>
<td>CF 6'; CF 6' PH</td>
<td>N/A</td>
</tr>
<tr>
<td>6</td>
<td>52F</td>
<td>Corneal opacity and cataract</td>
<td>Penetrating keratoplasty and IOL</td>
<td>HM</td>
<td>CF 1'; CF 1’ PH</td>
<td>Opposing eye blindness</td>
</tr>
<tr>
<td>7</td>
<td>58M</td>
<td>Painful pseudophakic bullous keratopathy (AC IOL)</td>
<td>Penetrating keratoplasty</td>
<td>CF 1'</td>
<td>CF 2'; CF 2’ PH</td>
<td>Opposing eye blindness</td>
</tr>
<tr>
<td>8</td>
<td>12M</td>
<td>Corneal opacity secondary to laser</td>
<td>Penetrating keratoplasty and iridoplasty</td>
<td>CF 6’</td>
<td>20/200; 20/70 PH</td>
<td>N/A</td>
</tr>
<tr>
<td>9</td>
<td>14F</td>
<td>Corneal opacity and traumatic cataract</td>
<td>Penetrating keratoplasty and IOL</td>
<td>HM</td>
<td>20/200; 20/100 PH</td>
<td>N/A</td>
</tr>
<tr>
<td>10</td>
<td>22F</td>
<td>Keratoconus</td>
<td>Penetrating keratoplasty</td>
<td>CF 2’</td>
<td>20/70; 20/50 PH</td>
<td>N/A</td>
</tr>
<tr>
<td>11</td>
<td>18M</td>
<td>Keratoconus and Intacs inserts</td>
<td>Penetrating keratoplasty</td>
<td>20/100</td>
<td>20/70; 20/50 PH</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Another key to success is access to proper hospital and OR equipment and personnel. The OR staff at Georgetown Public Hospital are energetic and a great example of collaborative teamwork in action. The operating microscope has teaching eyepieces that allow simultaneous viewing for the surgeon and a teacher or student and are essential for training local surgeons.

### Eye bank requirements and procedures

Whereas eye banks in the U.S. must be certified by the Eye Bank Association of America (EBAA) and the Food and Drug Administration, eye banks in Latin America and the Caribbean basin should be certified by the Pan American Association of Eye Banks, also known as Associação Pan-Americana de Bancos de

<table>
<thead>
<tr>
<th>Recipient</th>
<th>Age (years) and sex</th>
<th>Diagnosis</th>
<th>Procedure</th>
<th>Previous visual acuity</th>
<th>Postoperative corrected visual acuity</th>
<th>Complications/remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>70M</td>
<td>Pseudophakic bullous keratopathy (AC IOL)</td>
<td>Penetrating keratoplasty</td>
<td>CF 1’</td>
<td>HM</td>
<td>Opposing eye keratoconus and patient had trauma with wound dehiscence after 1 month</td>
</tr>
<tr>
<td>2</td>
<td>60M</td>
<td>Pseudophakic bullous keratopathy</td>
<td>Penetrating keratoplasty</td>
<td>CF 1’</td>
<td>CF 3’</td>
<td>Opposing eye pseudophakic bullous keratopathy</td>
</tr>
<tr>
<td>3</td>
<td>76F</td>
<td>Pseudophakic bullous keratopathy (AC IOL)</td>
<td>Penetrating keratoplasty and AC IOL exchange</td>
<td>HM</td>
<td>CF 4’</td>
<td>Opposing eye keratoconus and adherent leukoma</td>
</tr>
<tr>
<td>4</td>
<td>12M</td>
<td>Keratoconus with apical scar</td>
<td>Penetrating keratoplasty</td>
<td>CF 6’</td>
<td>20/70; 20/50 PH</td>
<td>N/A</td>
</tr>
<tr>
<td>5</td>
<td>59F</td>
<td>Aphakic bullous keratopathy (childhood cataract)</td>
<td>Penetrating keratoplasty</td>
<td>CF 2’</td>
<td>CF 1’</td>
<td>Opposing eye aphakia</td>
</tr>
<tr>
<td>6</td>
<td>78M</td>
<td>Pseudophakic bullous keratopathy (AC IOL)</td>
<td>Penetrating keratoplasty</td>
<td>HM</td>
<td>CF 4’</td>
<td>Opposing eye subluxed IOL</td>
</tr>
<tr>
<td>7</td>
<td>52M</td>
<td>Adherent leukoma with cataract</td>
<td>Penetrating keratoplasty</td>
<td>CF 1’</td>
<td>20/200</td>
<td>N/A</td>
</tr>
<tr>
<td>8</td>
<td>84M</td>
<td>Pseudophakic bullous keratopathy</td>
<td>Penetrating keratoplasty</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>74F</td>
<td>Pseudophakic bullous keratopathy (AC IOL)</td>
<td>Penetrating keratoplasty</td>
<td>CF 1’</td>
<td>CF 6’</td>
<td>N/A</td>
</tr>
<tr>
<td>10</td>
<td>68F</td>
<td>Pseudophakic bullous keratopathy</td>
<td>Penetrating keratoplasty</td>
<td>HM</td>
<td>CF 1’</td>
<td>Diabetes, hypertension</td>
</tr>
<tr>
<td>11</td>
<td>82F</td>
<td>Pseudophakic bullous keratopathy</td>
<td>Penetrating keratoplasty</td>
<td>CF 4’</td>
<td>CF 4’</td>
<td>N/A</td>
</tr>
<tr>
<td>12</td>
<td>30F</td>
<td>Keratoglobus</td>
<td>Penetrating keratoplasty</td>
<td>CF 4’</td>
<td>CF 4’</td>
<td>Opposing eye subluxed keratoplasty last visit</td>
</tr>
</tbody>
</table>
Olhos (APABO). APABO certification requirements include adequate space and equipment, 24-hour telephone service, certified technicians, a medical director (an ophthalmologist with expertise in cornea transplantation), and acceptance by the Ministry of Health in the host country. The medical director is responsible for ensuring application of medical standards, education of health care personnel, release and distribution of corneal tissue for transplant, and oversight of the waiting list. An administrative director is responsible for public awareness and quality control, as well as interaction with accreditation agencies, including the APABO, the Ministry of Health, and the national association of ophthalmology.

An approved eye bank also must have at least one certified technician. The role of the eye bank technician includes obtaining informed consent, reviewing medical history, performing a physical examination of the donor, evaluating the eye and determining appropriateness of tissue for transplantation, retrieving tissue by following standard operating procedures of the eye bank, and obtaining serologic testing of the donor. The technician must ensure that the donor has no contraindications, such as testing positive for the human immunodeficiency virus or hepatitis, an injectable drug abuse profile, or active infection of the eye. The medical director oversees the technician's performance of these tasks and ensures an equitable system for the transplant waiting list, with priority to younger patients and those patients with aggressive disease or bilateral blindness. In most U.S. metropolitan areas, cornea tissue is accessible to such a degree that surgeons can schedule transplants as routine cases on their normal OR day and expect suitable donor tissue to be available.

An independent eye bank must establish medical standards to protect the recipient and the technician, uniform evaluation procedures, systems for recipient and donor data collection, quality assurance procedures, and processes for outcome analysis and ensuring accountability. Thanks to the efficient framework established by the EBAA and high rates of eye donation, the number of cornea donations in the U.S. is on the rise, and often high-quality corneas are available gratis for humanitarian use. Dr. Waller has used this resource in more than a dozen countries, never paying for the donor corneas or charging the host nation recipients. A similar program in the developing world is at the National Eye Bank of Sri Lanka, which is an exemplar of corneal donation and international export of corneas in Asia and serves as a role model for both developed and developing countries.10

Future visits to sustain the progress to date will focus on improving the pre- and postoperative care of patients, as well as intraoperative teaching and support. Additionally, establishing a local source of donor corneas, potentially a regional eye bank for the entire group of 15 Caribbean Community nations, will take continued medical credibility and persistent political efforts.

The cohort of patients for whom we have performed transplants have a range of diagnoses. The outcomes match those expected of the same cohort in the developed world, and should be the foundation of
a sustainable eye banking effort in Guyana. Reporting the rehabilitation of exemplary cases can give visibility and credibility to all the eye bank establishment efforts. Engaging surgeons and potential patients from other Caribbean Community countries may accelerate the momentum we have already achieved in a short time span.

Conclusion

Our team has shown that the PPP model can be used successfully to sustain both kidney transplantation and corneal transplantation in a developing nation. Our five-step approach has shown that specialized surgical services can be sustained with focused training of the local surgeon and close follow-up.

Although no firm timeline has been set for establishing the eye bank in Guyana, each visit by the PPP team improves local capacity, and all parties are focused on creating a program that the host nation can sustain independently. In December 2015, Dr. Norton announced a plan to create legislation for eye donation, which is the first step in the process.11

Acknowledgements

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Disclaimer

The views expressed in this article are those of the authors and do not reflect the official policy of the Uniformed Services University of the Health Sciences (USUHS), the U.S. Department of the Army, the U.S. Department of Defense, or the U.S. government. No financial conflict of interest exists.

REFERENCES

The ACA, signed into law by President Obama on March 23, 2010, is the most significant piece of health care legislation since the Social Security Amendments of 1965, which enacted the Medicare and Medicaid programs. The aims of the ACA include reducing the number of uninsured Americans, controlling the costs of health care, and improving the quality of patient care.

Number of uninsured patients

The ACA seeks to reduce the number of Americans without health care insurance through an expansion of the Medicaid program and the development of health insurance exchanges. These provisions took effect January 1, 2014, and individuals and families were able to begin enrolling in health insurance exchanges as early as October 1, 2013.

The 2015 ACS Governors Survey queried participants regarding the ACA and its effect on access to surgical care nationwide. More than half of the respondents (52 percent) reported that access to surgical care has improved either slightly or significantly, while 19 percent said that access had not changed; 21 percent indicated that access had either decreased slightly or significantly (see Figure 1, page 20).

A Kaiser Family Foundation report from October 2015 stated that the uninsured rate among the nonelderly population fluctuated between 16.1 percent and 18.2 percent in 2000–2013. After the ACA went into effect in January 2014, the Kaiser report—which described the subsequent decrease in uninsured rates as “historic”—revealed that the uninsured rate among the nonelderly population had diminished to 16.2 percent in the last quarter of 2013, with a 12.1 percent rate in the last quarter of 2014, and a 10.7 percent rate in the first quarter of 2015. HealthCare.gov—a government website managed by
the U.S. Centers for Medicare & Medicaid Services—notes that this reduction in the number of uninsured Americans is the largest in four decades and that approximately 16.4 million previously uninsured people have gained access to health insurance coverage since the passage of the ACA.³

Governors responding to the survey were asked if the percentage of uninsured patients they treat had changed. Although 45 percent of the respondents said they had not observed a change, 41 percent responded that the number of patients without health care insurance has decreased slightly or significantly; only 8 percent of the respondents said the percentage has increased slightly or significantly (see Figure 2, this page).

In addition, 41 percent of the respondents said they had not seen any change in the percentage of patients they treat who have health care insurance since the ACA was enacted. Another 45 percent said that the percentage of patients who had health care insurance had increased slightly or significantly; only 9 percent said the percentage had decreased slightly or significantly (see Figure 3, this page).
Medicaid expansion
The ACA originally required every state to develop and implement an expanded Medicaid program that would allow individuals who earn up to 138 percent of the federal poverty level ($27,000 annually for a family of three) to secure health care coverage through the federal-state program. However, while the U.S. Supreme Court upheld the major provisions of the ACA, on June 28, 2012, it made Medicaid expansion by states voluntary. At present, 31 states and the District of Columbia have chosen to expand Medicaid. Since the open enrollment period for the ACA began, Medicaid enrollment has grown by 14 million people, an increase of 23 percent (see related article, page 37 of this issue).

Although 45 percent of the respondents to the Governors survey said that they had not noted any change in the percentage of Medicaid patients whom they treated, 46 percent of the respondents stated that the percentage of Medicaid patients had either increased slightly or significantly, and only 3 percent said that the percentage had decreased slightly or significantly (see Figure 4, this page).

Insurance premiums
Higher health insurance premiums have become a fact of life. A June 2015 Forbes article noted the average health insurance premium increase for a family policy ranged from 3 percent to 9.5 percent in 2005 to 2014 (see Figure 5, this page).

In 2011, the year after the ACA was signed into law, family plan premiums increased an average of 9.5 percent.

To decrease the monthly premium, some individuals who purchase their own health insurance...
may choose a plan that has a higher deductible. Many individuals with employer-based health insurance coverage have had to accept a plan with a higher deductible as a result of the cost-sharing practices used by many employers.

The ACA also may be playing a role in driving up deductibles because individuals who previously were unable to afford health care insurance or chose not to carry health care insurance may now purchase policies with a high deductible in exchange for a lower monthly premium payment.

**Effects of higher deductibles**

The survey asked Governors whether higher deductibles seem to be affecting patients’ decisions regarding elective surgical procedures. Although 49 percent of the respondents noted no change in patient decisions, 44 percent reported that a slightly higher or significantly higher percentage of patients were delaying elective operations since implementation of the ACA; only 7 percent of the respondents reported a slightly higher or significantly higher percentage of patients were scheduling their elective surgery more quickly (see Figure 6, this page).

Because more Americans now have health insurance, one might assume that patients who previously were uninsured now present to their surgeon at an earlier stage of illness. On the other hand, some patients with higher deductible payments might delay their initial evaluation for a surgical disease and therefore present at a later stage of disease.
Of the Governors who responded to the survey, 67 percent reported no change in the stage of disease at presentation, and 26 percent responded that a slightly higher or significantly higher percentage of patients were presenting at a more advanced stage of disease; only 7 percent indicated that a slightly higher or significantly higher percentage of patients were presenting at an earlier stage of disease (see Figure 7, page 22).

When patients have health insurance policies with higher deductible limits, one might assume that it would be more difficult for surgical practices to collect full payment. Most 2015 ACS Governors Survey respondents (61 percent) said that they noted no change in their practices’ ability to collect deductible payments, 38 percent responded that it was either slightly harder or significantly harder to collect patient deductibles, and 1 percent stated that it was easier to collect deductibles (see Figure 8, this page).

**Effects on volume**

With more Americans having health care insurance as a result of the ACA, one might anticipate that more patients are seeking surgical care. Governors were asked if the volume of cases that they manage has changed since implementation of the ACA. More than half (52 percent) reported no effect on surgical volume, 23 percent of the respondents reported a slight or significant increase in surgical volume, and 16 percent indicated a slight or significant decrease in surgical volume has occurred (see Figure 9, this page).

Several factors could lead to a decrease in surgical case volume. For example, a higher deductible payment might deter some patients from pursuing surgical treatment for what they perceive to be a minor problem. Another factor could be narrow health insurance networks. A study by the McKinsey & Company’s Center for U.S. Health System Reform
examined hospital network data from 120 unique 2014 individual exchange market products in the silver tier offered by 80 carriers. This analysis spanned 20 urban rating areas and included close to one-fourth of the U.S. nonelderly uninsured population. According to the study’s findings, 70 percent of the hospital networks in the exchanges were either narrow or ultra-narrow, which might eliminate some surgeons from the network.

