Implementing WHA 68.15:
A global update
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The feature section of this issue of the Bulletin focuses largely on global efforts to improve access to surgical, obstetric, and anesthesia care, and I am proud to say it will be distributed at the World Health Assembly (WHA) 71, May 21–26 in Geneva, Switzerland. The idea for this special issue originated with John G. Meara, MD, DMD, MBA, FACS, co-chair of The Lancet Commission on Global Surgery (LCoGS); director, Program in Global Surgery and Social Change, Harvard Medical School, Boston; and chair, department of plastic and oral surgery, Boston Children's Hospital, MA, in collaboration with Girma Tefera, MD, FACS, Director, American College of Surgeons (ACS) Operation Giving Back program.

In this issue, you will find a collection of provocative and informative articles submitted by professional societies and colleges from around the world. These articles highlight not only the organizations’ important efforts, but also their recommendations for moving forward and a call to action for the surgery, obstetrics, and anesthesia communities to work together toward a common goal of universal access to safe, affordable essential care. Both Dr. Meara and Dr. Tefera worked tirelessly to solicit articles from the leaders of the organizations that have committed to this goal. My hat is off to them.

Watershed moments
Efforts to promote access to surgical care as essential to the well-being of all people began in 1980, when Halfdan Mahler, MD, then director-general of the World Health Organization (WHO), addressed the XXII Biennial World Congress of the International College of Surgeons with his lecture Surgery and Health for All. In a speech that was ahead of its time, Dr. Mahler alluded to the Alma-Ata International Conference, calling for health equity and social justice, and, most notably, for the inclusion of surgical care in the pursuit of health care for all. Including surgery in the realm of global health was somewhat of an anathema at that time. What ensued after his bold speech was relative silence—a 28-year lapse in the development of global surgery policy.
The standstill ended in 2008, when Paul E. Farmer, MD, PhD, Kolokotrones University Professor, Global Health and Social Medicine, Harvard Medical School, and Jim Yong Kim, MD, PhD, president of The World Bank, called surgery “the neglected stepchild of global health” in their article, “Surgery and global health: A view from beyond the OR.” This vivid metaphor brought to the forefront the reality that in low- and middle-income countries, access to surgical care eluded the poor, yet for decades the public health community had written off surgical care as expensive and unnecessary. Drs. Farmer and Kim countered these arguments with data and drove home the message that without a holistic approach to health system strengthening—a paradigm shift from the age-old vertical approach to siloed, disease-specific global programs—health care equity and social justice were unattainable.

The tipping point for global surgery, obstetrics, and anesthesia occurred in 2015. Three events aligned that focused the global health community on surgical care. The third edition of The World Bank’s Disease Control Priorities (DCP3) was published in early 2015, and the first of nine volumes was devoted to “Essential Surgery.” DCP3 made a strong case for the cost-effectiveness of basic surgical procedures in low-resource settings, identified district hospitals as key to providing acute and lifesaving surgical care, and proposed a list of 44 essential operations to prioritize in scaling up surgical systems.

Later that same year, the LCoGS released a report that defined the extent of global surgical need and quantified the human and financial implications of inaction. The report also outlined a surgical, obstetric, and anesthesia planning process that would allow Ministries of Health to map national needs and plan system-level interventions. Finally, the commission proposed a set of six key performance indicators to enable standardized global assessments of surgical systems and to track the progress of health system strengthening programs that included surgical, anesthesia, and obstetric care.

The final watershed moment occurred during the WHA in May 2015 with the adoption of Resolution 68.15, a formal WHO declaration and commitment to “emergency and essential surgical care and anesthesia as a component of universal health coverage.” This resolution was a call for all Member States to commit to the following actions:

- Develop adequate infrastructure and equipment in district hospitals
- Train appropriate surgical health care workforce
- Ensure surgical information management for data to drive informed health policy
- Provide essential medicines and medical devices
- Mobilize adequate financial resources to surgical service delivery
- Avoid catastrophic expenditures by citizens on surgical services
- Improve referral systems

The WHO made a permanent commitment to surgery in 2017 with WHA Decision Point 70.22, which required submission of biennial progress reports on the status of global surgery to the WHO director-general.

Looking to the future
We are now in an era in which global health care is defined by sustainable development goals (SDGs), with a renewed focus on universal health coverage and an acknowledgment of health care as a human right. In the context of the SDGs and WHA 68.15, countries have a mandate to acknowledge access to safe, affordable surgical, obstetric, and anesthesia care as part of this right.
The WHO also has a new director-general—Tedros Adhanom Ghebreyesus, PhD, MSc—a proven health care reformer from Ethiopia who enthusiastically welcomes surgery, anesthesia, and obstetrics to the global health care community. With the recognition of surgery and anesthesia as an integral component of universal health coverage, data collection systems and national surgical, obstetric, and anesthesia plans (NSOAPs) are critical next steps in surgical system strengthening. Managing complex health systems requires measurement, and national surgical data that is beginning to be collected must flow each year from Ministers of Health to WHO to The World Bank to promote transparent accountability. NSOAPs need to be created and integrated into national health care agendas.

The concept of surgery as a vertical program is gone. Surgery, anesthesia, and obstetrics harmoniously woven into national health and wellness planning efforts must become the norm. The implementation of these plans will need solid financial support that likely will stem from new funding models, including a symbiotic partnership between the private and public sectors, as seen with The World Bank’s new Global Financing Facility.

All of these changes bring about new opportunities. In recognition of the responsibility we as clinician-advocates have of supporting health equity and social justice, the ACS is pleased to offer this issue of the Bulletin for dissemination at the WHA 71. We wish you all a productive and fruitful meeting that will lead to improved health care for surgical patients around the world.

If you have comments or suggestions about this or other issues, please send them to Dr. Hoyt at lookingforward@facs.org.

REFERENCES

1. Mahler H. Surgery and Health for All. Address from the director-general, World Health Organization, to the XXII Biennial World Congress of the International College of Surgeons, Mexico City, Mexico, June 1980.
Implementing WHA 68.15: A Global Update

We are fragmented as a world. We are split among hundreds of nations, even more ethnicities, and seemingly innumerable political ideologies. Our health care, too, is fragmented, sliced into organ systems, disease categories, and regions of anatomy. Priorities for achieving health vary as well, often favoring those problems that readily engage our empathy, are visually striking, or carry the greatest funding.

It is no secret that surgery has often been left behind in this competitive arena. Often considered too complex and expensive, surgical care (surgery, obstetrics, and anesthesia) has been dismissed as a public health challenge only achievable after all other systems have been built. But financial support of surgery cannot be responsibly deferred and should be viewed by Ministries of Health as an investment, rather than a cost. Improved access to quality surgical, obstetrical, and anesthesia care should not be treated as merely a consequence, but rather as a driver of general health care needs.

Background: Improving access to surgical care worldwide

The World Health Organization (WHO) is the health care arm of the United Nations (UN). Since the WHO was first established in 1948, the organization has committed itself to the improvement of health around the globe, seeking to bridge the fragmentation created by geographic and political boundaries to promote wellness for all. But despite its best intentions, efforts may have suffered from a myopic focus on specific aspects of health care—a vertical approach to providing care—that have been deemed as most urgent and most achievable.

HIGHLIGHTS
• Describes four pivotal events in 2015 that established the need for access to surgical and anesthesia care around the world
• Identifies the five WHA 68.15 areas of focus aimed at providing necessary surgical and anesthesia care
• Outlines the 2017 WHA Decision 70.22, which calls for continued biennial reporting of emergency and essential surgery and anesthesia by Member States
• Highlights the goals of five WHO collaborating centers and their role in increasing access to surgical and anesthesia care

Cross-cutting health: Global surgery, obstetrics, anesthesia, and the World Health Organization

by Rachel W. Davis, MD, and Walter D. Johnson, MD, MPH, MBA, FACS, FAANS
It is imperative that we no longer neglect surgical care when approaching overall public health programs. With robust economic, political, and needs data documented in the literature, researchers have amplified the evidence that an investment in surgery and anesthesia is both a health care and economic necessity. Providing timely access to safe and affordable surgical and anesthesia care to the 5 billion people without access worldwide not only curbs the detrimental consequences of surgical disease, it also boosts financially emerging economies and bolsters infrastructure.

In 2015, through the combination of four major events that occurred in quick succession, international demand for increasing surgical access gained significant momentum. In the span of months, the economic, political, and needs cases for prioritizing global surgery and anesthesia became clearly and publicly established.