**Conclusion**

One of the major goals of the ACA was to decrease the number of Americans without health care insurance. Responses from the 2015 ACS Governors Survey, which was administered a year and a half after enrollment in the ACA began, show that this goal is being met. The ACS Governors generally reported improved access to care nationwide, an increase in the number of patients who have health insurance, an increase in the number of patients who have Medicaid coverage, and a slight increase in caseload.

One might assume that increased access to care and an increased number of patients with some form of health care insurance would lead to overall improved quality of care for surgical patients. However, the survey data do not definitively support this assumption. Since the inception of the ACA, according to survey respondents, a higher percentage of patients were delaying their elective surgery and a higher percentage of patients were presenting at a later, rather than an earlier, stage of disease.

The ACA will continue to affect the surgical care of patients in the U.S. for years to come. The Governors anticipate that the ACS leadership will be able to use the results from this survey in its efforts to improve access to quality care for surgical patients nationwide.

**REFERENCES**

The Centers for Medicare & Medicaid Services (CMS) recently released revised guidelines for 2016 participation in the Physician Quality Reporting System (PQRS) program. PQRS is the first CMS-crafted national program to link the reporting of quality data to physician payment. This article addresses concerns surgeons may have regarding PQRS, including penalties for nonparticipation and changes in reporting requirements for 2016 PQRS, and directs readers to American College of Surgeons (ACS) resources designed to help surgeons successfully participate in the program.

Program penalties in 2018
Eligible professionals (EPs) who do not participate in PQRS in 2016 may be subject to a –6 percent payment adjustment in 2018. This reduction is the total penalty resulting from payment adjustments for nonparticipation in PQRS and the effects on the value-based payment modifier (VM), which, in part, hinges on PQRS participation. Following are the breakdowns of potential penalties for each program.

PQRS
PQRS is a pay-for-reporting program. As required under the Affordable Care Act, individual providers and groups that fall short of meeting the PQRS requirements in 2016 will be penalized in 2018. The
### TABLE 1.
**INDIVIDUAL REPORTING REQUIREMENTS FOR 2018 PQRS PAYMENT ADJUSTMENT**

<table>
<thead>
<tr>
<th>Reporting period</th>
<th>Measure type</th>
<th>Reporting mechanism</th>
<th>Satisfactory reporting/satisfactory participation criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-month (January 1–December 31)</td>
<td>Individual measures</td>
<td>Claims</td>
<td>Report at least 9 measures covering at least 3 of the NQS domains and report each measure for at least 50 percent of the EP’s Medicare Part B fee-for-service (FFS) patients seen during the reporting period to which the measure applies. Of the measures reported, if the EP sees at least 1 Medicare patient in a face-to-face encounter, the EP will report on at least 1 measure contained in the PQRS cross-cutting measure set. If fewer than 9 measures apply to the EP, the EP would report on each measure that is applicable, and report each measure for at least 50 percent of the Medicare Part B FFS patients seen during the reporting period to which the measure applies. Measures with a 0 percent performance rate would not be counted.</td>
</tr>
<tr>
<td>12-month (January 1–December 31)</td>
<td>Individual measures</td>
<td>Qualified registry</td>
<td>Report at least 9 measures covering at least 3 of the NQS domains and report each measure for at least 50 percent of the EP’s Medicare Part B FFS patients seen during the reporting period to which the measure applies. Of the measures reported, if the EP sees at least 1 Medicare patient in a face-to-face encounter, the EP will report on at least 1 measure contained in the PQRS cross-cutting measure set. If fewer than 9 measures apply to the EP, the EP would report on each measure that is applicable, and report each measure for at least 50 percent of the Medicare Part B FFS patients seen during the reporting period to which the measure applies. Measures with a 0 percent performance rate would not be counted.</td>
</tr>
<tr>
<td>12-month (January 1–December 31)</td>
<td>Individual measures</td>
<td>Direct electronic health record (EHR) product or EHR submission vendor product</td>
<td>Report 9 measures covering at least 3 of the NQS domains. If an EP’s direct EHR product or EHR data submission vendor product does not contain patient data for at least 9 measures covering at least 3 domains, then the EP would be required to report all of the measures for which there is Medicare patient data. An EP would be required to report on at least 1 measure for which there is Medicare patient data.</td>
</tr>
<tr>
<td>12-month (January 1–December 31)</td>
<td>Measures groups</td>
<td>Qualified registry</td>
<td>Report at least 1 measures group and report each measures group for at least 20 patients, the majority (11) of which are required to be Medicare Part B FFS patients. Measures groups containing a measure with a 0 percent performance rate will not be counted.</td>
</tr>
<tr>
<td>12-month (January 1–December 31)</td>
<td>Individual PQRS measures and/or non-PQRS measures reportable via a QCDR</td>
<td>QCDR</td>
<td>Report at least 9 measures available for reporting under a QCDR covering at least 3 of the NQS domains, and report each measure for at least 50 percent of the EP’s patients. Of these measures, the EP would report on at least 2 outcome measures, or, if 2 outcomes measures are not available, report on at least 1 outcome measures and at least 1 of the following types of measures: resource use, patient experience of care, efficiency/appropriate use, or patient safety.</td>
</tr>
</tbody>
</table>

Note: Individual reporting criteria for the satisfactory reporting of quality measures data via claims, qualified registry, EHRs, and satisfactory participation criterion in QCDRs.

Penalty in 2018 for unsatisfactory participation in PQRS is –2 percent of the total allowed charges for Medicare Part B professional services covered under the physician fee schedule and furnished during the reporting period.

**VM**

The VM program provides either bonus payments, penalties, or a neutral adjustment to a physician’s Medicare fee-for-service (FFS) payments based on their performance on a composite of cost and quality measures. To avoid an automatic 2018 VM penalty, surgeons must satisfactorily participate in PQRS in 2016. Failure to successfully participate in the 2016 PQRS program may result in a penalty of up to –4 percent under the VM, in addition to the –2 percent penalty associated with the PQRS. However, even with successful participation in PQRS, surgeons may face the –4 percent penalty based on their cost and quality measures.
### TABLE 2.
GROUP PRACTICE REPORTING REQUIREMENTS FOR 2018 PQRS PAYMENT ADJUSTMENT

<table>
<thead>
<tr>
<th>Reporting</th>
<th>Group practice size</th>
<th>Measure type</th>
<th>Reporting mechanism</th>
<th>Satisfactory reporting/ satisfactory participation criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>period</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-month</td>
<td>25–99 EPs that elect Consumer Assessment for Healthcare Providers and Systems (CAHPS) for PQRS; 100+ EPs (if CAHPS for PQRS applies)</td>
<td>Individual GPRO measures in the Web Interface + CAHPS for PQRS</td>
<td>Web Interface + CMS-certified survey vendor</td>
<td>The group practice must have all CAHPS for PQRS survey measures reported on its behalf via a CMS-certified survey vendor. In addition, the group practice must report on all measures included in the Web Interface and populate data fields for the first 248 consecutively ranked assigned beneficiaries in the order that they appear in the group’s sample for each module or preventive care measure. If the group practice will be required to report on at least 1 measure for which Medicare patient data are available. If the CAHPS for PQRS survey is applicable to a group practice that reports quality measures via the Web Interface, the group practice must administer the CAHPS for PQRS survey in addition to reporting the Web Interface measures.</td>
</tr>
<tr>
<td>(January 1–December 31)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-month</td>
<td>2–99 EPs; 100+ EPs (if CAHPS for PQRS does not apply)</td>
<td>Individual measures</td>
<td>Qualified registry</td>
<td>Report at least 9 measures, covering at least 3 NQS domains. Of these measures, if a group practice sees at least 1 Medicare patient in a face-to-face encounter, the group practice would report on at least 1 measure in the PQRS cross-cutting measure set. If fewer than 9 measures apply to the group practice, the group practice would report on each measure that is applicable to the group practice and report each measure for at least 50 percent of the group’s Medicare Part B FFS patients seen during the reporting period to which the measure applies. Measures with a 0 percent performance rate would not be counted.</td>
</tr>
<tr>
<td>(January 1–December 31)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-month</td>
<td>2–99 EPs that elect CAHPS for PQRS; 100+ EPs (if CAHPS for PQRS applies)</td>
<td>Individual measures + CAHPS for PQRS</td>
<td>Qualified registry + CMS-certified survey vendor</td>
<td>The group practice must have all CAHPS for PQRS survey measures reported on its behalf via a CMS-certified survey vendor, and report at least 6 additional measures, outside of the CAHPS for PQRS survey, covering at least 2 of the NQS domains using the qualified registry. If fewer than 6 measures apply to the group practice, the group practice must report on each measure that is applicable. Of the additional measures that must be reported in conjunction with reporting the CAHPS for PQRS survey measures, if any EP in the group practice sees at least 1 Medicare patient in a face-to-face encounter, the group must report on at least 1 measure in the PQRS cross-cutting measure set.</td>
</tr>
<tr>
<td>(January 1–December 31)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Group practice reporting criteria for satisfactory reporting of quality measures data via the GPRO.

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**PQRS changes from 2015 to 2016**

CMS released the Medicare physician fee schedule (MPFS) final rule for calendar year (CY) 2016 on October 30, 2015. This rule makes minimal changes to the PQRS program; however, CMS did finalize one noteworthy change. Groups registered to participate using the group practice reporting option (GPRO) now have the ability to report using a qualified clinical data registry (QCDR).

**2016 PQRS reporting options**

Surgeons may report as either an individual or as part of a group. In 2016, five reporting options are available to individual surgeons, which are listed in Table 1, page 26.* Group practices that register to participate in PQRS using the GPRO may report using one of five options listed in Table 2, this page.*

Surgeons can use the 2016 PQRS Measure Specifications Manual for Claims and Registry Reporting of Individual Measures to identify measures that are

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applicable for routine professional services. They should select the measures based upon prevalence and volume in their practice. The ACS encourages individual surgeons to report General Surgery Measures Group data. This requires reporting on a minimum of 20 patients, at least 11 of whom should be Medicare Part B beneficiaries. Surgeons who choose this option must report on all seven measures listed in Table 3, page 29.

**ACS resources for PQRS reporting**
The ACS has two registries that can be used for PQRS reporting. The ACS Surgeon Specific Registry (SSR) can be used to comply with regulatory requirements, including participation in PQRS. The SSR was approved by CMS as a registry for 2015 PQRS, and is pending approval for 2016.

The SSR allows individual surgeons to report on the following:

- The PQRS General Surgery Measures Group
- 2016 PQRS individual measures
- 2016 SSR QCDR: Trauma Measures Option

Surgeons will have until January 31, 2017, to submit CY 2016 patient information in the SSR, which will then submit the PQRS data to CMS. CMS also has approved the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) as a QCDR for PQRS 2015; approval for 2016 was pending at press time. MBSAQIP participants will have the opportunity to voluntarily elect that their MBSAQIP QCDR
TABLE 3.
MEASURES INCLUDED IN THE 2016 GENERAL SURGERY MEASURES GROUP

<table>
<thead>
<tr>
<th>Measure number</th>
<th>2016 PQRS General Surgery Measures Group</th>
<th>NQS domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>130</td>
<td>Documentation of current medications in the medical record</td>
<td>II. Patient safety</td>
</tr>
<tr>
<td>226</td>
<td>Preventive care and screening: Tobacco use: Screening and intervention</td>
<td>IV. Community/population health</td>
</tr>
<tr>
<td>354</td>
<td>Anastomotic leak</td>
<td>II. Patient safety</td>
</tr>
<tr>
<td>355</td>
<td>Unplanned reoperation within the 30-day postoperative period</td>
<td>II. Patient safety</td>
</tr>
<tr>
<td>356</td>
<td>Unplanned hospital readmission within 30 days of principal procedure</td>
<td>VI. Effective clinical care</td>
</tr>
<tr>
<td>357</td>
<td>Surgical site infection</td>
<td>VI. Effective clinical care</td>
</tr>
<tr>
<td>358</td>
<td>Patient-centered surgical risk assessment and communication</td>
<td>I. Person and caregiver-centered experience and outcomes</td>
</tr>
</tbody>
</table>

quality measures results be submitted to CMS for PQRS participation.

**MAV process**

In addition, the PQRS Measure-Applicability Validation (MAV) process, instituted in 2014, takes effect when surgeons who participate in the individual claims or traditional registry-based measures reporting options report on fewer than nine measures, fewer than three National Quality Strategy (NQS) domains, or fail to report on a cross-cutting measure. This process does not apply to measures groups; surgeons who choose to report on the measures group are expected to report on all seven measures in the group for at least 20 patients.

The MAV process uses a clinical relation/domain test to determine whether a surgeon should have reported on additional measures or domains. The clinical relation/domain test is rooted in the concept that if one measure in a cluster of measures related to a particular clinical topic or service is applicable to a surgeon’s practice, then other clinically related measures within the clinical cluster may also be applicable.† For example, a surgeon who reported on one measure in a clinical cluster of three measures would be expected to report on the other two measures in the cluster for 50 percent of applicable patients to avoid a penalty. Only measures found within a clinical cluster will trigger a MAV analysis, and not all measures are associated with a cluster.

If CMS determines that a surgeon could not have reported additional measures, the surgeon will be able to avoid the 2018 payment adjustment. If, however, CMS determines that a surgeon should have submitted additional measures or domains, a penalty will be applied in 2018.

Additional background information and PQRS resources are available at [facs.org/advocacy/regulatory/pqrs/](https://facs.org/advocacy/regulatory/pqrs/). If you have questions regarding PQRS, contact Molly Peltzman, Quality Associate, ACS Division of Advocacy and Health Policy, at mpeltzman@facs.org. ♦

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Anthony Atala, MD, FACS, a urologist at Wake Forest University, Winston-Salem, NC, is a widely recognized expert in the area of regenerative medicine. He has published extensively on this topic, authoring more than 500 original research articles and editing 14 books. He serves on the editorial board of several journals and has received numerous awards, including the Christopher Columbus Foundation Award, the World Technology Award in Health and Medicine, and the Barringer Medal. Dr. Atala has applied for or received more than 200 patents for his work related to regenerative medicine and was inducted into the National Academy of Sciences in 2011.

At present, Dr. Atala serves as the director of the Wake Forest Institute for Regenerative Medicine and is the W. H. Boyce Professor and Chair, department of urology, Wake Forest University. He completed his undergraduate studies at the University of Miami, FL, and earned his medical degree and completed his urology residency at the University of Louisville, KY. In 1992, he completed a pediatric urology fellowship at Boston Children’s Hospital, MA, where he served on the faculty until accepting his current position at Wake Forest in 2004.
Dr. Atala was interviewed in October 2015 by Juliet A. Emamaullee, MD, PhD, a transplant surgery fellow at the University of Alberta, Edmonton, and member of the Surgical Research Committee.

Did you always know that you wanted to be a physician?

Yes, I was drawn to medicine from an early age. I had a brief detour in high school where my interests went elsewhere. However, by the time I went to college, I knew that medicine was what I wanted to do after all.

Are you the first physician member of your family?

Yes, I am. I was inspired by our family doctor who provided our care throughout my childhood.

What drew you to surgery? Did you have an experience during medical school that inspired you?

I initially thought that I would do something other than surgery. For this reason, I scheduled my surgical rotation toward the end of my clinical clerkship. When I actually experienced it, though, I thought, "Wow, this is what I want to do after all."

You chose urology as a subspecialty. How did you move in that direction?

After I completed my general surgery rotation and realized I wanted to pursue a surgical specialty, I scheduled additional surgical electives. I loved all aspects of surgery; it didn’t matter what area of surgery I was in. When I was on my urology rotation, I saw that you could take care of young patients and older patients, males or females, and problems that were acute or chronic. You followed some patients for a long time and others were more typical of a surgical practice, where you operated on them and then didn’t see them after their routine postoperative follow-up visit. What appealed to me is that it had all the elements I loved in medicine.

What features were you looking for when you picked a residency training program?

I was primarily looking for a program that would allow me to become a good clinical surgeon. My intention was to practice urologic surgery, likely in a private setting. I didn’t know much about the academic world at all, as I had not really been exposed to it.

What drew you to science?

This was one of the pivotal moments of my life. My goal was to get trained, go into private practice, and do my trade. Then, an interesting thing happened. During my residency, I did a rotation in pediatric urologic surgery, and I fell in love with it. I was particularly drawn to reconstructive surgery.

As I applied to fellowship programs, it just so happened that I got a phone call from the head of pediatric urology at Boston Children’s Hospital, Harvard Medical School, Dr. Alan B. Retik [MD, FACS]. He said, “We would love to have you join us. We are going to give you a choice, because we are adding a research year to our training program. We want to let you choose between doing a research year or going straight through the clinical track.”

I told him I just wanted to do the clinical program. He asked if I was sure, and I responded that I was, at which point Dr. Retik said, “I see you have done some clinical research during your residency, and you really have the potential to do well in the academic track with the research year.” I said, “Yes, but I don’t think I want to do that.” He told me to think about it and that he would call me back in a week. A week later, he...
called and asked again whether I wanted to do the academic track or the clinical track. I told him that I had given it a lot of thought and that I preferred to do the clinical track. Dr. Retik once again encouraged me to give my decision additional consideration and asked to speak with my wife Katherine, who is a psychiatrist. He explained to her the two options, and told her that he thought I should do the research year. My wife got off the phone and told me that I should do the research year. She told me to trust his experience and what he thought would be the best for my career. Ultimately, I agreed, and that is what led me to a life of research. I was a reluctant researcher.

Michael T. Longaker [MD, MBA, FACS], featured in the April 2015 issue of the Bulletin, had a similar experience.* He described a feeling of wanting to get through to the other side of training, but he got sidetracked doing research and fell in love with it.

Isn’t that interesting? This has become my approach in our training program because you never know what someone will want to do unless you expose them to it. You could go through your whole life and never find your true passion.

Surgeons often have someone who inspired them and saw potential that they never would have seen within themselves. It seems to be a major transition point; it opens your eyes to something completely different.

I never thought I would pursue a surgical specialty or become a researcher, but then you get inspired, and there you are. It’s amazing. If it were not for Dr. Retik, I would not have the career that I have today. It was a life-changing decision.

Is Dr. Retik someone you consider to have been a major mentor along the way?

Oh, yes, definitely. He was the one who convinced me to try research. He directed my training in pediatric urology, and he became the surgeon-in-chief at Boston Children’s Hospital. Dr. Retik helped guide my career to where it is today.

Have you had other significant mentors along the way?

I would say in terms of career mentor, Dr. Retik was a major part of my career pathway. Another friend and mentor has been Michael R. Freeman [PhD], a researcher who was at Boston Children’s Hospital.
Mentorship is the number one factor that inspires people and keeps them moving forward in their careers. It is one of the things that excites me the most—to help young investigators who want to succeed in research, whether it is related to my area or not.

How have these experiences affected how you approach mentorship?

Mentorship is the number one factor that inspires people and keeps them moving forward in their careers. It is one of the things that excites me the most—to help young investigators who want to succeed in research, whether it is related to my area or not. It is one of the most satisfying things I can do. It allows you to give back and also leave something behind as you move forward.

How did you find your first faculty job?

That was easy. I was asked to stay on at Boston Children’s Hospital. I did look at other possibilities. Surprisingly, I had at least 10 solid offers by the time I had finished my training. It was good timing, as many programs were looking for clinician-scientists. It was a tough decision at the time because all of these offers were on the table, and I had my research program well under way. I knew that I wanted to continue to do research as well as develop my clinical practice. At the end of the day, I realized the number one asset would be protected time, where I was going to be doing 50 percent clinical and 50 percent research. In making my decision, the most critical factor for me was having a good team around me that would help protect my time. If my time was truly protected, I wouldn’t need to worry about my research and clinical duties encroaching upon each other. Boston ended up being the best fit for me.

You must have had good buy-in from your chair to set you up with a clinical load that was manageable with support from fellows and residents.

Yes, I had an active clinical load, but the most important component was the truly protected research time. A large team was available. When I was on call, I was on. But if I was off, I really had protected time. One of the major challenges I heard over and over was that people would go in and start doing a clinical research track, and eventually the clinical workload would consume all of their time. I didn’t want that to happen to me.

How did you approach your first major grant application? Did you receive mentorship throughout that process as well?

I was very lucky. I received the first NIH [National Institutes of Health] grant I prepared. I did receive a lot of help from my mentors in writing the grant and making sure it was solid in terms of its aims. I was in no rush to prepare it, so I wrote the grant and completed it as though I was going to send it in and then asked several colleagues to review it. Dr. Freeman helped to ensure that the grant was solid, so I was able to make the revisions, complete preliminary experiments, etcetera, and send in a final draft that I felt was well-prepared.

Did you have any major setbacks or particularly challenging times along the way? You work with stem cells, for example. Did you have any barriers to doing research the way you wanted to?

My first NIH grant was in cell biology, as that was my initial focus. The main challenge was that people thought this was science fiction. The very first abstract
I sent in to a meeting was rejected. When I spoke to the program chairman, he said the abstract was rejected because the science was not possible. I said, “What do you mean? Those are our results!” He replied that they didn’t believe that it could be done. The field was new, so the concept of regenerative medicine was not well received or understood. It was such a barrier to overcome, convincing others that it was actually possible.

You have been heavily involved in the ACS. What drew you to this organization?

My early involvement was with the Surgical Forum, which allowed me to attend the Clinical Congress and participate as a presenter. Eventually, I was asked to organize the Surgical Forum for urology. It has been a wonderful experience to be involved with the ACS. It has been very rewarding to interact with all the different specialties in surgery. It has allowed me to grow personally as well as professionally.

You have had many important research discoveries. What do you consider your greatest contribution?

That’s a tough question. I don’t really have a favorite project because it is like asking who your favorite child is. I have enjoyed each of the projects that I developed. At the end of the day, what I find most stimulating is the day-to-day work of moving a project forward. Major discoveries do not happen in one day.

Moving something from the bench, through small animal studies, and eventually seeing it come to fruition in patients must be very rewarding.

Definitely. One of my biggest motivations has been moving ideas from the bench to the bedside. That has been the driving force of my career. It is a long process, as you need to understand the cell biology, and the science has to be solid and reproducible. How do you take that science you have worked so hard on and make sure that you can actually take it to the next step and, finally, to the patient to see that it works? It is hard enough to learn about the science that you are doing and be certain that you are doing it correctly. Then you have to understand the process of getting it through the regulatory pathway, developing a product, and learning how to succeed in the patient. You learn each of these things along the way. It is not like you know how to do it all on day one. It’s a multi-step process.

Has there been anything that you thought would have a big impact but was a little disappointing when you tried it clinically?

Thankfully, it has not yet happened because the expectations were always centered on making sure the technologies were safe. There have always been some redeeming features of the cell-based therapies or engineered tissues that have undergone clinical trials, and we have learned [a great deal] from these technologies. We learned early on that just because something is a neat therapy and can be used clinically does not imply that it can or should be implemented. It has to be economically feasible for the patient and health care system. The technology has to be transformational; it has to create a therapy that is not possible via other means.

An example is engineered skin. You can create a piece of engineered skin that is a partial cover and acts as a temporary dressing. It might cost you $5,000. Alternatively, you could use cadaver skin, which only costs a few hundred dollars. At the end of the day, they will both do the same thing, as they are both acting as dressings. However, if you create a piece of engineered skin that is going to be a permanent replacement, and it is going to make the patient better, and it’s not a temporary dressing, and it costs $5,000, then it’s worth it because you have done something that is transformational for the patient.
In regenerative medicine, it is important to not just create technologies that are good for the patient; it is important to create technologies that are transformational to the patient and will allow for the cost difference to be worthwhile.

**In developing these technologies, you have been involved in biotech spin-off companies. How has that been different than being in academia?**

I do not become closely involved with any company. I decided early on that I would never do that. I know many scientists who have developed a product and then spent a sizeable portion of their time with their own company. My philosophy has been that I should stick to what I know how to do best, which is the research. Some of our technologies have been licensed by the university to start-up companies, but I try not to be involved other than at an advisory level.

**What do you think are the greatest challenges for early career surgeon-scientists in the current environment?**

The competing interests between clinical responsibilities and research endeavors continue to be a major challenge for new academic surgeons. I am recruiting faculty now, and maintaining and protecting that balance can be difficult. We try to be sure that people have a longer runway, as it is now harder than ever to get that first grant right out of the gate. It takes more of an investment in terms of the number of years it will take for the investigator to be self-funded. You need to be in an environment that gives you everything you need to succeed in your research career.

**Do you think the surgical research community can improve the situation for surgeon-scientists as they start their careers? It is disheartening to hear about large academic centers that will not support NIH K applications for their junior faculty because they can’t protect their time.**

There has to be a reckoning of this. If academic medical centers really want long-term success and to create the next generation of physician scientists, they need to understand how times have changed. It takes a concerted effort to make sure that people have protected time. Institutions that are truly invested in the academic mission need to invest with their endowments so that those funds support future surgeon scientists until they are self-funded. There has to be a commitment to building endowment funds with the goal of supporting promising young investigators.

**In preparing for this interview, I watched your TED talk. How did you get involved in that experience?**

I was invited to give a TED talk twice before I could actually fit it into my schedule. It was a great experience because it forced me to deliver the message so that the general public could understand it. How do you take a scientific topic and make it understandable to a lay audience? The TED talk format is great at doing that.

**Does your wife think she made the right choice in advising you to take that extra research year during your fellowship?**

Absolutely, because I found my passion! ♠

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Because the patient is an integral member of the surgical team, patient education is essential to the delivery of high-value, safe surgical care. Patient education and the activation of their support systems can improve treatment compliance, decrease complications, and enhance patient-reported outcomes and experience. Patients should possess the requisite knowledge and skills to contribute effectively to their care. The American Board of Medical Specialties and the Accreditation Council for Graduate Medical Education have emphasized the critically important role of patients within the health care team.1

The ACS supports the recommendations of the National Academies of Sciences, Engineering, and Medicine’s Health and Medicine Division (formerly known as the Institute of Medicine) underscoring patient rights and responsibilities to fully participate in their care.2,3 Patients should be educated to make informed decisions with a clear understanding of surgical implications. Patients should also be trained to actively participate in perioperative care, when possible. Patient education materials should be based on contemporary principles of evidence-based medicine tailored to the individual patient’s needs with a particular focus on health literacy.

The ACS supports the following actions:

• Assessing the individual health care needs of each patient with respect to patient culture, gender, age, and health literacy.

• Employing patient-centered decision support tools at the point-of-care to aid understanding of perioperative surgical implications.

• Applying appropriate methods to ensure patient involvement and confirm patient comprehension during the patient education process.

• Providing durable educational materials to the patient and support team. Patient education materials should detail pre-, peri-, and postoperative expectations to optimally support convalescing patients.

• Effectively discharging patients with the education, skills, and clinical information that support safe care transitions. As noted in the ACS Statements on Principles, "The surgeon will ensure appropriate continuity of care of the surgical patient."4

• Improving access to accurate patient education information offered by the ACS and other professional organizations.

• Multi-organization collaborations to optimize patient access to validated education resources.

• Promoting and critically evaluating the science, practice, and certification of successful patient education programs.

REFERENCES


A central goal of the Affordable Care Act (ACA) is to expand access to health care insurance for all Americans. One way the act achieved this goal was through broadening eligibility for Medicaid coverage; as a result, the Medicaid program is a rapidly growing source of health coverage in the U.S. However, the effects of this expansion vary greatly between states. Medicaid is a complex program administered by the states but with many federal requirements and supported by federal funding. As a result of this unique structure, states administer the program and make coverage decisions, but the federal government sets some requirements for the program and provides financial support. Funding for the program ranges from a 50/50 mix of state and federal funding in some areas to others in which the state receives $3 in federal funding for each dollar spent.

Program eligibility varies among the states. All states provide coverage for children in low-income families, seniors in need of nursing home care, people with disabilities, and pregnant women; however, at present, coverage differs greatly for other groups, including low-income parents or childless adults.

This column describes changes occurring in the Medicaid program that have the greatest impact on practicing surgeons. Because the Medicaid program is so complex and variable from state to state, the American College of Surgeons (ACS) must keep its efforts to advocate for Medicaid patients and the surgeons who participate in the program focused on those areas of most importance to its constituencies.

**What were the intended changes to Medicaid in the ACA of 2010?**

One of the primary goals of the ACA was to reduce the number of uninsured throughout the country. The ACA sought to achieve this objective through several means, including making it easier for middle-income Americans to enroll in private insurance plans and for low-income Americans to obtain Medicaid coverage.

As passed, the law required the states to expand Medicaid to provide coverage to all Americans with incomes below 138 percent of the poverty level or lose all federal funding. The federal government picks up 100 percent of the cost of those individuals newly enrolled under the expansion from 2014 through 2016, then falling gradually to 90 percent in 2020 and beyond. States also have the option of applying for a waiver to expand coverage by other means.

**Is Medicaid expansion beneficial for surgeons and their patients?**

Despite a number of persistent issues with the Medicaid program (discussed later in this column), Medicaid expansion provides benefits to both surgeons and their patients. Newly covered patients in the Medicaid program were, by and large, previously uninsured, meaning any care they received before securing Medicaid coverage likely was uncompensated. For more information about how surgeons believe Medicaid expansion is affecting their practices, see the related article on page 19 of this issue.
Why haven’t all states expanded coverage?