The first crucial event was the UN transition from the millennium development goals to the era of sustainable development. The 17 sustainable development goals (SDGs) are notable for their specific inclusion of a number of surgical issues, specifically eight of the targets listed within SDG 3: “Ensure healthy lives and promote well-being for all at all ages.” Many of the itemized health targets directly involve surgically treatable disease, such as the reduction of maternal and neonatal mortality, death from road traffic accidents, and premature mortality from noncommunicable disease (NCD).

A second critical occurrence in 2015 was the publication of *Essential Surgery*, the first volume of the third edition of *Disease Control Priorities* (DCP3). Published by The World Bank, *Essential Surgery* establishes an economic and financial case for investment in surgical care. In addition, it specifically highlights 44 individual basic and essential surgical procedures that are cost-effective, deliverable, and address significant global need. The authors assert that providing essential surgery would prevent an estimated 1.5 million deaths annually, while providing a financial benefit-to-cost ratio of investment exceeding 10:1. With detailed financial data, the publication makes a clear assertion that “the large burden of surgical conditions, the cost effectiveness of essential surgery, and strong public demand for surgical services suggest that universal coverage of essential surgery should be financed early on the path to universal health coverage.”

The third event occurring that year was the publication of the “Global Surgery 2030: Evidence and solutions for achieving health, welfare, and economic development” report (GS 2030) by The Lancet Commission on Global Surgery (LCoGS). A collaborative effort by representatives from more than 110 countries, GS 2030 presents a robust economic case for global investment in surgical care, as well as an overwhelming needs case for surgical and anesthesia care delivery. The LCoGS estimates that surgical conditions are responsible for roughly 30 percent of the global burden of disease and that 5 billion people do not have timely access to safe and affordable surgical and anesthesia care. The report calls for an increase in surgical care to meet a goal of 80 percent coverage of essential surgical services by 2030, including 5,000 procedures per 100,000 population and 100 percent of countries exceeding 20 surgical, anesthesia, and obstetric licensed providers per 100,000 population. In addition, a data target was set for tracking perioperative mortality rate of 80 percent of countries by 2020 and 100 percent by 2030.

The LCoGS also investigated the monetary consequences for patients accessing surgical care, and as a result of that study seeks 100 percent protection globally against impoverishing and catastrophic out-of-pocket expenditures for surgical and anesthesia care by 2030. The LCoGS asserts that a critical investment of $350 billion (U.S.) until 2030 will prevent estimated losses of $12.3 trillion (U.S.) during this time in lost productivity and health care expenses.

The fourth turning point that occurred in 2015 was the unanimous passage of the World Health Assembly (WHA) Resolution 68.15, which calls for strengthening of emergency and essential surgical care and anesthesia as a component of universal
Establishment of an adequate surgical and anesthesia workforce in LMICs requires not only an increase in workforce volume, but also an enhancement of training programs, increased efforts by credentialing bodies, and possibly support by mid-level providers.

health coverage. This landmark resolution for surgical prioritization emphasizes that a significant portion of the global burden of disease can be successfully treated with surgical intervention and specifically notes the beneficial effect of surgery on morbidity and mortality rates due to obstructed labor, cancer, road traffic accidents, and violence, all of which disproportionately affect low- and middle-income countries (LMICs).

WHA 68.15
WHA 68.15 identifies five key surgical areas of focus: surgical and anesthesia workforce, information management, service delivery, essential medicines, and advocacy and resource development. Establishment of an adequate surgical and anesthesia workforce in LMICs requires not only an increase in workforce volume, but also an enhancement of training programs, increased efforts by credentialing bodies, and possibly support by mid-level providers. Meeting these workforce needs worldwide relies heavily on strong partnerships between regional surgical organizations and professional societies, as well as the development of mutually beneficial twinning partnerships. The leadership of associations—such as the College of Surgeons of East, Central and Southern Africa (COSECSA); the West African College of Surgeons; the Royal Colleges in the U.K., Ireland, and Australasia; and the American College of Surgeons, among others—is foundational for building and maintaining a skilled surgical global workforce. In addition, Ministries of Health, Finance, and Education are key partners, uniting involved governmental and nongovernmental organizations (NGOs) toward common goals. In collaboration with regional societies and governments, NGOs also provide training for medical professionals. One example is the Pan-African Academy of Christian Surgeons, which, through an affiliation with COSECSA and Loma Linda University, CA, has provided residency training to more than 100 surgeons across Africa. Teamwork and communication between these organizations is critical to meet the overwhelming need for surgeons, anesthesiologists, and obstetrician/gynecologists.

A second essential focus of WHA 68.15 is information management. The WHO list of 100 Core Health Indicators provides a starting place for data collection in the areas of health status, risk factors, service coverage, and health systems. This list includes the LCoGS six surgical indicators, as follows:

- Perioperative mortality rate
- Total surgical volume
- Geographic access of surgical facility
- Licensed surgical, obstetric, and anesthesia health workforce density
- Catastrophic surgical and anesthesia care-related expenditures
- Impoverishing expenditures

All of these indicators, taken together, allow for more accurate needs assessment by location and ability to track improvements or changes in surgical capacity. Improved data collection facilitates quality service delivery. In highlighting service delivery, WHA 68.15 acknowledges that surgical access must not be confined to urban centers. Often limited by geographic boundaries, transportation infrastructure, and insufficient health care providers and facilities, the accessibility of care is a significant barrier to treatment of surgical disease. To reduce delay in surgical access, improvement in systems integration is a necessity.

A fourth major aim of WHA 68.15 is to emphasize the need for access to essential medicines. Though often restricted by governmental agencies due to a potential for abuse, narcotic medications and anesthetics such as ketamine are crucial for the daily,
sustained function of surgical systems, particularly in resource-limited settings. Appropriate anesthesia during surgical interventions and quality pain control both for the acute postoperative setting and for long-term palliative care for adults and children are integral to the total spectrum of surgical disease management and treatment. With necessary safeguards in place to limit illegal use, these essential medicines must be made available for appropriate access to surgical patients.

Finally, the resolution highlights advocacy and resource development. With a staggering global burden of disease and disproportionately poor availability of financial and human resources, surgical, obstetric, and anesthesia care is in great need of international champions. To adequately improve access to care requires a global effort by physicians, patients, government agents, economists, epidemiologists, and those in the public eye. Advocacy efforts by these key stakeholders is essential for building the capacity of essential surgical and anesthesia service delivery to all.

WHO today
As we further develop strategies for global surgical development, continuation of accurate and thorough data collection and progress reporting has become increasingly vital. In 2017, WHA Decision 70.22 was passed, calling for the continued biennial reporting of emergency and essential surgery and anesthesia progress by Member States coinciding with NCD reporting until the expiration of the SDGs in 2030. More robust data collection will allow for a more detailed understanding of the status of surgical care around the world, which, in turn, will allow more targeted goal setting.

Member States’ desire to track improvements and set national goals for surgical and anesthesia care has led to the creation and popularization of the National Surgical, Obstetric, and Anesthesia Plan (NSOAP). In 2017, the Republic of Zambia became one of the first countries to develop an NSOAP that is fully embedded in the National Health Strategic Plan 2017–2021. Subsequently, numerous Member States have begun preparing and designing their own national plans. High demand for strategic NSOAPs soon exceeded capacity for individual country-specific development. In partnership with the Harvard Program in Global Surgery and Social Change (PGSSC), Boston, MA, the WHO Emergency and Essential Surgical Care (EESC) program has begun to plan multiple regional workshops to assist Member States and encourage groups to share their successes and challenges so that each may learn from the experiences of others.

WHO continues to bring together countries of varying resource levels and contexts in collaboration toward quality health care for all people. Strategies for achieving this goal are ever-evolving in response to changing needs and data, but always rely on healthy partnerships and international communication. The diplomatic involvement of the UN permanent mission health attachés in advocating for surgical access to political, business, educational, and trade organizations remains vital.

In addition, WHO has approved five official collaborating centers (CCs), each dedicated to particular niches of research and expertise in surgical care and anesthesia, and is in the process of developing three additional centers. These WHO CCs are beginning to transition from bilateral relationships with WHO toward multilateral networks of integration and support. The Mongolia WHO CC is located in a country with one of the lowest population densities. It is housed within the department of surgery, Mongolian National University of Medical Sciences, Ulaanbaatar, and specializes in distance surgical education. At Lund University, Sweden, the CC focuses on global density of surgeons, anesthesiologists, and obstetricians, including migration patterns, whereas the CC located at the University of Western Ontario, London, is dedicated to perioperative issues and anesthesia in low-resource settings. The Mumbai, India,
WHO CC specializes in innovative methods for building rural surgery capacity, and the PGSSC focuses on development of national surgical plans.