In its June 2012 ruling on the constitutionality of the ACA, the U.S. Supreme Court determined that the expansion as drafted was too coercive to the states, but left the rest of the law largely in place. This caveat effectively made expansion voluntary, yet with full federal funding during the first few transition years.

As of the beginning of March 2016, 31 states plus the District of Columbia had expanded coverage, including seven states that chose to do so under a waiver (although Pennsylvania later transitioned to a more traditional system).* States that have chosen not to expand have cited several concerns, including the federal government’s ability to maintain its share of funding, cost of the expansion to the state once the period of full federal funding ends, and general opposition to the ACA.

How has Medicaid expansion affected coverage rates in the states?

According to the Kaiser Commission on Medicaid and the Uninsured, Medicaid enrollment in 2015 increased 18 percent across the 32 expansion areas (including DC), and some states saw much higher increases than had been projected due to pent-up demand for coverage among the uninsured.† In those states that did not expand Medicaid, enrollment increased by 5.1 percent. Some of the increase in non-expansion states is attributable to those individuals who went to the exchange to

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purchase a plan and learned they were eligible for Medicaid.

What are some of the top concerns for surgeons who participate in the Medicaid program?

One concern is that state Medicaid programs will not cover certain services. Although Medicaid covers most common and necessary surgical services, particularly in the hospital setting, coverage decisions can vary from state to state, particularly with respect to bariatric surgery and certain types of cancer care, as well as new high-cost treatments for other surgical conditions. Surgeons and other physicians often cite the level of compensation that Medicaid provides as a cause for concern. Surgeons may be paid significantly less for treating Medicaid patients than they receive for providing care to patients with private insurance. Access to timely surgical care for Medicaid patients also is a concern. Due to the lower payment rates, as well as administrative burdens and other barriers, states may have too few participating surgeons or those surgeons who do participate may limit the number of Medicaid patients they will see. As a result, Medicaid patients are more likely to receive care when their conditions have progressed and, therefore, experience more negative, impairing outcomes.

Has the ACS taken a position on Medicaid expansion in the remaining states?
The ACS supports expansion of health insurance coverage to the uninsured but has not taken a formal position on the ACA Medicaid expansion. However, in those states where the local ACS chapter is addressing Medicaid expansion, the ACS Division of Advocacy and Health Policy may be able to provide support in their advocacy efforts.

What is the ACS doing to improve Medicaid for patients and surgeons, and what can Fellows do to help?
The ACS, working with other stakeholder organizations, will continue to monitor state Medicaid expansion and weigh in on any legislative efforts to modify the program or alter coverage or payment rates as appropriate. Specifically, the Division of Advocacy and Health Policy will look for opportunities to support efforts to increase access to surgical care by providing reimbursement and coverage for all appropriate surgical procedures. Although the division staff is unable to respond to individual billing or coverage issues that surgeons may experience, we encourage interested Fellows and ACS chapter executives to contact the federal and state teams in the Washington, DC, office to bring coverage, payment, or other legislative proposals to the College’s attention. E-mail questions or comments about Medicaid coverage and expansion to AHP@facs.org.

ADDITIONAL RESOURCES
• March 2014 Bulletin article, “Medicaid expansion likely to affect the delivery of surgical care” Available at: bulletin.facs.org/2014/03/medicaid-expansion-likely-to-affect-the-delivery-of-surgical-care/
• Kaiser Commission on Medicaid and the Uninsured website Available at: http://kff.org/about-kaiser-commission-on-medicaid-and-the-uninsured/
• Medicaid program Available at: www.medicaid.gov
• Medicaid and CHIP Payment and Access Commission Available at: www.macpac.gov
• National Association of Medicaid Directors Available at: www.medicaiddirectors.org
This month’s column addresses coding and reimbursement questions regarding a procedure performed by many general surgeons: colonoscopy.

Coding issues
Much of the confusion with respect to coding for colonoscopy arises from the dichotomy between screening and diagnostic colonoscopy. Screening colonoscopy is defined as a procedure performed on an individual without symptoms to test for the presence of colorectal cancer or polyps. Discovery of a polyp or cancer during a screening exam does not change the screening intent. Surveillance colonoscopy is a subset of screening, performed at an interval less than the standard 10 years from the last colonoscopy (or sooner, in certain high-risk patients), due to findings of cancer or polyps on the previous exam. The patient in this case is also asymptomatic. Unlike the two procedures mentioned previously, a diagnostic colonoscopy allows physicians to evaluate symptoms, such as anemia, rectal bleeding, abdominal pain, or diarrhea.

Understanding the difference between screening and diagnostic colonoscopies has become increasingly important in recent years, especially after the enactment of the Affordable Care Act, which mandates that insurers pay the full cost of screening examinations without collecting a deductible or copayments from patients. Consequently, endoscopists saw an increase in the volume of screening examinations beginning in 2011. Unfortunately, many of them also experienced an increase in calls from patients regarding their bills.

A screening colonoscopy should be reported with the following International Classification of Diseases, 10th edition (ICD-10) codes:

- Z12.11: Encounter for screening for malignant neoplasm of the colon
- Z80.0: Family history of malignant neoplasm of digestive organs
- Z86.010: Personal history of colonic polyps

If a polyp is found and removed during the same procedure, these codes should still be listed as the primary diagnosis codes, followed by the appropriate ICD-10 code for polyp: D12.0–D12.9 (benign neoplasm of the colon or rectum, based on location).

All Current Procedural Terminology (CPT) codes for colonoscopy were revised for 2015.* Several new CPT codes were introduced for interventional colonoscopy procedures, which were not valued for 2015; however, all of these codes have been valued...
Colonoscopy is no longer defined as endoscopy beyond the splenic flexure; to be considered a colonoscopy, the examination must be to the cecum (or to the enterocolic anastomosis if the cecum has been surgically removed).

All colonoscopy procedures now include the provision of moderate sedation.

Incomplete colonoscopies not reaching the splenic flexure are reported as flexible sigmoidoscopies.

Incomplete screening or diagnostic colonoscopies that reach beyond the splenic flexure but not to the cecum are reported with modifier 53. This allows future payment for a repeat examination before the usual screening interval.

Therapeutic colonoscopies that are incomplete (the scope does not reach the cecum during a therapeutic procedure) are reported with modifier 52.

It is important to note that the codes for reporting these procedures differ between Medicare and other payors. For non-Medicare payors, use the CPT conventions. Colonoscopy codes are listed in the digestive section of CPT, codes 45378–45398 (or codes 44388–44408, if performed through a stoma rather than the anus). CPT code 45378 is the base code for a colonoscopy without biopsy or other interventions. It includes brushings or washings, if performed.

If the procedure is a screening exam, modifier 33 (preventative service) is appended. This indicates to payors that the procedure should be reimbursed without regard to patient copayment or deductible. This modifier also may be appended to therapeutic colonoscopies, such as 45385 (colonoscopy, with removal of tumor, polyp, or other lesion by snare technique). By using this modifier and the proper diagnosis codes, the endoscopist tells the payor that the diagnostic procedure is done for screening.

The base value of the code is not subject to a copayment, but the patient may be required to remit a copayment for the additional cost of the therapeutic procedure.

Medicare uses Healthcare Common Procedure Coding System (HCPCS) codes for screening. For a patient of typical risk, the screening procedure is reported with HCPCS code G0121; for a patient at high risk, it is reported with HCPCS code G0105. Medicare has a separate modifier for situations in which polyps are found and removed during a screening colonoscopy. In these instances, the correct CPT code is used (for example, 45385), but with modifier PT.

Medicare’s reimbursement policy for this type of case is the same as other payors; only the coding differs. Each endoscopist should review the policies of their insurance providers to be certain which system is used, especially for Medicare Advantage plans offered by commercial insurers.

In 2015, Medicare also stated that for patients undergoing screening colonoscopy with sedation provided by anesthesia professional, the copayment and deductible would not apply to the separate charge for anesthesia.

Reimbursement issues

All endoscopy procedures have a base value for the diagnostic procedure and incremental additional work relative value units (wRVUs) for additional diagnostic or therapeutic procedures, such as biopsy, snare polypectomy, stent placement, and so on. These increments are consistent among the different endoscopy families (esophagogastroduodenoscopy, sigmoidoscopy, and colonoscopy). When multiple procedures such as snare polypectomy of one lesion and biopsy polypectomy of another, are performed at the same setting, the total wRVU would be the base wRVU and
the sum of the incremental additional values. For example, the base wRVU for a diagnostic colonoscopy (CPT code 45378) is 3.36. The incremental wRVU of cold biopsy is 1.02, so the total wRVU of colonoscopy with cold biopsy by forceps is 4.38.

Reimbursement for all colonoscopy procedures decreased substantially in 2016. This decline was not news to those individuals involved in the American Medical Association (AMA) or government valuation process; it had been coming since 2011. The reasons for this reduction, and the behind-the-scenes work on this one issue, illustrate a great deal about the process of coding and valuation of physician services. For several years, it had been widely recognized that colonoscopy was increasingly being performed with the presence of an anesthesia provider. Most flexible endoscopy procedures had originally been described and valued with the inclusion of conscious sedation, a term that has become obsolete and has been replaced with such phrases as light sedation, moderate sedation, and deep sedation, or general anesthesia.

The introduction of propofol as a sedating agent changed the approach to procedural sedation. Studies reported that actual procedure times were significantly less than the times upon which the relative values for endoscopy had been based. Partly because of these data, the Centers for Medicare & Medicaid Services (CMS) directed the AMA/Specialty Society Relative Value Scale Update Committee (RUC) to review all endoscopy codes. The RUC referred the entire code set back to CPT to reconsider the codes. For the period of three years, all of the codes beginning with upper endoscopy and enteroscopy were reconsidered, and a new code set was created. Colonoscopy codes were completed lastly, in time for valuation for the 2015 final rule from CMS.

The valuation process for endoscopy, and especially for colonoscopy, was debated at the RUC meeting. The gastrointestinal (GI) specialty societies that valued the new codes using the RUC survey process proposed a modest reduction in value. The RUC as a whole, however, disagreed and assigned value reductions between 4 percent and 23 percent. Before the 2015 final rule, the GI societies, along with the American College of Surgeons, the Society of American Gastrointestinal and Endoscopic Surgeons, and the American Society of Colon and Rectal Surgeons, appealed the ruling directly to CMS, resulting in an additional one year delay in revaluation. However, CMS ultimately agreed with the RUC valuation.
and enacted the new values for 2016. As a result, the wRVUs for diagnostic colonoscopy, CPT code 45378, decreased 9 percent, from 3.69 to 3.36.

The colonoscopy code set still includes moderate sedation. Therefore, the endoscopist may not report an additional code for supervision of moderate sedation (99143–99150) or anesthesia (00740 or 00810). A second physician, other than the one performing the procedure, may report the codes for moderate sedation or anesthesia if he or she provides this service.

At this time, the endoscopist is not required to report a reduced service (modifier 52) in this situation. However, this policy may change in the future, or further devaluation of the base endoscopy procedures may occur if the work of sedation is removed from the current valuation.

**Sample case**
A 50-year old patient without family or personal history comes for a screening colonoscopy, in which three polyps are found: a 10 mm polyp is removed from the cecum by snare technique after injection of saline to “lift” the polyp, a 5 mm polyp is removed from the descending colon by cold biopsy forceps, and a 5 mm polyp is removed from the rectum by cold biopsy forceps. The procedure is done with a certified registered nurse anesthetist (CRNA) providing moderate sedation.

**Diagnoses**
- **Z12.11:** Encounter for screening for malignant neoplasm of the colon (note: it is important that the Z code is listed first)
- **D12.0:** Benign neoplasm of the cecum
- **D12.4:** Benign neoplasm of the descending colon
- **D12.8:** Benign neoplasm of the rectum

**Procedures**
- **45385–33:** Colonoscopy with snare polypectomy; modifier to indicate preventative screening procedure.
- **45380–59:** Colonoscopy with biopsy, single or multiple; modifier to indicate distinct procedures. Note: report only once, even if multiple polyps are removed by the same technique.
- **45381–51:** Colonoscopy with submucosal injection (any substance); modifier to indicate multiple procedures at the same setting.
- **The CRNA reports 99149–33:** Moderate sedation services, provided by a physician other than the physician performing the diagnostic service; modifier to indicate preventative screening procedure.

**Reimbursement**
- **The endoscopist will be reimbursed 4.67 wRVU for colonoscopy with snare + 0.3 wRVU for the submucosal injection + 1.02 wRVU for the biopsy polypectomies, for a total of 5.99 wRVU.** The total reimbursement also includes practice expense RVU and liability RVU; the sum is multiplied by a conversion factor determined by the payor.

- **The CRNA will be reimbursed at a rate determined by the payor, as the moderate sedation has not been assigned a relative value.**

- **The patient would be exempt from a copay for the value of the screening colonoscopy (3.36 wRVU) and the sedation.** The patient would be responsible for a copay on the additional 2.63 wRVU from the therapeutic procedures. ♦
The American College of Surgeons (ACS) Governors’ Committee on Chapter Relations (now the Chapter Activities Domestic Workgroup) provided best practices guidelines for getting Resident Members involved in chapter activities in 2012. The committee highlighted Resident Member involvement as a key goal to help familiarize residents with the College, provide resources for participation in the College, and offer leadership and organizational skills development.

In an effort to generate enthusiasm and increase resident involvement at the annual meeting, the Massachusetts Chapter of the ACS introduced a statewide surgical skills competition as part of its annual chapter meeting in 2011. Because of widespread experience with surgical simulation tasks and the established correlation between simulator performance and operative skills, the chapter determined these skills could be tested in a competitive environment. This plan built upon the “Top Gun” competitions presented at meetings of the American Association for Thoracic Surgery and the Society of American Gastrointestinal and Endoscopic Surgeons.

### The competition
Massachusetts surgical training programs were asked to nominate a team composed of an intern and a junior and a senior resident. An institutional faculty member was asked to serve as team leader, and other faculty members also were asked to judge the competition.

The competition was conducted in two stages. In the first stage, all participants performed four tasks, including two open tasks (soda can tie and tie under tension) and two Fundamentals of Laparoscopic Surgery (FLS)-based tasks (pattern cutting and intracorporeal suture tie). The three teams with the best total scores, including penalties for errors, continued to the second stage, where participants from each institution performed a single task as a team. The second stage included tasks such as a bowel anastomosis; notably, the nature and objective of this final step varied from year to year. The highest performing team in this round was declared the winner of the competition and was awarded a trophy.

The introduction of this event did not directly affect the cost of the meeting because some industry sponsors provided supplies, such as instruments and box trainers. On the revenue side, the residents’ registration was free, and as a result the chapter experienced no direct financial gain.

### A success story
An average of 90 percent of the state’s training programs have participated (9/10, 8/10, and 9/9, in 2012, 2013, and 2014, respectively) in the competition. Resident attendance at the annual meeting increased significantly—from an average of 44 residents per year before the introduction of the event (2008–2010) to 82 residents per year for the years after the competition was introduced (2011–2013) (p<0.05) (see Figure 1, page 45). In contrast, attendance by non-resident members decreased by 13 percent,
from an average of 72 to 62 attendees; as a result, the overall attendance only increased by 24 percent, from an average of 116 to 144 participants. Costs and location of the meeting remained unchanged; however, industry interest in supporting the annual meeting increased.

Most residency programs in the state were enthusiastic participants, with some teams traveling nearly 100 miles to the event. Review of the attendance records showed that the introduction of the surgical skills competition increased resident attendance at the Massachusetts Chapter annual meeting nearly twofold, and this increase was maintained over a three-year period, during which the regular member attendance decreased modestly. This finding suggests that the increase in resident attendance likely was correlated to the competition, as no other major programmatic changes were made to the meeting and cost and location were consistent throughout these years.

A model for other chapters
Incorporation of such competitions into ACS chapter meetings can increase resident involvement at the local level. The authors of this column acknowledge that having 10 training programs in relative geographical proximity puts Massachusetts in a unique position, and factors such as distance and limited number of residency programs may create hurdles in some states.

Furthermore, the authors believe that these competitions can be useful in surgical training at the institutional level. Many programs reported significant internal competition among residents who were determined to make their institution’s team, with members spending a significant amount of time practicing simulated surgical tasks for the competition, which they may not have done otherwise.

![Figure 1. Attendance at the Massachusetts Chapter Meeting](image)

**REFERENCES**

In 2009, Yeu-Tsu Margaret Lee, MD, FACS, was a passenger on a flight from Hawaii to Honduras with an overnight layover in Miami, FL. Despite the uncomfortable sleeping accommodations available in the plane and airport lounge, Dr. Lee was ready to begin her medical mission duties upon landing in Tegucigalpa, Honduras. Undeterred by numerous obstacles, including the occasional electricity outage, Dr. Lee performed more than a dozen hernia repair operations in a region where access to surgical care is limited.

Her colleague Teresa Searcy, a medical missionary with SMART (Surgical Medical Assistance Relief Teams), a not-for-profit organization that provides health care services to children in low-income countries, attested to Dr. Lee’s ability to finish the work at hand in spite of challenges. “Dr. Lee is efficient and meticulous—a teacher with over 50 years of surgical experience,” Ms. Searcy wrote in a blog post. “In the less-than-perfect conditions, she thrives. She has a philosophy that everything will work out, and it does.”

The American College of Surgeons (ACS) Foundation proudly highlights Dr. Lee as a Mayne Heritage Society (MHS) member. The MHS recognizes Fellows who have provided a bequest or other “planned” gift of any size to the College through their estate plan.

Model volunteerism
Thriving in less-than-ideal environments has been a trademark of Dr. Lee from childhood. Born in war-torn Xian, China, in 1936, Dr. Lee understands what it means to grow up without many of the basic necessities of life, particularly access to medical services. The youngest of three daughters, she survived wartime illness as a child; her sisters did not. Dr. Lee then knew what she wanted to do with her life: become a physician and provide care to the sick.

Immigrating to the U.S. and then graduating from Harvard Medical School, Boston, MA, in 1961, Dr. Lee has been a dedicated general and oncologic surgeon as well as a professor of surgery for more than 50 years. Most recently, she was a clinical professor of surgery at the University of Hawaii, John A. Burns School of Medicine, Honolulu. Several times a year, she also is a visiting professor of surgery at Tzu-Chi Buddhist University in Taiwan.
Her semi-retirement allows her to participate in several medical missions each year. “It feels very good to give these patients a better quality of life,” Dr. Lee said in a 2014 interview with representatives of the journalism department at the University of Hawaii, Manoa.2

As a Colonel in the U.S. Army Medical Corps, Dr. Lee also served her adopted homeland. She was an active duty surgeon assigned to an evacuation hospital during Operation Desert Storm. In a 400-bed hospital in northern Saudi Arabia, she served on a team of surgeons that performed 125 operations. One of Dr. Lee’s patients was a high-ranking officer of the Iraqi Republican Guard, illustrating her commitment to care for any patient in need of surgical services.3

Philanthropically minded
Beyond offering her volunteer services, Dr. Lee has given back to the medical community in other notable ways. She’s been a generous donor through planned gifts to several educational institutions and medical associations, including her alma mater, Harvard Medical School, and the ACS Foundation. She gives back because of the support she received and because she wants to help future generations of students. “The education and training I received in the U.S. have enabled me to have a career and to serve humanity,” Dr. Lee said.4

Explaining why she donated to the ACS, Dr. Lee said, “The motto on the seal of the ACS is ‘to serve all with skill and fidelity.’ In order to preserve and promote highest standards and quality of surgical care, all Fellows of the American College of Surgeons should support and donate to the ACS Foundation.” (Personal communication with author via e-mail, May 16, 2013).

As a donor to the ACS Foundation since 1994, Dr. Lee also is a member of the Fellows Leadership Society and has made major gifts to ACS Cancer Programs and the scholarship fund to help international surgeons attend Clinical Congress.

The ACS Foundation recognizes Dr. Lee’s commitment to her profession and patients, as illustrated in her gifts of time, talent, and financial contributions. Through her support as a MHS member, Dr. Lee will continue a legacy of service in support of the ACS Operation Giving Back program and of the provision of lifelong learning opportunities.

If you are interested in learning about how you can join Dr. Lee in making a planned gift to the College, contact Shane Hollett, Executive Director, ACS Foundation, at 312-202-5506. ♦

REFERENCES
The current standard of care for the treatment of locally advanced gastric cancer includes surgical resection in combination with either adjuvant chemoradiotherapy, perioperative chemotherapy, or adjuvant chemotherapy.\(^1\text{-}^4\)

To reconcile the contribution of chemotherapy, the recent Cancer and Leukemia Group B (CALGB) 80101 (Intergroup) trial compared the addition of epirubicin and cisplatin—known as the medical research council adjuvant gastric infusional chemotherapy or MAGIC trial—with fluorouracil (5-FU)-based chemoradiotherapy in the adjuvant setting and showed no difference in survival with the additional agents.\(^5\) Given the perceived lack of progress in the adjuvant setting, attention has turned to improving neoadjuvant strategies for gastric cancer.

### Findings to date

Lowy and colleagues showed that among 83 gastric cancer patients treated with neoadjuvant chemotherapy in three separate phase II trials, those patients who had a clinical and/or pathologic response had an 83 percent five-year survival rate in contrast to 31 percent for those patients who were nonresponsive to neoadjuvant chemotherapy. In fact, response to chemotherapy was the single positive prognostic factor on multivariate analysis.\(^6\) However, clinical response could only be measured following completion of treatment, and therefore non-responders (n=37) completed all neoadjuvant chemotherapy even though they may not have benefitted from this therapy.

Weber and colleagues investigated the use of 18-fluorodeoxyglucose positron emission tomography (FDG-PET) to predict patient response to therapy before resection. They examined 40 consecutive patients with gastroesophageal junction (GEJ) adenocarcinoma who underwent early FDG-PET during neoadjuvant chemotherapy. Those patients who did not meet the pre-specified decrease of 35 percent SUVmax proceeded to surgical resection without completing neoadjuvant chemotherapy, whereas those who responded by FDG-PET finished chemotherapy prior to surgery. FDG-PET responders (n=50) were more likely to have an R0 resection, earlier T stage tumors, and less lymph node involvement in comparison with non-responders (n=54).

In addition, event-free and overall survival was improved trial that confirmed that patients with a drop in SUVmax of 35 percent had a 90 percent two-year survival rate in contrast to a 25 percent two-year survival rate for those patients who did not achieve a metabolic response (see Figures 1 and 2, page 49).\(^8\)

To further expand knowledge regarding the effect of metabolic response, the Metabolic response evalUatioN for Individualization of neoadjuvant Chemotherapy in Esophageal and esophagogastric adeNocarcinoma, or MUNICON, phase II trial accrued 114 patients with Siewert I and II GEJ tumors who underwent early FDG-PET during neoadjuvant chemotherapy. Those patients who did not meet the pre-specified decrease of 35 percent SUVmax proceeded to surgical resection without completing neoadjuvant chemotherapy, whereas those who responded by FDG-PET finished chemotherapy prior to surgery. FDG-PET responders (n=50) were more likely to have an R0 resection, earlier T stage tumors, and less lymph node involvement in comparison with non-responders (n=54).

In addition, event-free and overall survival was improved.
in responders versus non-responders. Interestingly, patients who had a metabolic response on FDG-PET but did not experience a histologic response (48 percent of responders, n=24) had the same survival rate as those without a metabolic response (none of whom had a histologic response). This observation implies that stopping ineffective chemotherapy early to proceed to surgery does not affect the outcomes for these patients.

The follow-up MUNICON II trial examined the role of salvage neoadjuvant chemoradiation for FDG-PET non-responders. Although a better histopathologic response was achieved with chemoradiotherapy, the primary endpoint of increased R0 resection with this approach was not reached and survival remained dismal in this group of patients.

New trial
The Alliance 021302 trial will attempt to answer some of the remaining questions surrounding PET-directed oncologic therapy for gastric cancer, including whether an early switch to salvage chemotherapy in non-responders, as determined by FDG-PET, offers a survival benefit for patients with gastric cancer undergoing neoadjuvant therapy. The rationale for this approach lies in the chemosensitivity of gastric cancer to several active agents that have demonstrated response in the second- and third-line settings for advanced disease.

Patients with FDG-PET evaluable locally advanced Siewert type II and III gastric adenocarcinoma will be eligible for one cycle of epirubicin, cisplatin or oxaliplatin, and fluorouracil or capecitabine followed by restaging FDG-PET. Those patients with a maximum standardized uptake value response of greater than 35 percent on central imaging review will continue oncologic treatment at their physicians’ discretion. The non-responders will be randomized to either (1) surgical resection at approved centers with quality control followed by adjuvant 5-FU or capecitabine chemoradiotherapy, or (2) switch to chemotherapy (with docetaxel and irinotecan) for two cycles. Following restaging FDG-PET and surgery, patients in this arm will receive an additional three cycles of salvage.
chemotherapy in the adjuvant setting (see Figure 3, this page).

Early intervention to identify and adjust treatment for non-responders to a therapeutic strategy will only translate to improved survival if the test of response is noninvasive and easily reproducible, and if an alternative regimen can provide the desired response.

If FDG-PET can guide direction of oncologic therapy in gastric cancer, can it be applied to other gastrointestinal cancer systems that rely on neoadjuvant therapy, such as locally advanced rectal and pancreatic cancer? We anticipate that the Alliance 021302 trial will provide some insight into this critical question. For questions regarding Alliance A021302, contact Manish Shah, MD, at mas9313@med.cornell.edu.

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Late last year, The Joint Commission announced a new advanced certification program for total hip and total knee replacement. Developed in part because of the growing number of patients undergoing these procedures, this program is designed to elevate the quality, consistency, and safety of these services in critical access hospitals and ambulatory surgery centers (ASCs). The goal of the program is to foster more cost-effective and better-quality care.

The program also responds to the increased focus on adherence to standardized clinical pathways and clinical evidence-based patient care as they relate to pain management, quality-of-life issues, functional limitations on mobility, and the return to normal daily activities while minimizing postoperative complications, such as infection and thrombosis.

Program components

Key characteristics of the total hip and total knee replacement program—which addresses transitions of care—are as follows:

- Consistent communication and collaboration among all health care providers involved in the patient’s care, as well as shared decision making throughout the continuum of care—from orthopaedic consultation through the follow-up visit.

- Procedures should be performed in inpatient, hospital-based outpatient/same-day surgery units, and freestanding ASCs.

- Patient education regarding the total hip and total knee replacement process in the preoperative, intraoperative, and postoperative phases.

As part of the program development process, The Joint Commission convened a technical advisory panel of clinical experts to evaluate programs seeking advanced certification. Joint Commission staff also conducted a field review and pilot surveys to assess the current state of total hip and total knee replacement care services and any operational challenges in addressing the continuum of care.

Requirements of the total hip and total knee replacement program include:

- Establishment of an interdisciplinary team to manage all phases of care through initial phase of postoperative follow-up.

- Detailed preoperative assessment of the patient’s home environment, risk profile, health status, and functional capacity with concomitant risk reduction and preoperative medical optimization.

- Collaboration between one of the interdisciplinary team members, often a nurse referred to as the “case manager,” and the patient to arrange a follow-up appointment with the orthopaedic surgeon on a timeline that fits with the care needed for the individual patient, before patient discharge. The case manager also may assist in all transitions of care by engaging the patient as soon as the decision is made to proceed with surgery.

- Immediate access to 24/7 postoperative urgent care via...
The program must continually collect and analyze data on clinical outcomes, quality of care, and variances from practice guidelines.

telephone, Internet, or referral to urgent or emergency care.

• The discharge education process includes:
  – Prescribed medication usage
  – Activity level, weight-bearing status, and precautions
  – Infection prevention
  – Blood clot prevention
  – Diet
  – Incision care
  – Pain control
  – Information on when and how to schedule follow-up appointments

In addition to these requirements, in the on-site review, which is repeated every two years, the Joint Commission reviewer must observe either a total hip or total knee replacement. The program must continually collect and analyze data on clinical outcomes, quality of care, and variances from practice guidelines. Performance measurement criteria include:

• Four process or outcome measures to monitor on an ongoing basis
• At least two clinical measures
• Up to two nonclinical measures—that is, administrative, utilization, financial, and patient satisfaction measures

Applying for accreditation
The Joint Commission is currently accrediting programs and has been accepting applications since December 17, 2015. The standard measures are scheduled to be finalized in 2017. Until then, an organization is required to submit non-standardized measures. Learn more at www.jointcommission.org/performance_measurement_and_improvement_for_disease-specific_care_certification_programs.

To learn more about the advanced total hip and total knee replacement certification program, visit www.jointcommission.org/certification/adv_cert_total_hip_total_knee_replacement.aspx.
To request an application, e-mail certification@jointcommission.org or call 630-792-5291. ♦

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.
Normal human body temperature is between 36.1 and 37.2°C, while hypothermia is defined as having a core body temperature of less than 35°C. Hypothermia occurs when heat loss exceeds the body’s heat production. One might intuit that hypothermia is solely a result of prolonged exposure to freezing temperatures; however, in the trauma patient, hypothermia may occur as the result of traumatic brain injury, alcohol and drug intoxication, and hemorrhagic shock. Hypothermia also may result from treatment-related causes, including infusion of cold fluids and blood products (stored at 4°C), the use of anesthesia, and from environmental exposure in the emergency department (ED) or operating room.

These conditions impair the body’s autoregulatory ability to maintain normothermic core temperatures.

Patients at the extremes of age are at greater risk of developing hypothermia. The pediatric population is subject to large heat losses due to a higher body surface area to mass ratio, whereas the elderly have an attenuated metabolic response to hypothermia.