The WHO EESC is in official discussions with a number of NGOs, such as the International College of Surgeons, the World Federation of Societies of Anesthesiologists, the World Federation of Neurosurgical Societies, the International Society of Orthopaedic Surgery and Traumatology, and the International Federation of Surgical Colleges. These relationships bring important global leadership, contribute vision and personnel, and assist with quality improvement through educational programming.

**Conclusion**

The WHO strives to bridge the fragmented relationship between medicine and politics to achieve quality health care for all. By responding to medical needs, convening international partners, and leading worldwide initiatives, WHO works to meet health care challenges on both a global and local scale. It is time for global recognition of surgery and anesthesia as necessary components of universal health care and to help the world meet the challenge of providing surgical access to its people.

For years, anecdotal needs cases for surgery have existed; we have known that access to safe surgical care has not been a reality for much of the world’s population. But with the impact of the LCoGS and DCP3 now showing the depth of the economic case and the WHA resolution and transition to SDGs demonstrating the political case, we are able to see the full extent of the need for access to quality surgery, and obstetric and anesthesia care. We now know that it is critical to integrate and promote all aspects of surgery—including pediatric surgery, orthopaedics, urology, obstetrics, gynecology, neurosurgery, and many others—to improve global health infrastructure and well-being. In collaboration with governments and NGOs around the world, the WHO EESC program will continue working for safe, timely, and affordable surgical and anesthesia care until it is available to all people, everywhere.

**REFERENCES**

HIGHLIGHTS

- Summarizes collaborative programs that enhance access to surgical care in the Asia-Pacific
- Describes how the Asia-Pacific is responding to WHA Resolution 68.15, which calls for the provision of universal access to emergency and essential surgical care by 2030
- Describes the role of medical societies in generating partnerships to improve specialist medical education in this region
- Outlines the work of the LCoGS specifically related to data collection and health care planning in the Pacific and Southeast Asia

Countries and colleges collaborate to improve access in Oceania and Southeast Asia

by David A. Watters, OBE, ChM, FRCSEd, FRACS;
Lord Viliami Tangi, MB, BS, FRACS;
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John Batten, MB, BS, FRACS;
Stephen J. Robson, BMedSc, MB, BS, MM, MPH, MD, FRANZCOG, FRCOG;
David A. Scott, MB, BS, FANZCA;
and Michael G. Cooper, MB, BS, FANZCA, FFPMANZCA
The independent island nations of the South Pacific (population 10,000–1 million each), Papua New Guinea (PNG) (7.5 million), and Timor-Leste (1.3 million) are low- and middle-income countries (LMICs) with limited access to safe, affordable surgery and anesthesia (see Table 1, page 23). Although all of these nations offer free national health care coverage, a high proportion of their populations still lack access to surgical care because of a shortage of appropriately trained health care workers, infrastructure, facilities, and geographic boundaries. The training of specialists in surgery, anesthesia, and obstetrics began through the University of PNG, Port Moresby, in 1975, but only since 1999 has this training been available at the Fiji School of Medicine, Suva, which is now part of Fiji National University for other Pacific Nations.1,2 The Australia Timor-Leste Program of Assistance for Specialist Services (ATLASS) developed by the Royal Australasian College of Surgeons (RACS) has employed a range of training programs in PNG, Fiji, Indonesia, and Malaysia to support a small cohort of physicians who have met specialist qualifications in the following areas: surgery, anesthesia, ophthalmology, obstetrics and gynecology (OB/GYN), and pediatrics.3

The Australia and New Zealand specialist medical colleges’ fellows have a long history of collaborating to provide support to the Asia-Pacific region, often through their specialty societies and in conjunction with specialty-specific nongovernment organizations. Since 1995, RACS, through its international development program RACS Global Health, has managed Australian aid-funded programs to provide specialist services, strengthen health care systems, build capacity, and provide continuing medical education and professional development for trained health care professionals.4,5 The Australian and New Zealand College of Anaesthetists (ANZCA) has provided similar support, together with the Australian Society of Anaesthetists (ASA).6 The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) supports maternal health and the professional development of obstetricians in the Pacific, whereas the Australian College of Emergency Medicine has pioneered specialist training in PNG,7,8 Myanmar,9 and the Pacific.

Today, surgical, anesthesia, and obstetric (SAO) specialists are in every country in this region with a population of more than 100,000, although the SAO density per 100,000 population is well below the desirable levels in most countries (see Table 1).10 The local health and clinical leadership has been established progressively in each of these island nations and is a direct result of localized training involving a university master of medicine qualification that represents at least four years of general specialist training, and two to four years of further subspecialist training (for example, in orthopaedics, urology, neurosurgery, or pediatric surgery).3 The workforce that provides safe anesthesia includes nonphysician anesthesia providers (NPAP), such as anesthesia scientific officers in PNG and nurse anesthetists in Timor-Leste, who typically work in the major health care centers under the supervision of a specialist anaesthetist.3

Principles of partnership and engagement
RACS Global Health and its partner colleges support the Paris Declaration on Aid Effectiveness and its five main principles: ownership, harmonization, alignment, results, and mutual accountability. The declaration was adopted in 2005 and expanded by the Pacific Islands Forum in 2007 to emphasize the need for development partners to make multi-year commitments and for a greater employment of local systems.11,12 This collaboration has resulted in RACS-managed programs being increasingly and strategically directed in-country, incorporating needs assessment and evaluation of results led by local clinicians and their Ministries of Health.
The governance of Australian Aid programs demands that policies be put in place to ensure economical, efficient, and effective program outcomes; risk management; and procedures to manage adverse events and patient complaints. The RACS Global Health policies, available at www.surgeons.org/policies-publications/policies/racs-global-health/, embrace inclusiveness, diversity, anti-discrimination, and child protection and govern team selection and standards—as well as requirements for transparency, sound financial management, evaluation and monitoring with timely reporting of outcomes, and assessment of impact (see Tables 2 and 3, pages 26 and 27).

**Progress on global surgical metrics**

In 2016, the RACS Annual Scientific Congress in Brisbane and the Pacific Islands Surgical Association (PISA) Symposium in Samoa provided an opportunity for member nations to present their first four Lancet Commission on Global Surgery (LCoGS) metrics (see Table 1). Participants in these meetings agreed to advocate for using these metrics to inform national health planning in order to collect data to generate metrics 5 and 6, which are measures of catastrophic and impoverishing expenditure.

In September 2017, the PNG Medical Society’s 53rd medical symposium in Port Moresby centered on access to safe, affordable surgery and anesthesia and resulted in a demonstration of regional and cross-specialty consensus by the presidents of PISA, RACS, ANZCA, and RANZCOG.

**Perspectives from the colleges and associations**

**PISA**

PISA was inspired by global health forums organized at the RACS, which took place in Melbourne, Australia, in conjunction with the annual meeting of the Alliance for Surgery and Anesthesia Presence in October 2012, and a follow-up regional meeting in March 2013, which was attended by the president of the PISA, other surgeons from the Pacific, and representatives of RACS, ANZCA, and RANZCOG. This
meeting achieved consensus on the importance of measuring perioperative mortality rate (POMR) as a global surgical/anesthesia metric.\textsuperscript{14}

At their annual meeting in Nadi, Fiji, in April 2013, the leaders of Pacific region clinical services agreed to start collecting data pertaining to the POMR. This process was relatively straightforward, as it only required the collection of the number of operations performed in the operating theater (denominator), and the number of patients who died in the hospital after a procedure (numerator).\textsuperscript{14}

Having proved its feasibility, POMR became the entry point for health care leaders in the Pacific to recognize the value of the other LCoGS indicators when presented by John G. Meara, MD, DMD, MBA, FACS, co-chair of the LCoGS, and David Watters, OBE, ChM, FRCS, FRACS, a co-author of this article, at the RACS Global Health triennial forum in October 2015. The success of this presentation resulted in a collaborative effort to report these metrics in the Pacific based on the involvement of senior clinicians working with heads of clinical services and directors of health.\textsuperscript{10} It is crucial that our Ministries of Health become more directly involved in this practice.

**RACS**

Since 1995, 17 countries across the Asia-Pacific have partnered with RACS Global Health projects and programs featuring clinical activities, which have resulted in the provision of consultant services to more than 221,733 individuals and more than 43,055 procedures performed (see Table 4, page 28). Education and training are key to providing these clinical services, with RACS Global Health facilitating more than 100 workshops and courses, including the American College of Surgeons Advanced Trauma Life Support\textsuperscript{®} course since 1993, resulting in the instruction of an estimated 2,087 health professionals across the Asia-Pacific.
Today, surgical, anesthesia, and obstetric (SAO) specialists are in every country in this region with a population of more than 100,000, although the SAO density per 100,000 population is well below the desirable levels in most countries.

Visiting medical teams (VMTs) offer skills transfer, mentoring, and professional development and provide essential surgery, such as pediatric surgery, cardiac surgery, club foot management, and cleft lip and palate repair. The programs include the Pacific Islands program (PIP), the ATLASS program, The East Timor Eye Program (ETEP), and a Myanmar program that has included primary trauma care, emergency medicine, surgical skills, and the management of surgical emergencies (see Table 4). Other programs in Southeast Asia include the Asia Paediatric Surgery Education Project and the Eastern Indonesia program (Nusa Tenggara Timur and Papua).

RACS continues its more than 40-year relationship with PNG through a program in which its fellows visit as examiners, as members of VMTs, and through the provision of traveling fellowships and scholarships. Further discussions are ongoing to expand our support to health education and clinical services in PNG. Since 1988, the RACS scholarship program has benefited 225 individuals from 34 countries. Evaluation of the impact of returning scholars in their home country suggest that these scholars go on to become high-profile leaders, offering many new and expanded services to their patients.

ANZCA
Safe and affordable access to anesthesia is a pillar of global health. ANZCA has a number of programs and scholarships managed and supported by its Overseas Aid Committee. The focus of ANZCA’s educational outreach has been PNG, where teams of specialist anesthetists have been providing training, capacity development, and essential resources for more than 20 years. The ASA and the New Zealand Society of Anaesthetists (NZSA) have been providing similar support in the Pacific Islands, including Fiji, Tonga, the Solomon Islands, and

AUSTRALIA AND NEW ZEALAND SPECIALIST COLLEGES WORKING GROUP ON GLOBAL HEALTH

The Australia and New Zealand specialist colleges working group on global health includes representatives of the following organizations:

- Australian and New Zealand College of Anaesthetists
- Australasian College of Emergency Medicine
- Australian Society of Anaesthetists
- College of Intensive and Critical Care Medicine
- Royal Australian and New Zealand College of Obstetricians and Gynaecologists
- Royal Australian and New Zealand College of Ophthalmology
- Royal College of Pathologists of Australasia
- Royal Australasian College of Physicians
- Royal Australian and New Zealand College of Psychiatrists
- Royal Australian and New Zealand College of Radiologists
- Royal Australasian College of Surgeons
Micronesia. The ASA Overseas Development and Education Committee former chair, Rob McDougall, MD, also has led global collaboration with the World Federation of Societies of Anaesthesiologists (WFSA). The building of in-country and within-region capacity to self-train has been paramount. We have further supported in-setting appropriate standards for practice, as well as assisting with resources and delivery of both education and care. We have collaborated with other colleges’ activities to help deliver primary trauma care courses. Throughout the Asia-Pacific region, anesthetists are partners in the delivery of all the surgical clinical outreach programs. To this end, they are involved in coordination with RACS, ASA, and other involved societies or specialist groups, such as Interplast or Orthopaedic Outreach. Anesthesia teaching and training also extends to Mongolia, Cambodia, and Laos.

We have implemented the successful global Lifebox pulse-oximetry project in the Pacific region through a partnership between Lifebox, ASA, NZSA, Interplast Australia & New Zealand, and ANZCA. A course developed by ANZCA faculty of pain medicine physicians, the Essential Pain Management Program, has not only become accessible to local educators across the Pacific, but also has been taken up globally following its success in the Asia-Pacific.

Coordination between colleges and societies is necessary to avoid duplication of effort and assist in managing resources. The ANZCA and ASA overseas committees work collaboratively with the RACS Global Health Committee and have a single volunteering database for anesthetists.

One of the great achievements in addressing the anesthesia workforce’s needs has been the establishment of a WFSA Global Anesthesia Workforce Survey and map, to which ANZCA Fellows from the Asia Pacific have made a major contribution.

RANZCOG

For 25 years, RANZCOG has supported OB/GYN colleagues and women’s health professionals in the Western Pacific region. From a logistical and organizational perspective, RANZCOG has found it mutually beneficial to collaborate with RACS in the

| TABLE 2. GOALS AND OUTCOMES ALIGNMENT FOR RACS GLOBAL HEALTH PROGRAM DEVELOPMENT |
|---------------------------|---------------------------------|---------------------------------|
| Broader goals             | Health care is affordable, appropriate to local needs, of good quality, and accessible |
| Clinical health professionals provide quality services and contribute to educational programs throughout the regions | Strong collaboration on regional clinical services and workforce issues |
| End of program outcomes  | Strong national health leadership for delivering effective clinical services and health workforce development |
| Postgraduate students are representative of the region, and successfully graduate with relevant competency | National bodies value and actively engage in regional fora on relevant clinical services and health workforce issues |
| Improved local educational resources and skills | Ministries of Health (MOH) better identify and prioritize clinical service and training/continuing professional development needs, to inform planning |
| Ministry of Health (MOH) receive quality visiting medical teams that meet their priority clinical and training needs |
| Partner countries receive quality visiting medical teams that meet their priority clinical and training needs |

Prioritized specialized clinical service professionals have improved competencies

continued on page 28
### TABLE 3.
**GENERIC EVALUATION AND MONITORING FRAMEWORK BASED ON RACS PACIFIC ISLANDS PROGRAM**

| OVERALL OBJECTIVE |  |
|--------------------|  |
| To strengthen and consolidate access to safe, affordable surgery and anesthesia as needed in the Asia-Pacific region |  |

### OUTCOMES

<table>
<thead>
<tr>
<th>O1. Specialist clinical practitioners (SCPs) in LMICs have improved competencies</th>
<th>O2. VMTs meet individual country and regional clinical and training needs</th>
<th>O3. Local ownership: MOH better identify and prioritize specialist clinical services, training and CPD needs, to inform MOH planning</th>
<th>O4. Educational providers have enhanced skills, greater resources, and sufficient faculty to meet clinical training, medical/surgical education, professionalism, and standards needs</th>
</tr>
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<tr>
<td>01.1 Increased participation of SCP in clinical assessment, procedures, and quality assurance/quality improvement</td>
<td>01.2 Increased knowledge and skills of SCP in clinical specialty, leadership, audit, management, and advocacy</td>
<td>02.1 Increased engagement of MOH in identifying VMT objectives and priorities for specialist clinical service (SCS) delivery</td>
<td>02.2 High-quality and safe care with good postoperative outcomes</td>
</tr>
<tr>
<td>03.1 Increased capability and capacity of MOH in SCS delivery management and planning</td>
<td>03.2 Increased quality of processes, protocols, and systems for SCS delivery management and planning</td>
<td>04.1 Increased quality and diversity of educational resources being offered by national and/or regional institutions</td>
<td>04.2 Increased regional engagement and networking of SCS stakeholders to address common issues, set priorities, and plan advocacy</td>
</tr>
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</table>