### High morbidity and mortality rates

Hypothermia is a life-threatening complication of injury and is associated with increased morbidity and mortality in trauma patients with a concomitant decrease in survival. Non-injured patients with primary hypothermia from cold exposure and a core temperature of less than 32°C have a 21 percent mortality rate. The same core temperature in bleeding combat casualties results in 100 percent mortality and is independent of shock, injury severity score (ISS), or fluid resuscitation. While ongoing studies are being conducted to investigate controlled hypothermia in traumatic brain and spinal cord injuries, hypothermia remains a common and significant problem in trauma.

A standardized classification system in grading hypothermia in the trauma patient has been devised, with 34–36°C defined as mild, 32–34°C defined as moderate, and less than 32°C defined as severe.

The lethal triad of hypothermia, acidosis, and coagulopathy is a significant cause of mortality in patients with traumatic injuries. At the cellular
Patients at the extremes of age are at greater risk of developing hypothermia. The pediatric population is subject to large heat losses due to a higher body surface area to mass ratio, whereas the elderly have an attenuated metabolic response to hypothermia.

level, hypothermia reduces metabolic rate and enzymatic activity—in particular, enzymes of the coagulation cascade. If left untreated, this confluence of conditions often leads to increased blood loss in susceptible patients, worsening acidosis and continued hypothermia.

**NTDB data**
To examine the occurrence of patients with hypothermia in the National Trauma Data Bank® (NTDB®) research dataset for admissions year 2014, medical records were searched by ED temperature. Records that contained an ED arrival temperature were then divided into two groups: hypothermic, with a temperature less than 35° C (47,845); and normothermic, with a temperature greater than or equal to 35° C (768,774). Of the combined total of 816,619 records, 676,057 contained a discharge status. In comparing the hypothermic group with the normothermic group, 12,547 and 453,135 patients were discharged to home; 10,273 and 70,359 to acute care/rehab; and 4,887 and 97,903 to skilled nursing facilities, respectively. Almost one-third (11,457) of the hypothermic patients died versus 15,496 of
the normothermic patients (see Figures 1 and 2, page 54).
Among the hypothermic patients, 69 percent were male and an average of 45 years old. The hypothermic group had an average hospital length of stay of 11.5 days versus 4.8 days for the normothermic group; an intensive care unit length of stay twice that of normothermia (10.1 versus 4.8 days, respectively); an average ISS of almost triple (26.6 versus 9.4); and were on the ventilator for an average of 7.4 versus 5.9 days, respectively (see Figure 3, this page).

A significant complication
Hypothermia often complicates the management of major trauma patients and has been shown to increase morbidity and mortality in this population. Advances in care, use of damage control principles when indicated, active warming of resuscitation fluids, and prevention of further heat loss are key factors in managing the lethal triad of hypothermia, acidosis, and coagulopathy. Early recognition and appropriate management should improve survival rates and reduce complications and associated costs. After all, hypothermia results in cold blood and, if left uncorrected, can be a killer.
Throughout the year, we will be highlighting these data through brief reports that will be found monthly in the Bulletin. The NTDB Annual Report 2015 is available on the ACS website at facs.org/quality-programs/trauma/ntdb. In addition, information is available on the website about how to obtain NTDB data for more detailed study. To submit your trauma center’s data, contact Melanie L. Neal, Manager, NTDB, at mneal@facs.org. ♦

Acknowledgement
Statistical support for this article was provided by Chrystal Caden-Price, Data Analyst, NTDB.

REFERENCES
The American College of Surgeons (ACS) Committee on Trauma (COT) has completed the first year of its Future Trauma Leaders (FTL) mentorship program. This program is focused on trauma and acute care surgeons in their first five years of practice.

Those trauma surgeons selected for this highly competitive program are provided an immersive experience in the COT with a senior surgery mentor. During the two-year program, participants are assigned to work on active projects with two COT committees and with the Trauma Quality Improvement Program (TQIP®). In addition, program members are invited to attend a regional trauma center verification visit and to participate in the spring ACS Leadership & Advocacy Summit in Washington, DC. The ACS supports travel expenses to attend the COT meetings twice a year, as well as the Leadership & Advocacy Summit and annual TQIP meeting.

**Inaugural participants**

The first two participants in this program are Megan L. Brenner, MD, MS, FACS, a trauma surgeon and associate professor of surgery, University of Maryland-Shock Trauma, Baltimore, MD; and Peter W. Fischer, MD, MS, FACS, a trauma surgeon at Carolinas Medical Center, Charlotte, and clinical assistant professor of surgery, University of North Carolina at Chapel Hill.

Dr. Brenner coauthored the “Management of Hemorrhage Associated with Pelvic Fractures” chapter in the 2016 *ACS TQIP Best Practice Guidelines* and was a speaker on this topic at the 2015 TQIP conference in Nashville, TN.

In concert with her colleagues at the University of Maryland, Dr. Brenner also helped to develop a program focused on endovascular control of bleeding called the BEST (Basic Endovascular Skills for Surgeons) course. She has been working with the COT to migrate this course to the ACS.

“I really can’t say enough about this program. It has allowed me to participate in national meetings and panel discussions, contribute to the preparation of practice guidelines, and connect with senior trauma leadership,” Dr. Brenner said. “The FTL mentors are outstanding and fully committed to helping us achieve our goals. Learning about the wide variety of ways to get involved in trauma advocacy, leadership, education, and site verification has also been fantastic.”

Dr. Fischer also has had a productive year. He served as the lead author of a guidance document for prehospital use of tranexamic acid, which is in press for publication in *Prehospital Emergency Care*.
He also is conducting an evaluation of the trauma system needs assessment tool that the COT Trauma Systems Committee developed. “I cannot tell you enough just how much I have enjoyed the FTL program. I have met new people and made connections that will last for the rest of my career. I feel I am working on projects that will truly impact trauma care,” Dr. Fischer said. “Without the FTL program, I would not have had these experiences until much later in my career.”

Moving into the next year
At present, this program supports two candidates per year. This year, the program welcomed Joseph V. Sakran, MD, MPH, MPA, FACS, associate professor of surgery, department of surgery, Medical University of South Carolina, Charleston, and Samuel P. Mandell, MD, MPH, FACS, assistant professor, division of trauma, critical care, and burn surgery, University of Washington School of Medicine, Seattle.

With the early success of this program, the COT is looking for opportunities to raise funds to expand participation to additional candidates. To support this program, go to facs.org/about-acs/acs-foundation and earmark your donation for the Future Trauma Leaders program. Applications for 2017 will be accepted beginning July 5, 2016, at facs.org/quality-programs/trauma/mets/ftl.

“The FTL mentors are outstanding and fully committed to helping us achieve our goals. Learning about the wide variety of ways to get involved in trauma advocacy, leadership, education, and site verification has also been fantastic.”

—Dr. Brenner

ACS Comprehensive General Surgery Review Course starts July 28

The American College of Surgeons (ACS) Comprehensive General Surgery Review Course will take place July 28–31 in Chicago, IL. The intensive three-and-a-half-day review course will cover essential content areas in general surgery, including alimentary tract, endocrine and soft tissue, oncology, perioperative care, skin and breast, surgical critical care, trauma, specialty care, and vascular operations.† Course Chair John A. Weigelt, MD, DVM, FACS, and a distinguished faculty will use didactic and case-based formats to present a comprehensive and practical review. Dr. Weigelt is Medical Director of the ACS Surgical Education and Self-Assessment Program (SESAP®) and professor of surgery and chief, division of trauma and critical care, Medical College of Wisconsin, Milwaukee.

The course will feature a variety of self-assessment materials, as well as four monthly online modules following the course. Organized by the ACS Division of Education, this course will help surgeons to fulfill the requirements for Maintenance of Certification, Part 2, and should be helpful in preparing for recertification examinations. Self-assessment credit will be available. Space is limited and registration will be accepted on a first-come, first-served basis. For more information and to register for the ACS Comprehensive General Surgery Review Course, go to facs.org/gsreviewcourse. For other inquiries, contact Ulrike Langenscheidt, Manager, Continuous Professional Development Education and Outcomes, at ulangenscheidt@facs.org or 312-202-5018.
Many civilians have expressed interest in taking a bleeding control training course that would empower them to immediately assist victims of active shooter and other intentional mass casualty events at the point of wounding, according to the results of a national poll published in the Journal of the American College of Surgeons (JACS).* Furthermore, most civilians support training and equipping police officers to perform severe bleeding control on victims as soon as possible, rather than wait for emergency medical services (EMS) personnel to arrive on the scene. Survey respondents also supported the placement of bleeding control kits in public places where large crowds gather, similar to the way that automatic external defibrillators are now found in airports and shopping malls.

Working to save lives
The Joint Committee to Create a National Policy to Enhance Survivability from Intentional Mass Casualty and Active Shooter Events, convened by the American College of Surgeons, recommends careful consideration of these study results. The committee’s deliberations are known as the Hartford Consensus™. The Hartford Consensus reports have been published in the Bulletin and JACS since the group’s formation in 2013 and promote the group’s core principle that “no one should die from uncontrolled bleeding.” To that end, the Hartford Consensus calls for providing law enforcement officers with the training and equipment needed to act before EMS personnel arrive, providing EMS professionals with quicker access to the wounded, and training civilian bystanders to act as immediate responders. This element from the Hartford Consensus is at the heart of the “Stop the Bleed” campaign launched by the U.S. Department of Homeland Security through the National Security Council. “We know that to save life and limb, you need to stop the bleeding very early—within five to 10 minutes—or victims can lose their lives,” said ACS Regent Lenworth M. Jacobs, Jr., MD, MPH, FACS, Chair of the Hartford Consensus and director of the Trauma Institute at Hartford Hospital, CT. “However, until now, there has been no clear indication of how well trained the general public is in bleeding control and how willing they might be to participate as immediate responders until professionals arrive on the scene.”

Public ready and willing to act
Langer Research Associates, New York, NY, conducted a national telephone survey of the general public, November 6–11, 2015, concluding just two days before the terrorist attacks in Paris. A total of 1,051 telephone interviews were conducted—528 via cellphone and 523 via landline. Respondents were asked whether they had ever participated in first aid training, and, if so, when and whether it included bleeding control instruction. Nearly half of all respondents (47 percent) said that they had received first aid training at some point. Of that number, 13 percent had trained in first aid in the last two years, and 52 percent had first aid trained in the last five years.

Respondents also were asked about their willingness to provide aid to bleeding victims in two different scenarios: a car crash and a mass shooting. Within the context of the two scenarios, the study authors reported that:

- Of the 941 respondents able to provide first aid, 98 percent indicated they would be “very likely” or “somewhat likely”
“It takes internal fortitude to want to get involved as an immediate responder. We were overwhelmed to learn that the public is prepared to accept this responsibility,” Dr. Jacobs said.

to attempt bleeding control on a family member with a leg wound. Within this subgroup, 62 percent indicated they would apply pressure or compression to the wound, 36 percent would apply a tourniquet, 6 percent would cover or wrap the wound in a bandage, and 2 percent would elevate the injured leg.

• When presented with a scenario of trying to stop severe bleeding in a car crash victim who is unknown to them, 92 percent of a random half sample of respondents indicated they would be very likely (61 percent) or somewhat likely (31 percent) to act.

• In a mass shooting scenario, 75 percent of the other random half sample responded that they would attempt to give first aid if it seemed safe to act, 16 percent responded that they would wait to see what happens, and 8 percent said they would leave the area. In terms of assisting if the situation seemed safe, 94 percent responded that they would be very likely (62 percent) or somewhat likely (32 percent) to try to help a stranger.

Many respondents reported having major or some concern about several issues related to trying to stop severe bleeding in someone whom they do not know. Specifically, respondents expressed concern about seeing someone bleeding heavily (30 percent), becoming contaminated with a disease (61 percent), endangering personal safety (43 percent), causing a victim additional pain or injury (65 percent), and being responsible for a bad outcome (61 percent).

Within the context of rendering assistance in the shooting scenario, 71 percent expressed concern about “putting themselves in physical danger from additional violence.”

Respondents also were asked about their interest in taking a bleeding control class and their support for requiring bleeding control kits in public places. Among the respondents who were physically able to provide first aid, 82 percent said they would be “very interested” or “somewhat interested” in attending a two-hour bleeding control course.

In addition, 93 percent supported the public placement of bleeding control kits (containing gloves, tourniquets, and compression dressings).

The authors also noted strong public approval (91 percent of all surveyed) for training and equipping police officers for severe bleeding control to act as soon as possible before the arrival of EMS personnel, with 65 percent also supporting “faster access of EMS to victims in areas that may not be totally secure.”

“It takes internal fortitude to want to get involved as an immediate responder. We were overwhelmed to learn that the public is prepared to accept this responsibility,” Dr. Jacobs said.

“Moving forward, we plan to use these new insights to develop a training program for the public, not just health care professionals, so civilians can learn how to act as immediate responders. We want to steer interested people toward getting the right training and to understand when victims are experiencing the signs of massive bleeding so they can ‘stop the bleed’ and save lives.”

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As a company founded by doctors for doctors, we believe that doctors deserve more than a little gratitude for an outstanding career. That’s why we created the Tribute® Plan—to reward our members for their loyalty and commitment to superior patient care with a significant financial award at retirement. How significant? The highest distribution to date is $138,599. This is just one example of our unwavering dedication to rewarding doctors.

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An article in the March 16 issue of *JAMA Surgery* summarizes the research and funding priorities for addressing health care disparities in the U.S., which were identified at the inaugural National Institutes of Health (NIH)-American College of Surgeons (ACS) Symposium on Surgical Disparities Research.* The ACS and the National Institute on Minority Health and Disparities (NIMHD) cohosted the conference, which took place in May 2015 at the NIH campus, Bethesda, MD.†

“The goal of the symposium was to create a national research agenda that could be used to prioritize funding for research. We conducted an extensive literature review of existing research, organized the results by theme, and asked attendees to identify what they saw as the top priorities for each theme,” said Adil Haider, MD, MPH, FACS. Dr. Haider is the lead author of the *JAMA Surgery* article; Vice-Chair, ACS Committee on Health Care Disparities; and Kessler Director, Center for Surgery and Public Health, a joint initiative of Brigham and Women’s Hospital, Harvard Medical School, and the Harvard T. H. Chan School of Public Health, Boston, MA.

**Defining themes and priorities**

The themes discussed at the symposium were as follows: patient and host factors, systemic factors and access issues, clinical care and quality, provider factors, and postoperative care and rehabilitation. The leading research and funding priorities—identified by the more than 60 researchers, surgeon-scientists, and federal leaders who attended the symposium and articulated in the *JAMA Surgery* article—are as follows:

- Improve patient-provider communication by teaching providers to deliver culturally dexterous care and measuring its impact on elimination of surgical disparities
- Foster engagement and community outreach and use technology to optimize patient education, health literacy, and shared decision making in a culturally relevant way; disseminate these techniques; and evaluate their impact on reducing surgical disparities
- Evaluate regionalization of care versus strengthening safety-net hospitals within the context of differential access and surgical disparities
- Gauge the long-term impact of intervention and rehabilitation support within the critical period on functional outcomes and patient-defined perceptions of quality of life
- Improve patient engagement and identify patient expectations for postoperative and post-injury recovery, as well as their values

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The authors of the *JAMA Surgery* article concluded that “The NIH-ACS Symposium on Surgical Disparities Research succeeded in identifying a comprehensive research agenda.”