### ACTIVITIES (INPUTS)

<table>
<thead>
<tr>
<th>A1.1 Identify workforce and service delivery gaps to enable priorities for specialist training to be set, as well as mapping and selection of SCPs for participation in VMT visits</th>
<th>A1.2.1 Conduct training workshops and facilitate other CPD opportunities through skill transfer, mentorship, and specific training opportunities or scholarships for selected sponsored individuals</th>
<th>A2.1.1 Facilitate MOH identification of gaps in service delivery to set VMT clinical and training objectives</th>
<th>A2.2.1 Conduct workshops to support MOH in capacity building, SCS delivery, and its management and planning, including participation and contribution to regional or local in-country planning meetings</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2.1.1 Conduct training workshops and facilitate other CPD opportunities through skill transfer, mentorship, and specific training opportunities or scholarships for selected sponsored individuals</td>
<td>A2.2.1 Conduct workshops to support MOH in capacity building, SCS delivery, and its management and planning, including participation and contribution to regional or local in-country planning meetings</td>
<td>A3.1.1 Conduct training and workshops to support the development of systems and processes for promoting clinical governance, quality improvement, and continuing professional development.</td>
<td>A3.2.1 Support the development of systems and processes for promoting clinical governance, quality improvement, and continuing professional development</td>
</tr>
<tr>
<td>A3.2.1 Support the development of systems and processes for promoting clinical governance, quality improvement, and continuing professional development</td>
<td>A4.1.1 Support educational institutions to develop tailored, specialized clinical professional development and training programs, including training of specialists</td>
<td>A4.2.1 Establish and systematize professional development networks between ANZ and the region, including collaboration between ANZ and regional professional bodies</td>
<td>A4.2.2 Facilitate links between the relevant specialist colleges in ANZ and professional colleges or societies, including sponsorship to attend meetings and present on scientific meetings and strategic discussions, as well as presidential round tables at scientific congresses</td>
</tr>
<tr>
<td>A4.2.2 Facilitate links between the relevant specialist colleges in ANZ and professional colleges or societies, including sponsorship to attend meetings and present on scientific meetings and strategic discussions, as well as presidential round tables at scientific congresses</td>
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MAY 2018 BULLETIN American College of Surgeons
<table>
<thead>
<tr>
<th>Program</th>
<th>Years</th>
<th>Clinical visits or courses</th>
<th>Consultations</th>
<th>Operations</th>
<th>Health professionals training</th>
</tr>
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<tbody>
<tr>
<td>Pacific Islands Program*</td>
<td>Since 1995</td>
<td>807</td>
<td>93,863</td>
<td>24,356</td>
<td>103 surgeons (23 subspecialists)</td>
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<td></td>
<td></td>
<td>29 anesthetists</td>
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<td></td>
<td></td>
<td>90 ASO &amp; NPAPs</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>59 obstetricians</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>1995–2012</td>
<td>158</td>
<td>17,174</td>
<td>6,777</td>
<td>183 enrolled</td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td>96 diplomats</td>
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<td></td>
<td>10 pediatricians</td>
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<td></td>
<td>7 surgeons</td>
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<td>1 anesthetist</td>
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<td></td>
<td></td>
<td></td>
<td>21 nurse anesthetist NPAPs</td>
</tr>
<tr>
<td>Timor-Leste resident specialists and visiting teams</td>
<td>Since 2001</td>
<td>4–5 resident specialists providing in-country supervision and training</td>
<td>N/A</td>
<td>N/A</td>
<td>1 ophthalmologist</td>
</tr>
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<td></td>
<td></td>
<td>6 senior registrars</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4 postgraduate candidates</td>
</tr>
<tr>
<td>East Timor Eye Program</td>
<td>2000</td>
<td>93</td>
<td>100,636</td>
<td>10,888</td>
<td>2 eye care nurses</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10 junior ophthalmologists</td>
</tr>
<tr>
<td>Sumba Eye Program</td>
<td>2011</td>
<td>11</td>
<td>10,000+</td>
<td>1,004</td>
<td>377 Aimed at competency training</td>
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<tr>
<td>Asia Pediatric Surgery Education</td>
<td>2016</td>
<td>15 courses</td>
<td>60</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 clinical mentoring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myanmar</td>
<td>2009</td>
<td>62 courses†</td>
<td>N/A</td>
<td>N/A</td>
<td>1,175</td>
</tr>
</tbody>
</table>

*Pacific Islands Program-Cook Islands, Fiji, Kiribati, Marshall Islands, Federated States of Micronesia, Nauru, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu

†Primary Trauma Care, Emergency Life Support, Advanced Trauma Life Support, Essential Pain Management, Emergency Medicine, Management of Surgical Emergencies, Surgical Skills Education and Training

All visiting team members and course faculty provide their services pro bono. No salaries are paid except to the resident specialists and staff in Timor-Leste.

PIP and ATLASS Programs. The RANZCOG also has provided education and training in gynecology surgery in PNG. Collaboration between colleges, as well as with regional partners and clinical organizations, strengthens and informs the training activities we provide both together and individually. Such a collaborative approach avoids the potential for silos, which can easily occur in the absence of effective communication and cooperation.

RANZCOG support for OB/GYN colleagues in the Pacific is typically delivered through networking and resources available to Pacific OB/GYN trainees, which continues through formal associate membership of RANZCOG and is available to graduates with the master of medicine qualification from the Pacific medical schools. At present, 52 practicing OB/GYN specialists in the Pacific have an associate membership in RANZCOG. Associate membership requires participation in a compulsory continuing professional development (CPD) program. Our evaluation of this program has revealed that it motivates and stimulates practicing
OB/GYN specialists to focus on their professional development throughout their career while reducing feelings of isolation. These specialists and trainees also have benefited from more than 150 scholarships or short-term traveling fellowships since 1995. Building a culture of research is another key goal to improve access to and delivery of care in the future. A research workshop has been made available regularly through the Pacific Society for Reproductive Health, and the first RANZCOG Global Health research grant was awarded in 2016 to a Papua New Guinean OB/GYN specialist.

A priority for RANZCOG is reducing maternal and perinatal mortality, and improving access to safe surgery and anesthetic services is fundamental in cases where cesarean section is the best or only option for the safety of the mother and her baby. Cesarean section rates are less than 10 percent in most Pacific Island countries; however, they are increasing to 20 percent in Fiji.

Scholarships
RACS, ANZCA, ASA, and RANZCOG offer short-term traveling fellowships to their annual scientific or subspecialty meetings, as well as a range of three- to 12-month hospital placements for specialist training or extended scope of practice. These opportunities are normally awarded after obtaining the relevant specialist qualification from the scholar’s home country. A number of specialty groups offer similar opportunities, such as Orthopaedic Outreach, the Asia Pacific Orthopaedic Association, Interplast Australia and New Zealand, and ANZCA’s pain faculty. RANZCOG has facilitated resident placements or exchanges, often with Australians or New Zealanders filling positions in the Pacific, rather than vice versa, due to licensure requirements. ANZCA also offers a scholarship to enable a trainee to accompany a VMT to expose them to global health issues, as do some orthopaedic VMTs.
Summary

The development programs described in this article have fostered professional networks between individuals and institutions across the Asia-Pacific. The specialist medical colleges, together with the scholarships they provide, have generated great opportunities for professional collaboration and partnership in the region. The work of the LCoGS, with its clearly defined messages and achievable metrics, has inspired surgeons, anesthetists, and obstetricians to become more engaged in public health and to advocate for safe, affordable, and timely access to emergency and essential surgery. To realize the goals of World Health Assembly Resolution 68.15 by 2030 and help our colleagues in the LMICs of our region deliver services to their populations, ongoing and sustained support is needed. The leadership, ownership, and strategic direction of these initiatives should be established by the individual countries themselves. The people of the Pacific and Southeast Asia deserve quality health care, but this goal can only be achieved with access to safe, affordable surgery and anesthesia.

REFERENCES, CONTINUED

The Royal Colleges of Surgeons in the U.K. and Ireland have real concerns about the inequity of care in low- and middle-income countries (LMICs). These organizations also recognize the opportunities that exist to contribute to system strengthening and to develop standards, education, assessment, and advocacy initiatives in order to enhance access to quality surgical care. A particularly important area of this work relates to the contextualized provision of curriculum development and suitable clinical examinations that allow surgeons to benchmark their training and skills against an internationally recognized standard. The Royal Colleges of Surgeons in the U.K. and Ireland work together to contribute to the development and delivery of these activities and provide career-long support for their fellows and members who work to end health care disparities in LMICs.

This article describes contributions from the four surgical Royal Colleges in the U.K. and Ireland. Much of this work is collaborative, especially in relation to advocacy and support for the mission of the World Health Organization (WHO), as well as in curriculum development, quality assurance, and the assessment of young surgeons. These efforts are coordinated activities, and this article summarizes the main areas in which we operate.

RCSI: A partnership approach to global surgery

Since its inception in 1784, the purpose of the Royal College of Surgeons in Ireland (RCSI) has been to educate and train surgeons to meet the needs of patients. Today, its reach is more extensive than its founders could have envisioned, as the RCSI helps develop health care leaders worldwide. In LMICs, the RCSI achieves this goal by partnering with local institutions and unlocking potential at the regional level.
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COSECSA collaboration

In 2007, collaborative efforts between the RCSI and the College of Surgeons of East, Central and Southern Africa (COSECSA) began to support the training of surgeons in Africa. COSECSA launched in Nairobi in 1999, and one of its aims was to stop the “brain drain” of African surgeons who trained abroad and never returned home. With funding from Irish Aid, the Irish government’s official agency for international development, RCSI and COSECSA embarked on a collaborative program to help COSECSA train more surgeons in the region.

Prior to this initiative, COSECSA’s cumulative total of graduates was 17. By December 2016, that number reached 206, which is an average increase of 39 percent in graduating surgeons year-to-year (see Figure 1, page 33).

College without walls

COSECSA is a college without walls. It trains surgeons through an expanding network of 99 accredited hospitals and 165 accredited trainers in 12 member countries. All trainees follow the same program of training for the first two years. They then are eligible to sit for COSECSA’s membership exams. In the final three years, trainees choose one of seven specialties and then are eligible to take COSECSA’s fellowship exams. The COSECSA training model is shorter than that of many comparable international surgical training institutions and is focused on clinical exposure.

The RCSI has provided support in curriculum development, examinations, and a variety of training and leadership courses. Together, both colleges have designed information technology (IT) resources, such as a mobile-optimized e-logbook and an e-learning portal with content relevant for the region. As the number of trainees enrolling in the program has increased, many RCSI departments, including finance, IT, communications, and quality assurance, have supported specific projects managed by COSECSA’s secretariat, a role that oversees the day-to-day administration of COSECSA training and examination processes.

COSECSA is now the largest single contributor to the surgical workforce in the region, and, in fact, the organization has developed an interactive map to document surgeon density. Significantly, research has shown that surgeons who train locally
are increasingly retained in the region. More specifically, 85 percent of surgeons practice in the country in which they trained, 88 percent are practicing in East, Central, and Southern Africa, and 93 percent remain in Africa. The brain drain in Africa has become a myth.

Other positive outcomes from the RCSI’s collaboration offer significant potential for the future financial support of global surgery programs. With real-time data on operations performed by more than 500 surgical trainees in 12 countries, COSECSA is now uniquely positioned to engage in collaborative research on the training of surgeons and practice of surgery in sub-Saharan Africa, and this research could generate vital, translational data for governments and potential funding bodies.

Surgery at the district level: COST- and SURG-Africa

Most countries in the region have a critical need for surgically trained clinicians who are willing to work in district hospitals. Since 2011, RCSI researchers have been leading two European Union-funded projects aiming to generate evidence that a safe surgery model for district hospitals is feasible, effective, and sustainable.

Nonphysician clinicians (NPC) are the backbone of clinical care services for rural communities in many African countries. In Malawi, COST-Africa, also known as Clinical Officer Surgical Training in Africa, accredited and rolled out a national bachelor of science in surgery for clinical officers (COs). As a result, the volume of general surgical cases at district hospitals increased by 89 percent. The outcomes of hernia operations done by COs in district hospitals were comparable with those performed in central hospitals.

COST-Africa also developed a supervision model in Zambia, enabling specialists from central hospitals to travel to district hospitals to deliver on-the-job training, to supervise, and to mentor surgically active district NPCs. This model improves the quality and scope of surgical care at the district level and allows hospitals to save money on referrals. These NPCs help build the surgical skills of general medical officers and provide a potentially sustainable strategy for making surgery available to rural populations.

In a second European Union-funded study, Scaling up Safe Surgery for District and Rural Populations in Africa (SURG-Africa), NPCs in three countries are being trained in clinical decision making, safe anesthesia, peri- and postoperative monitoring, safe surgery for Ministry of Health (MOH)-approved

![Figure 1. COSECSA Graduates 2006–2016](image-url)
elective and common emergency conditions, as well as surgical team leadership and management skills. RCSI has chosen a point of entry—surgical training and supervision—that best leverages its strengths. Ultimately, it will not be institutions or individuals in high-income countries, but our partners, including governments, that must provide the infrastructure and institutions to train the future surgical providers in Africa.

RCSI: Training, advocacy, and delivery
The Royal College of Surgeons in Ireland (RCSI) was founded in 1784 by 12 surgeons who wished to improve the standards of surgical training in Ireland. It has since grown to become one of the leading medical colleges in the world, with a focus on education, research, and patient care. RCSI has a strong commitment to global health, and has been actively involved in training and supporting surgeons in LMICs.

RCPSG: Training, advocacy, and delivery
The Royal College of Physicians and Surgeons of Glasgow (RCPSG) was founded in 1599 by Maister Peter Lowe, who left his native Scotland for surgical training in France, where he remained for many years. He then returned to improve the medical standards of his local community. More than 400 years later, the RCPSG’s vision remains “the highest possible standards of healthcare.” It pursues this vision through the provision of academic resources, examinations, educational activities, and contributions to medical regulation and public policy. Uniquely for a U.K. Royal College, the Glasgow College membership encompasses surgeons, physicians, dentists, travel medicine specialists, and podiatrists.

Having demonstrated in the 16th century that healthcare training and experience gained outside a local community can ultimately serve home populations, as well as build bridges abroad, the RCPSG continues to maintain and promote this perspective today.

Advocacy
With the support of the Scottish government, the RCPSG has recently taken a leading role in reviewing and analyzing the policy background that surrounds global health volunteering work in Scotland. This endeavor resulted in a major report, Global Citizenship in the Scottish Health Service: The Value of International Volunteering, published in May 2017, which challenged the Scottish government to institutionally recognize the mutual benefits of engagement in global health (see Figure 2, page 35). The report made eight recommendations to the government, which focused on improved support and coordination of international volunteering efforts by National Health Service workers. Scotland’s Minister for International Development welcomed the report at its launch, and the leaders of this initiative anticipate that the recommendations will be taken forward fully in the coming years.

The RCPSG also has realized its potential to advocate for the prioritization of surgical capacity building in resource-challenged environments. Together with other U.K. surgical colleges, we established a correspondence with Tedros Adhanom Ghebreyesus, PhD, MSc, around the time of his election to WHO director-general, and urged him to place resources behind the World Health Assembly (WHA) landmark 2015 Resolution 68.15 on building capacity in emergency and essential surgical and anesthetic care. Dr. Tedros responded with a letter that demonstrated his commitment to work in consultation with Member States to build national capacity for emergency and surgical care to implement WHA 68.15. “As stated in WHA 68.15, surgical capacity is an essential part of universal health coverage and our political commitment and programs must reflect that,” Dr. Tedros wrote in the letter. This correspondence was subsequently circulated to multiple nation states at the 2017 WHA to establish his commitment to surgical capacity building, and the RCPSG intends to monitor progress carefully.

Facilitation of medical training
Alongside other Royal Colleges, the RCPSG supports the U.K. Department of Health’s Medical Training Initiative (MTI), which offers a time-limited opportunity for postgraduate medical professionals, primarily from LMICs, to obtain training experience in the U.K. before returning to their country of origin. In addition to sourcing and
coordinating placements for a range of applicants on a cost-recovery basis, the RCPSG has instituted its own MTI bursary scheme, the Livingstone Fellowship, which supports some of the start-up costs for Malawian trainee physicians or surgeons coming to the U.K. for targeted training. Physicians who have benefited from this program recently include Wone Banda, MB, BS, MSCS, FCS, and T.K. Itaye, MB, BS, MMed (respectively training in plastic surgery and general and breast surgery), and following a successful year of training in Scotland they have returned to posts in Malawi as consultant specialist surgeons.

Glasgow College fellows and members have a history of supporting underserved communities beyond their home environment. The college has delivered some of its standard educational courses in low-income environments, including the Basic Surgical Skills course, and is scoping future educational opportunities with the Malawian College of Medicine and other institutions. RCPSG fellows and members from around the world can access a variety of travel bursaries, which aim to support the delivery of high-quality clinical input overseas and ensure the effective transfer of learning back into the home environment. Recipients of college support include general surgeons, orthopaedic surgeons, and gastroenterologists. The college has provided resources to provide training and capital equipment for endoscopic services, which is much-needed care in a country with a high incidence of esophageal varices related to schistosomiasis and upper gastrointestinal cancer.

The Glasgow College has restructured to enhance these vital areas of global health involvement and has active projects in sub-Saharan Africa, Sierra Leone, Tamil Nadu, India, Sri Lanka, and Malaysia.
This article describes contributions from the four surgical Royal Colleges in the U.K. and Ireland. Much of this work is collaborative, especially in relation to advocacy and support for the mission of the World Health Organization (WHO), as well as in curriculum development, quality assurance, and the assessment of young surgeons.

**FIGURE 3.**

*INTERNATIONAL STRATEGY 2016–2020*


**RCSEng: Global surgery research and training**

The Royal College of Surgeons of England (RCSEng) has developed a broad portfolio of activities in recent years as highlighted in the *International Strategy, 2016–2020* (see Figure 3, this page). These efforts are designed to create sustainable surgical services in LMICs. The RCSEng is a member of the G4 Alliance (also known as the Global Alliance for Surgical, Obstetric, Trauma, and Anaesthesia Care).17

**International development project**

The RCSEng’s international development project focuses on resource-poor countries to establish basic practices that support continuous quality improvement. At present, the following five projects are under way:

- **Core surgical skills training.** This project involves working in Gaza at the Al-Shifa Hospital to train local surgeons to become leaders of basic surgical skills courses.