In particular, they noted that future research is needed in the areas of patients’ perspectives, workforce diversification and training, and systematic evaluation of health technologies to reduce surgical disparities. Within the context of the larger literature focused on disparity-related research, results also call for ongoing evaluation of evidence-based practice, rigorous research methodologies, incentives for standardization of care, and building on existing infrastructure to support these advances.

**Just the beginning**
The ACS is “confident that this is just the beginning of a much larger effort and hopeful that the National Institutes of Health and the NIMHD will continue to work with the ACS to build upon the foundation that was set during the symposium by establishing a funding stream to support this important research. Together, we can foster systemic change, effectively eliminating surgical and other health care disparities,” said L. D. Britt, MD, MPH, DSc(Hon), FACS, FCCM, FRCSEng(Hon), FRCSEd(Hon), FWACS(Hon), FRCSI(Hon), FCS(SA)(Hon), FRCSGlasg(Hon), ACS Past-President and Chair, ACS Committee on Health Care Disparities. Dr. Britt is the Brickhouse Professor of Surgery, Eastern Virginia Medical School, Norfolk, and played a critical role in the creation of the committee and in defining the committee’s deliverables, which included a national symposium.

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**“Your Lung Operation”** provides patients with the knowledge and training to support full participation and optimal recovery. Safety measures such as site marking, ID band checks, and pneumonia prevention strategies are demonstrated to support the surgeon and health care professional in meeting all CMS and Joint Commission guidelines for safe surgical procedures and optimal recovery.

**The program is free to members and contains:**

- A 20-page booklet and 30-minute DVD with information on preoperative prep, cancer staging, procedure overview, potential risks, discharge, and home care.
- Information sheets, including lung images, medication lists, exercise and pulmonary rehab activity guides, quit smoking resources, and survivorship plans.
- Additional resources, including a patient evaluation form.
- For nonmembers, this program can be purchased individually, or bulk pricing is available.
- Hospital broadcast rights are also available for purchase.

To order, visit [www.facs.org/education/patient-education](http://www.facs.org/education/patient-education).

*This Surgical Patient Education Program is a collaborative by the American College of Surgeons with the Society of Thoracic Surgery, the American Association for Thoracic Surgery, the Association of periOperative Registered Nurses, and the Commission on Cancer.*

**THIS PROGRAM IS FUNDED IN PART BY A GRANT FROM ETHICON ENDO-SURGERY.**
Are you taking advantage of all the American College of Surgeons has to offer?

“As the largest and most robust surgical organization in the world, we have so much to offer surgeons of all specialties, at any point in their careers. From transition to practice support for those just starting out, to ongoing training and education, to advocacy and leadership, we help surgeons advance their careers and elevate the profession in a way no other organization can.”

— Patricia L. Turner, MD, FACS, Director, ACS Division of Member Services

Membership has benefits:

- ACS advocacy efforts that work for you and your patients at both the federal and state levels
- Educational programs to help you stay up to date and ahead of the curve while meeting your continuing medical education requirements
- The Journal of the American College of Surgeons, the Bulletin of the American College of Surgeons, and other publications that bring you cutting-edge research and news from the College and surgical community across the globe
- Robust research data and programs that focus on outcomes and other quality issues
- Scholarships and Fellowships
- A major visibility program to enhance your public image, underscoring why surgeons are an essential and integral part of this country’s health care delivery system
- Committees that offer opportunities for engagement
- Insurance products with special ACS rates
- A career center and resume posting opportunities
- A coding consultation hotline

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Become a Member

www.facs.org/member-services/join
The Board of Directors of the American College of Surgeons Professional Association (ACSPA) and the Board of Regents (B/R) of the American College of Surgeons (ACS) met February 5–6 at the College’s headquarters in Chicago, IL. The following is a summary of their discussions and actions.

ACSPA
To date, ACSPA’s political action committee (ACSPA-SurgeonsPAC) has raised $628,368 (including both personal and corporate funds) from 1,766 members of the College and staff.

Thus far in the 2015–2016 election cycle, the PAC has disbursed $473,840 to 124 congressional candidates, leadership PACs, and party committees. Of this amount, 60 percent was given to Republicans and 40 percent to Democrats, in alignment with congressional party ratios, with more disbursements planned later this quarter.

ACS
The ACS B/R carried out the College’s policymaking activities and the directors of the ACS division presented updates on their teams’ efforts.

Board of Regents
The B/R held a special session at its February meeting to develop strategic plans for expanding the College’s international activities in an effort to enhance care of surgical patients globally. The Regents discussed opportunities in the following Global Engagement Workgroups during conference calls before the meeting:

- Membership
- Education
- Quality Programs
- Building Surgical Capacity

In addition, the B/R approved the ACS Statement on the Importance of Parental Leave, which the ACS Women in Surgery Committee developed.

The B/R also approved the Women in Surgery Committee’s proposal to present an annual Mary Edwards Walker Inspiring Women in Surgery Award. This award will be given at the ACS Clinical Congress in recognition of an individual’s significant contributions to the advancement of women in the profession of surgery. Dr. Walker was the first female surgeon employed by the U.S. Army and the only woman to receive the Medal of Honor—the U.S. military’s highest honor for bravery. After the Civil War, Dr. Walker devoted her life to supporting women’s suffrage and was a frequent lecturer on health care, temperance, and women’s rights. Most notably, Dr. Walker was unwavering in her commitment to service to her country and the surgical profession, and repeatedly excelled in the face of significant adversity. Through Dr. Walker’s example of perseverance, excellence, and pioneering behavior, she paved the way for women surgeons today.

Division of Education
The Board approved a Revised Statement on Principles of Patient Education (see page 36 of this issue).

Education campaign
Building a broader awareness of its products and services, while reinforcing its messages of “cornerstone of excellence: transforming possibilities into realities” and “instilling the joy of lifelong learning,” this past year’s activities included the following:
• Produced three videos promoting education programs, with six additional videos in progress. The completed videos are on the following programs:

  - Selected Readings in General Surgery
  - Transition to Practice (TTP)
  - Accredited Education Institutes (AEI)

• Created a graphical representation (“The Joy of Lifelong Learning: A Surgeon’s Professional Journey”) highlighting the significant role education plays in the life of a surgeon, planned for use as part of a new program in 2016.

• Supported the creation and coordination of a significant event in Houston, TX, in late January 2016. Surgical Retooling Reimagined is a groundbreaking effort to create a national model for the training, credentialing, and privileging of surgeons in practice, particularly as it relates to developing ongoing proficiency in new and existing surgical procedures and technologies. The event was hosted by ACS Executive Director David B. Hoyt, MD, FACS; Ajit K. Sachdeva, MD, FACS, FRCSC, Director, ACS Division of Education; and Barbara L. Bass, MD, FACS, ACS Distinguished Service Award recipient, Past-Regent, and director, Methodist Institute for Technology, Innovation & Education, Houston, TX, which served as the site of the event.

• Offered a daily digital newsletter at Clinical Congress focused on the meeting’s scientific programs.

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• Offered a daily digital newsletter at Clinical Congress focused on the meeting’s scientific programs.

Division of Member Services
The activities of the division are as follows.

Membership recruitment and retention
As of February 1, College membership totaled 82,810—64,475 Fellows (58,347 U.S., 1,372 Canadian, and 5,756 International), 3,838 Associate Fellows, 10,835 Residents, 2,352 Medical Students, and 310 Affiliate Members.

The B/R accepted resignations from 13 Fellows from the following surgical specialties:

• One cardiothoracic
• Six general
• Two orthopaedic
• Two otolaryngology
• One plastic and reconstructive
• One urological

The B/R also approved a change in status for 146 Fellows:

120 from Active (dues-paying) to Retired and 26 from Senior (non-dues-paying) to Retired. A total of 315 Fellows were reinstated since the October 2015 B/R meeting.

Chapters
Fellows requested the formation of the Trinidad and Tobago Chapter, which was approved by the B/R. The provisional officers of the new chapter are as follows:

• Dilip V. Dan, MB, BS, FACS, President
• Steve R. Budhooram, MB, BS, FACS, FRCS, Vice President
• Michael J. Ramdass, MB, BS, FACS, FRCS, Secretary/Treasurer
• Patrick R. M. Harnarayan, MB, BS, FACS, FRCS, Councilor
• Dale N. Hassranah, MB, BS, FACS, FRCS, Councilor
• Jitendra N. Shah, MB, BS, FACS, FRCS, Councilor
• Vijay Naraynsingh, MB, BS, FACS, FRCS, Governor

Member Services Young Surgeons Campaign
Efforts focused on sustaining the momentum for the
Realize the Potential of Your
Profession campaign and included the following:

- Produced four snapshot videos of young surgeons discussing the benefits of ACS membership.
- Produced the first in a series of videos centered on the key themes of “engage, lead, influence, and advocate.” These videos include several surgeons speaking about opportunities that the ACS offers to young surgeons. The “engage” video was released in the fall of 2015, the “influence” video was released in January 2016, and the “lead” and “advocate” videos are scheduled for release in the coming months.
- Developed two shareable lists that were distributed via ACS social media channels and paid syndication. One list was geared toward a broader, more general audience and focused on facts the public may not know about surgeons and on the increasing visibility of the ACS; the other was geared toward young surgeons and focused more on the value of ACS to its members. The lists generated a combined 11,000 clicks and 8 million impressions via paid syndication.
- Supported the kick-off in early August 2016 of an ACS networking event series in Sacramento, CA, hosted by Julie A. Freischlag, MD, FACS, Past-Chair of the ACS Board of Regents, and Patricia L. Turner, MD, FACS, Director, ACS Division of Member Services. This event attracted approximately 40 young surgeons who learned how the ACS has supported and enhanced the careers of their senior colleagues. A second event took place February 2 in Seattle, WA, hosted by Ronald V. Maier, MD, FACS, ACS First Vice-President; Carlos A. Pellegrini, MD, FACS, FRCSI(Hon), FRCS(Hon), FRCS(Ed)(Hon), ACS Past-President; and Ellen Thomason Derrick, MD, MPH, FACS.

Division of Research and Optimal Patient Care
The activities of the division are as follows.

ACS NSQIP
A total of 702 hospitals now participate in the College’s National Surgical Quality Improvement Program (ACS NSQIP®); 621 of these sites participate in the Adult option. The Essentials option, which is the conventional sampling framework, has the highest enrollment of the Adult Participation options, with 294 sites. The Procedure Targeted option has 267 hospitals and is currently experiencing the highest level of growth with 21 new sites. The Pediatric option represents 12 percent of overall participation.

Following is the breakdown of participating sites by ACS NSQIP option:

- Small and Rural: 51
- Procedure Targeted: 267
- Essentials: 294
- Pediatric NSQIP: 81
- Florida Surgical Care Initiative (collaborative): Eight

In the year prior to the meeting, ACS NSQIP experienced 15 percent growth in enrollment and, for the first time, has participating sites in all 50 states and more than 40 collaboratives. Interest in the program continues to increase.

ACS NSQIP is working closely with the American Society for Transplant Surgeons and has created the Transplant Quality Improvement Program (TransQIP) pilot project. TransQIP uses a new Transplant Pilot Web portal/database to capture clinically meaningful variables for patients who are undergoing liver and kidney donation/transplant procedures. The pilot will include 10 sites.
and examine the viability of data collection for these fields as potential future Transplant Procedure Targeted fields and analyze the variables for insight into the care of transplant patients. The pilot begins this summer and continue for approximately six months.

The 2016 ACS NSQIP Annual Conference is scheduled to take place July 16−19 at the Hilton San Diego Bayfront, CA. The theme of the conference is “Innovate to Make a Difference.” Key topics of discussion this year include surgical ethics, the Strong for Surgery program, and improved care for elderly patients.

**MBSAQIP**

At present, 798 medical centers participate in the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP); 676 are fully accredited, and 86 are initial applicants. The remaining 36 are data collection centers that participate in the MBSAQIP Data Registry but did not complete the process for achieving full accreditation. The MBSAQIP has accredited centers in 48 states, the District of Columbia, Puerto Rico, and one international center in Ontario, Canada.

The MBSAQIP Standards Committee is reviewing and revising the program’s standards, initially released in February 2014; a second edition is planned for release in late winter.

MBSAQIP leadership initiated a large national initiative to address patient readmissions after bariatric surgery. Called Decreasing Readmissions through Opportunities Provided, this program is a national quality improvement initiative involving the participation of more than 120 centers nationwide. The program will conclude in March 2016.

**SSR**

The ACS has continued development of the Surgeon Specific Registry (SSR) as a tool for individual surgeon data capture. Currently, the SSR has approximately 6,000 surgeons who have submitted at least 20 cases and nearly 6 million records. Surgeons continue to use the registry as a case log system in addition to accessing the other program benefits.

The ACS presented four webinars on using the SSR to comply with the Centers for Medicare & Medicaid Services (CMS) Physician Quality Reporting System (PQRS) in the first two weeks of December 2015, three of which focused on the General Surgery Measures Group option in the SSR and had a total of 147 attendees. One webinar was dedicated to the Individual Measures reporting option and had a total of 54 attendees. The presentations included a brief SSR overview; PQRS requirements through the SSR for the selected option; screenshots to illustrate registering for, submitting, and approving PQRS participation for 2015; and a question-and-answer session. Recordings of the webinars and FAQ documents are available.

**Outcomes Research Course**

The Outcomes Research Course will take place this fall at the ACS headquarters in Chicago, IL. The course is designed for clinical and health services researchers with varying degrees of experience in the field. The course will include didactic lectures as well as breakout sessions where participants will be able to select modules appropriate to their skill level and interest.

**ACS Clinical Scholars in Residence**

The ACS Clinical Scholars in Residence program is a two-year on-site fellowship in applied surgical outcomes research, health services research, and health care policy. This program offers surgery residents a unique opportunity to work with the College.
The following individuals are second-year ACS Clinical Scholars in Residence:

- Elizabeth Berger, MD, is a general surgery resident at Loyola University, Chicago. Dr. Berger has a continued interest in breast care and surgical outcomes, as well as bariatric surgery and its outcomes.

- Julia Berian, MD, is a general surgery resident at the University of Chicago Medical Center. She is the ACS/John A. Hartford Foundation (JAHF) James C. Thompson Geriatric Surgery Clinical Scholar for the 2015–2016 academic year.

- Michael Wandling, MD, is a general surgery resident at Northwestern University, Chicago. He has a particular interest in trauma and emergency surgery, surgical outcomes, and improving the delivery of operative and nonoperative surgical care.