- **The safe operating theater.** This program involves training a multidisciplinary team to develop best practices in operating theater function and management. This project is taking place in Ethiopia, where a local team will be trained at a large center, enabling these physicians to deliver training to a wider community of health care professionals elsewhere in the country.

- **Objective structured clinical examinations development.** This project has been initiated in Ethiopia in conjunction with the Ministry of Health and provides examinations for trainee surgeons specifically contextualized for local health problems.

- **Surgical capacity building.** This project has been developed for northern Sri Lanka and involves week-long workshops in a number of surgical
specialties intended to develop skills to manage priority surgical challenges at the local level.

• Development of hub-and-spoke training models. These models are based in Vellore, India, and involve teaching general surgeons in district hospitals how to identify, treat, or refer pediatric surgical conditions.

International surgical training program
As part of the U.K. MTI, surgeons from LMICs are admitted to two-year surgical training placements in the U.K. through the RCSEng. Approximately 40 surgical trainees are successfully placed annually, and the college assists other overseas surgeons with visa (tier 2) procurement and registration with the general medical council, and serves as a source of education, support, and advice.

Global Surgical Frontiers Conference
The RCSEng hosted the sixth annual Global Surgical Frontiers Conference in April 2017. This meeting involves collaboration between the college, international organizations, surgical trainee bodies, and student societies with the goal of introducing young surgeons to the needs and opportunities related to the development of surgery at a global level. The next conference will take place in June, and the theme will be trauma.

Global surgical research
The RCSEng has played a pivotal role in the development of trainee-led clinical research, establishing a trials network in the U.K. that now covers all surgical specialties. In the last two years, this system has been expanded to an international trainee-led research group—GlobalSurg. This group has already undertaken cohort studies, accumulating data on more than 27,000 patients involving more than 1,000 collaborators in more than 100 countries, half of which are LMICs. The group recently initiated the world’s first trainee-led surgical trial centered on LMICs and involving 5,500 patients. Oversight committees and policy and implementation committees to support this organization are both provided through RCSEng.

The RCSEng also provides individual support (full salary plus running costs) to enable U.K. trainees to undertake research activities abroad. At present, the college supports three fellows in North America, one in mainland Europe, and one in sub-Saharan Africa. International traveling fellowships also were awarded in 2017 to seven trainees, four of whom are overseas trainees visiting the U.K. from Myanmar, Ethiopia, and India, with three U.K. trainees visiting the Democratic Republic of Congo for trauma, Nepal for pediatric surgery, and Ethiopia for head and neck surgery.

RCSEd: The value of specific partnerships
The Royal College of Surgeons of Edinburgh (RCSEd) has historically been involved in education and assessment on many continents. It also shares its innovative surgical distance learning masters programs, ESSQ (Edinburgh Surgical Sciences Qualification), in association with the University of Edinburgh since 2007, with 1,750 students enrolled in some 70 countries over 10 years (see Figure 4, page 38). In 2017–2018, the total number of surgical trainees includes 530 students enrolled for the master of science in surgical sciences and for the ChM (master of surgery) programs in surgical specialties. These programs typify the global impact of the RCSEd on surgical education and training.

In an effort to focus on global surgery specifically, this section of this article concentrates on capacity-building initiatives of the RCSEd in two major areas: Malawi and Myanmar, with which the college has had longstanding relationships. The RCSEd has recently developed a partnership with the University of North Carolina (UNC) at Chapel Hill to facilitate the delivery of its surgical training program initiative based in Lilongwe, Malawi.
The RCSEd has bases of operation in Edinburgh and in Birmingham in the U.K., and it has an international office in Kuala Lumpur, Malaysia. It aims to improve the health of our LMIC partners by delivering what they have requested of us, rather than attempting to identify the problems and enforcing change or perhaps providing unwanted resources or systems. Similarly, the RCSEd does not donate large sums of money without restriction, but instead directs its funding to specific projects where there will be a measurable impact and outcome.

Malawi
Scotland has provided support to Malawi for decades, specifically through the organization’s overseas development fund, as well as via the Scotland Malawi Partnership, the largest community-based international development network in the U.K.\(^2^3\) The RCSEd also has longstanding links with the government of Malawi, and Malawian surgical students are well-represented in the postgraduate surgical distance-learning programs offered jointly with the University of Edinburgh, ESSQ resulting in an MSc (loosely equivalent to membership of the Royal Colleges of Surgeons’ examination) and the ChM in specialty surgery (similar to Fellowship of the Royal Colleges of Surgeons examination standards at the completion of training). Fellows of the RCSEd are involved in the Queen Elizabeth Hospital, Blantyre, and the Malawi College of Medicine; the Edinburgh College was a cofounder of COSECSA, of which Malawi is a member. The RCSEd continues to support COSECSA through an annual traveling fellowship, awards, courses, and assistance with assessments. RCSEd members and fellows also contribute to humanitarian work in Malawi, largely independent efforts that the college does not directly oversee.

Training fellowships
The RCSEd’s recent initiative offers a fundamental new direction for surgical training in Malawi, following publication of the LCoGS. The RCSEd provides financial and professional support for the training of Malawian-born surgeons for five years in their own country under COSECSA guidelines. This effort represents true capacity building, and the aspiration is that the total number will rise to five trainees on a rolling cycle as each year’s activity is assessed for successful training outcomes and financial tolerances. The UNC department of surgery has close links with the RCSEd and is facilitating financial support and training on-site with a model that parallels the path of their own students, and as a result, the college will be offering appropriate courses for visiting teams. The first surgical trainee is badged as an RCSEd training fellow with college benefits. She commenced training in March and is expected to visit the college in the
U.K. at its expense and for mutual benefit. This model presumably could safely be replicated elsewhere.

Myanmar

Myanmar has been an RCSEd partner for more than four decades. Training and assessments are provided in Yangon (formerly known as Rangoon) and Mandalay, with membership examinations and a biannual diploma ceremony occurring in Yangon.

Collaboration between the RCSEd and surgeons in Myanmar is underpinned by a memorandum of understanding (MoU) with the Department of Medical Science in the Ministry of Health and Sport. The MoU terms reflect the importance of maintaining standards, sustainability, responsibility, and ownership of a health care partnership project. The five-year agreement commenced in 2013 and provides support for surgical training, education, and assessment activities. In addition to specific surgical training resources, topics such as working with multidisciplinary teams, morbidity and mortality conferences, grand rounds, and other topics related to professional practice are embedded in the program.

The RCSEd carried out an early needs assessment for surgical training, with support from a start-up grant from the Tropical Health Education Trust (THET), a charitable funding organization linked to the U.K. government. This assessment led to a successful bid for funding from U.K. Aid, managed by THET, as part of the Trust’s Health Partnership project. This funding has enabled the RCSEd to work closely with the Myanmar Nephro-Urological Society to facilitate capacity building in an underprovided specialty, resulting in 17 trained government urologists for a population of 53 million in 2013.

The two-year pilot program consisted of visits by senior British urologists acting as visiting professors to operate and teach clinical skills, as well as provide general professional training in Yangon and Mandalay. These visits were complemented by short visits of selected Myanmar trainees to specific

REFERENCES


continued on next page
departments in the U.K. The selected surgeons were accorded observer status with full participation in the host department’s activities, short of direct patient treatment.

This effort has resulted in effective sustainable local delivery of a new surgical training program in urology incorporating workplace-based assessments, a quality improvement program, portfolio development, and an annual appraisal of trainees. Ultimately, these activities will be delivered locally to a high standard, while maintaining a role for the RCSEd in quality assurance and guidance where requested. Again, this model could be readily adopted for other specialties.

Both of these international initiatives are examples of local requests for directed assistance, which the RCSEd, through its examinations and education departments, is able to achieve.

Acknowledgments
The authors gratefully acknowledge the contributions of the following individuals: David Tolley, MB, FRCSEd, past-president, RCSEd; Mike Lavelle-Jones, MB, ChB, president, RCSEd; and O. James Garden, CBE, BSc, MB, ChB, MD, FRCSEd, FRCPEd, FRSE, regius professor of clinical surgery, dean international, University of Edinburgh.