First-year ACS Clinical Scholars in Residence are as follows:

- Kristen Ban, MD, is a resident in the department of surgery at the Loyola University Medical Center, Chicago. Her interests include health services and quality improvement research.

- Jason Liu, MD, is a general surgery resident at the University of Chicago Medical Center. He received his medical degree from the University of Texas Southwestern Medical Center, Dallas, and his bachelor’s degree in biomedical engineering from Duke University, Durham, NC.

The new ACS/JAHF James C. Thompson Geriatrics Surgical Fellow, Melissa Hornor, MD, will join the ACS Clinical Scholars in July 2016. Dr. Hornor is a general surgery resident at the Ohio State University Wexner Medical Center, Columbus. Her fellowship training centers on minimally invasive surgery, colorectal surgery, and surgical oncology.

ACS Division of Integrated Communications

The Division of Integrated Communications focuses on two important purposes:

- Effectively communicating the mission of the College to its multiple audiences, including members, potential members, the public, and policymakers

- Supporting the College’s programs (Pillars—Advocacy, Education, Quality, Member Services)

JACS

The editorial office of the Journal of the American College of Surgeons (JACS) annually receives more than 1,600 manuscripts. In 2015, the impact factor for JACS (reflecting citations of JACS articles published in 2012 and 2013) was 5.122—an increase of 15 percent from the previous year. Along with this increase, the number of original scientific manuscripts submitted to JACS increased 14 percent from 2014 to 2015. These data indicate that JACS is widely recognized as one of the top surgical journals.

Over the last year, JACS Twitter followers have increased by more than 400 percent, and in 2015, the International General Surgery Journal Club featured two JACS articles in their popular monthly Twitter discussions—one on resident duty hours and the other on leadership style and team behavior in the operating room.

Also in 2015, JACS began collaboration with the Resident and Associate Society of the ACS (RAS-ACS) with a quarterly literature appraisal forum discussing JACS articles. This project exposes young surgeons to JACS content while encouraging
direct social media participation through selecting the articles and discussing them on Facebook. Going into 2016, JACS worked with the RAS-ACS to publish the winning essays from the RAS-ACS 2015 Spectacular Cases Session at Clinical Congress. These essays and audio of the discussions were an e-only feature in the February issue of JACS.

In 2015, the highest number of JACS users to date—3,566 individual test takers—earned a total of 82,736 credits toward Maintenance of Certification.

**Member engagement activities**
Over the past year, with the assistance of Weber Shandwick, the division has developed a library of more than 240 short videos of ACS members describing what they value about the College. In these videos, members talk about ACS education programs, leadership and advocacy opportunities, quality programs, and philanthropy, as well as the intangible benefits of Fellowship.

**ACS Communities and social media**
The ACS has a total of 98 online communities, of which 66 are open to all members and 32 are closed (closed communities exist primarily to provide online work forums for ACS leadership groups, such as the Board of Governors and the Advisory Councils). One of the newest communities, suggested by a Fellow, is the Surgeon Writers Community.

Social media statistics as of the end of January were as follows:

- Facebook: 13,928 likes
- Twitter: 25,008 followers
- YouTube: 680 videos; 422,666 views; 1,319 subscribers
- LinkedIn: 8,099 followers
- Google+: 426 followers

**Raising media awareness of ACS standards and guidelines**
The ACS Public Profile and Visibility team has recently promoted these three new or revised ACS standards and guidelines to the media:

- **Commission on Cancer Standards Manual for the Oncology Medical Home Accreditation Program:** This new standards manual was promoted to general and health care media, including targeted promotion to oncology trade publications. The *American Journal of Managed Care* and *First Report on Managed Care*, among others, reported on the release.

- **Optimal Perioperative Management of the Geriatric Patient: Best Practices Guideline:** Published online in *JACS* January 4 and released as a freestanding document on the same day, this best practices guideline was developed and promoted in collaboration with the American Geriatrics Society with support from the John A. Hartford Foundation. Its release was reported on by *American Nurse Today*, Becker’s Healthcare, and Medscape, among others.

- **Optimal Resources for Children’s Surgical Care:** Media promotion began in mid-January to general and medical trade press. The standards set forth in this document are the nation’s first and only multispecialty standards for children’s surgical care. The 2015 standards document includes revisions to the 2014 version and updates from lessons learned in the pilot phase of the program. ♦
Editor’s note: Media outlets across the U.S., including social media, reported on the February 2 release of the results from the Flexibility in Duty Hour Requirements for Surgical Trainees Trial (FIRST Trial)—the first national multicenter randomized trial of resident duty hour policies. This month’s “ACS in the News” exclusively presents brief excerpts from news stories covering the FIRST Trial. To access the news items in their entirety, visit the online FIRST Trial Newsroom at facs.org/media/first-trial/news-coverage.

Rookie docs can work longer flex hours safely, study finds
Associated Press, February 2

“A Mayo Clinic neurosurgery resident, Dr. Maya Babu [MD, MBA], said the study results were not at all surprising. She’s head of an American College of Surgeons’ residents group. “Under the limits, [Dr.] Babu said she has sometimes had to clock out at inopportune times, even in the middle of brain tumor operations, missing important learning opportunities.”

Study suggests surgical residents can safely work longer shifts
National Public Radio, February 2

“‘They told us very clearly that they thought patient care was better’ when residents could work longer shifts within more flexible schedules, said Karl Bilimoria [MD, MS, FACS], director of the surgical outcomes and quality improvement center at Northwestern Feinberg School of Medicine [Chicago, IL]. [Dr.] Bilimoria led the study, which was published online in the New England Journal of Medicine.”

Long shifts for young surgeons don’t threaten patient safety
Reuters, February 2

“The Resident and Associate Society of the American College of Surgeons cheered the results in a statement e-mailed to Reuters Health, however. ‘Based on the trial’s results, the RAS-ACS firmly believes that flexibility in duty hours is not only safely possible, it is essential to provide surgical residents with exposure to the variety and complexity of educational experiences necessary to become fully trained and competent surgeons,’ the statement said.”

Back to extremely long shifts for new surgeons? Study finds few negatives
Washington Post, February 2

“‘We’re very encouraged by the findings,’ said Dr. Maya Babu, a neurological surgery resident at the Mayo Clinic [Rochester, MN] and [chair] of the Resident and Associate Society of the American College of Surgeons. “We feel very strongly that flexibility is important to provide opportunities to learn and to have patient ownership, to see patients from the time they’re admitted through surgery the next day.’”

Surgical residents’ shift length not a factor in patient safety
Health Leaders, February 3

“The first-ever national randomized trial of resident duty hours involving 117 general surgery residency programs and 151 hospitals found that less-restrictive policies are safe for patients, reduce complications arising from handoffs, and increase resident satisfaction, said study author Karl Bilimoria, MD. He is a faculty scholar at the American College of Surgeons and director of the Surgical Outcomes and Quality Improvement Center at Northwestern University Feinberg School of Medicine in Chicago. ‘The Resident and Associate Society of the American College of Surgeons, which represents more than 13,000 surgical trainees, said in a media release that the study was needed to inform surgical resident duty hour policy. Up until now, there has not been high-
Watch your inbox for redesigned, interactive ACS e-newsletters

Beginning with ACS NewsScope, the American College of Surgeons (ACS) is revamping its online newsletters to a more user-friendly format. Over the next few months, our online newsletters will begin to have a consistent look and feel, will all be easily viewable on any digital device, and contain articles not featured in other ACS publications.

One new newsletter added to the mix in April is SurgeonsVoice Monthly. This monthly newsletter offers insights into the policymaking process, highlights activities undertaken on your behalf by the ACS Division of Advocacy and Health Policy, and provides useful tips to help you become an effective advocate on state and national issues.
The American College of Surgeons (ACS) has awarded five Faculty Research Fellowships for 2016. These two-year fellowships are offered to surgeons entering careers in surgery or a surgical specialty and carry awards of $40,000 per year from July 1, 2016, through June 30, 2018. Faculty Research Fellowships are sponsored by the ACS Foundation’s Scholarship Endowment Fund of the College.

**Named Fellowships**
The ACS offers three Faculty Research Fellowships that recognize ACS leaders. The Franklin H. Martin, MD, FACS, Faculty Research Fellowship of the American College of Surgeons honors the founder of the College. The C. James Carrico, MD, FACS, Faculty Research Fellowship for the Study of Trauma and Critical Care honors the late Dr. Carrico. The Thomas R. Russell, MD, FACS, Faculty Research Fellowship is made possible through the Thomas R. Russell Fund and supports research into improving surgical outcomes. The recipients of these fellowships are as follows:


- **C. James Carrico, MD, FACS**, Faculty Research Fellow: **Sean M. Monaghan, MD**, clinical assistant professor of surgery, Warren Alpert Medical School of Brown University, Providence, RI. Research project: Immune Dysfunction in Critical Illness/Injury: Role of Alternative Splicing.

- **Thomas R. Russell, MD, FACS**, Faculty Research Fellow: **Anthony Yang, MD, FACS**, assistant professor of surgery, Northwestern University Feinberg School of Medicine, Chicago, IL. Research project: Implementation of Optimal Venous Thromboembolism Prophylaxis in Diverse Hospitals.

**Undesignated fellowships**
Additional undesignated Faculty Research Fellowships for 2016–2018 were awarded to the following surgeons:

- **Michael P. Kim, MD**, assistant professor, University of Texas MD Anderson Cancer Center, Houston. Research project: Elucidating Mutant p53-Dependent Mechanisms of Metastasis in Pancreatic Cancer.

- **Peter H. U. Lee, MD**, assistant professor, Ohio State University College of Medicine, Columbus. Research project: Effects of Loading on Cardiac Remodeling.
The Scholarship Endowment Fund was established to provide income for scholarships and fellowships awarded by the ACS Board of Regents. Direct contributions to support the Scholarship Endowment Fund are welcome.

Applying for and supporting fellowships
An updated description and requirements for this program will be posted to the Scholarships Web page, facs.org/member-services/scholarships/research/acsfaculty. The application deadline for the 2017 Faculty Research Fellowships is November 1, 2016.

The Scholarship Endowment Fund was established to provide income for scholarships and fellowships awarded by the ACS Board of Regents. Direct contributions to support the Scholarship Endowment Fund are welcome. Fellows who would like to make tax-deductible gifts to fund these vital programs are encouraged to contact the ACS Foundation at 312-202-5338. ♦
The American College of Surgeons (ACS) has awarded six Resident Research Scholarships for 2016–2018. The scholarships, made possible through the ACS Foundation’s Scholarship Endowment Fund, are offered to encourage residents to pursue careers in academic surgery and carry awards of $30,000 for each of two years beginning July 1, 2016.

The recipients of these scholarships, their institutions, and their research projects are as follows:

- **George Z. Li, MD**, postgraduate year (PGY)-2, Brigham & Women’s Hospital, Boston, MA, research to be performed at Memorial Sloan Kettering Cancer Center, New York, NY. Projected specialty: Surgical oncology. Research project: Targeted Therapy against Rb-wild-type Myxofibrosarcoma Using Inhibitors of ETV1 and TORC1/TORC2.

- **David A. Harris, MD**, PGY-3, Brigham & Women’s Hospital, Boston. Projected specialty: Minimally invasive surgery, endocrine surgery. Research project: Understanding the Role of Portal Vein Nutrient Sensing in Type 2 Diabetes Remission after Gastric Bypass.


- **Courtenay Holscher, MD**, PGY-3, Johns Hopkins University, Baltimore, MD. Projected specialty: Transplantation. Research project: Trajectory of Post-Donation Renal Function in Living Kidney Donors.

- **Gregory Martens, MD**, PGY-4, Indiana University School of Medicine, Indianapolis. Projected specialty: Transplantation. Research project: Overcoming Rejection in Xenotransplantation with Expression of Human Class I MHC: A Strategy to Generate Broadly Acceptable Porcine Organs. Dr. Martens will complete his research at the University of Alabama-Birmingham.


**Applications**

An updated description and requirements for this program will be posted at facs.org/member-services/scholarships/resident/acsresident. The application deadline for the 2017 Resident Research Scholarships is September 1, 2016.

This award is supported through the ACS Scholarship Endowment Fund, which was established to provide income to fund scholarships and fellowships awarded by the Board of Regents. Direct contributions to support the Scholarship Endowment Fund are welcome. Fellows wishing to make tax-deductible gifts to this fund should contact the ACS Foundation at 312-202-5338.
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San Antonio, TX

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Roanoke, VA

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Calendar of events

*Dates and locations subject to change. For more information on College events, visit www.facs.org/events or http://web2.facs.org/ChapterMeetings.cfm.

**MAY**

**Chile Chapter**
May 8–11
Viña del Mar, Chile
Contact: Patricio Burdiles, pburdiles@acschile.cl, www.acschile.cl

**Turkey Chapter**
May 11–13
Istanbul, Turkey
Contact: Mehmet Ali Haberal, rectorate@baskent.edu.tr

**West Virginia Chapter**
May 12–14
White Sulphur Springs, WV
Contact: Sharon Bartholomew, wvacs@labs.net

**Metropolitan Philadelphia Chapter**
May 16
Philadelphia, PA
Contact: Lauren Newmaster, mpcacs@pamedsoc.org, metrophilasurgeons.org

**Illinois Chapter**
May 18–20
Springfield, IL
Contact: Luann White, lhwhite26@gmail.com, www.ilchapteracs.org

**Michigan Chapter**
May 18–20
Mackinac Island, MI
Contact: Carrie Steffen, carrie@steffenmanagement.com, www.michiganacs.org

**Maine Chapter**
May 20–22
Portland, ME
Contact: Jennifer Starkey, jennifer@executive-office.org, www.maineacs.org

**Vermont Chapter**
May 26
Stowe, VT
Contact: Kennith Hans Sartorelli, Kennith.Sartorelli@vtmednet.org

**Rhode Island Chapter**
June 10
Providence, RI
Contact: Megan Turcotte, mturcotte@rimed.org, www.riacs.org

**Brooklyn-Long Island Chapter**
June 14
Garden City, NY
Contact: Teresa Barzyk, acsteresa@aol.com, www.bliacs.org

**Portugal Chapter and ACS Europe Region 15 Meeting**
June 16–18
Lisbon, Portugal
Contact: Paulo Matos de Costa, paulomatoscosta@gmail.com

**JUNE**

**Missouri Chapter**
June 3–5
Lake Ozark, MO
Contact: Denise Bouland, missourichapterACS@gmail.com, www.moacs.org

**Oregon Chapter & Washington Chapter**
June 9–12
Sunriver, OR
Contact: Harvey Gail, harvey@spiremanagement.com, www.oregonchapteracs.org and www.wachapter.org

**Alabama Chapter & Mississippi Chapter**
June 9–11
Point Clear, AL
Contact: Lisa Beard, info@alabamaacs.org, www.alabamaacs.org and www.mschap-acs.com

**FUTURE CLINICAL CONGRESSES**

2016
October 16–20
Washington, DC

2017
October 22–26
San Diego, CA

2018
October 21–25
Boston, MA