REFERENCES, CONTINUED
The College of Surgeons of East, Central and Southern Africa (COSECSA) was founded in 1999. COSECSA is a not-for-profit organization that operates in 12 countries in sub-Saharan Africa and is an independent body that fosters postgraduate education in surgery and provides surgical training throughout sub-Saharan Africa (see Figure 1, page 42). COSECSA’s primary objectives are to advance education, training, standards, research, and practice in surgical care in this region. More specifically, COSECSA shapes and leads the training of surgeons in East, Central, and Southern (ECSA) Africa. The College offers a surgical training program with a standardized examination that is internationally recognized. To date, 214 specialist surgeons have graduated from COSECSA-affiliated programs. Admission to the College is open to all registered health care practitioners who comply with the professional requirements for admission.1

Surgical workforce in the ECSA region
Access to surgical care remains one of the most significant and underreported issues in the region. A situational analysis of the COSECSA region workforce was recently conducted. The study results indicate that the region has only 1,690 surgeons serving a population of more than 320 million. Of these surgeons, 53 percent are general surgeons, whereas the others have additional subspecialty training. The surgeon-to-population ratio is 0.53 per 100,000 population.2

In addition to the workforce shortage, the region has a significant misdistribution issue. The data indicate that 71 percent of surgeons practice in urban areas with populations greater than 500,000. Women are underrepresented, comprising only 7 percent of the surgical workforce.2

In partnership with the Royal College of Surgeons in Ireland (RCSI) and other members of the International Collaborators for Essential Surgery network of surgeons and public health specialists, an interactive map showing the location of all surgeons throughout the ECSA region has been created. The interactive map shows the number of surgeons per 100,000 individuals in any given COSECSA region.3

Strategic plan and implementation of WHA Resolution 68.15
A five-year strategic plan for implementing the World Health Assembly (WHA) Resolution 68.15 in 2016–2020 has been developed and is under way. The COSECSA
strategic plan is a dynamic blueprint for the growth of COSECSA as an organization and is based on four key goals. These strategic goals are as follows.

Graduate 500 surgeons by 2020
COSECSA training sites have been increasing steadily. A recent count shows 99 accredited sites. The enrollment of surgical trainees continues to increase, with 127 enrollees in 2017 and 135 in 2018. Because of the innovative approach to hospital-based training in the COSECSA region, the attrition of graduates has been minimal. A study on the retention rate of surgical graduates (COSECSA and 24 master of medicine institutions) from 1974 to 2013 across eight COSECSA countries was completed in October 2017. The data showed that 85.1 percent of graduates were retained in their home country, 88.3 percent in the COSECSA region, and 93.4 percent of graduates remained within Africa.

Achieve excellence in training and research
Together with international partners, COSECSA is building the research infrastructure. Data collection through a resident logbook has been centralized, and the electronic logbook contains records of more than 100,000 cases. In 2016, four COSECSA trainees (Philip Blasto, MD, from Kenya; Gift Mulima, MD, from Malawi; Vanda Amado, MD, from Mozambique; and Ryuba Nyamsogoro, MD, from Tanzania) received research grants of $3,500 (U.S.) each to undertake independent research projects in the ECSA region. A COSECSA country representative supervises each grant, and the research findings are due to be published soon.

COSECSA has a comprehensive e-learning platform known as School for Surgeons (SFS), which contains mandatory learning materials for trainees in the following programs: Fellowship of the College of Surgeons (also known as FCS) and Membership of the College of Surgeons (also known as MCS). The SFS was fully redeveloped in 2016 to match the new COSECSA branding and make it more user-friendly and accessible. The new features of the SFS included mobile optimization of the platform. This platform is viewed as a more effective and efficient way of delivering mobile-optimized learning for trainees.

Increasing knowledge and competence in surgery through skills courses is one of the strategies the College has been developing. In 2016, more than 40 courses were conducted for different surgical specialties in the COSECSA member countries. The number of courses conducted increased to 45 in 2017.

Essential surgical training (EST) aims to ensure that standardized, cost-efficient, and high-quality essential surgical services are accessible to the rural population in the district’s hospitals in Zimbabwe (ZEST) and Rwanda (REST). A total of 102 nonsurgeons participated in ZEST courses, and 87 nonsurgeons participated in REST courses.

In addition to these basic courses, four additional basic surgical skills courses took place in conjunction with the RCSI COSECSA Mobile Surgical Skills Unit in 2016.
Maintain best practice in examinations and assessment
The COSECSA Council has recently passed a resolution to inaugurate the college’s own court of examiners from among its senior fellows. The main responsibility of the examiners will be to participate in a training workshop prior to the examinations and to administer the clinical examinations. We anticipate that the establishment of the court will improve the postgraduate surgical examining process and the standardization of the exam.

Build to organizational excellence, financial sustainability, and partnerships
Within the COSECSA, Women in Surgery Africa (WISA) was founded in December 2015, with the aim of increasing the number of women surgeons in the region by supporting women physicians who train in surgery. The college will ensure these physicians are mentored while they complete the training program and beyond. This initiative will increase the number of women surgeons, which comprise just 9 percent of the total number of surgeons in the region.

COSECSA’s standing and recognition in the region is growing, as evidenced by the fact that more countries in Africa have joined our organization. We continue to build international partnerships based on mutual benefits. Over the last few years, COSECSA has partnered with the American College of Surgeons to support the increase of women in surgery efforts, sharing educational resources, and supporting leadership training when there is greatest need. COSECSA’s relationships with the Royal Colleges of Surgeons in the U.K. and Ireland have been very productive. COSECSA and the RCSI just celebrated 10 years of collaboration—a partnership that has been the most productive for our college.

Conclusion
The COSECSA region is facing one of the greatest surgical workforce shortage crises in the world. It is of paramount importance that the organization’s partnerships focus on workforce development. COSECSA is looking forward to improving the quality of our trainees, as well as scaling up the overall number of trainees. We welcome support and collaborative partnerships with surgical organizations from high-income countries and nongovernmental organizations dedicated to improving the care of the surgical patient to help us achieve our goal of graduating 500 surgeons by 2020.

REFERENCES
The World Federation of Societies of Anaesthesiologists (WFSA) is composed of 135 member societies in more than 150 countries and represents hundreds of thousands of anesthesiologists around the world.

The WFSA’s vision is of “universal access to safe anesthesia,” and its mission is “to unite anaesthesiologists around the world to improve patient care and access to safe anaesthesia and perioperative medicine.” Anesthesiologists are leaders in teamwork and patient safety and are experts in anesthesia and perioperative care, resuscitation, intensive care medicine, and pain management.

**WHA 68.15, safe anesthesia, and safe surgery**

The year 2015 marked a turning point for the 5 billion out of 7 billion people in the world without access to safe, affordable, and timely surgery and anesthesia care. With the release of the following publications and reports—the third edition of *Disease Control Priorities: Essential Surgery*; *The Lancet* Commission on Global Surgery (LCoGS) “Global surgery 2030: Evidence and solutions for achieving health, welfare, and economic development”; and the unanimous passage of World Health Assembly (WHA) Resolution 68.15, Strengthening Essential and Emergency Surgery and Anaesthesia as a component of Universal Health Coverage—a platform was established to ensure that the surgical patient is included in any commitment and action to ensure universal health coverage (UHC), as outlined in the United Nations’ sustainable development goal (SDG) 3.

The WFSA has official liaison with the World Health Organization (WHO) and was part of the campaign to promote the passage of WHA Resolution 68.15, which is intended to ensure that safe anesthesia is an indivisible and indispensable element of safe surgery, and that both are a human right.
In addition to supporting the resolution, the WFSA has been active in ensuring that key indicators, such as perioperative mortality rate and surgical workforce density, are included in the WHO list of 100 Core Health Indicators, and that the WHA commits to regular progress reporting against the resolution. Ongoing reporting is an essential requirement if we are to convert WHA 68.15 into action and measurable change.

Our framework for action
As part of its response, the WFSA defined its goals, described the size of the crisis in anesthesia, and outlined a plan for achieving its mission and measuring its progress.

The plan is based on the WFSA International Standards for a Safe Practice of Anesthesia. The latest revision of these standards will be published in 2018 and will be a shared WFSA-WHO set of guidelines establishing the minimum standards required for the provision of safe anesthesia in the areas of workforce, equipment and infrastructure, and medicine. With the establishment of a clear description of safe anesthesia practice, the WFSA can define which efforts are required to ensure safe, affordable, and timely anesthesia care. The standards also can be used to inform the development of national guidelines, which are useful in achieving more local buy-in, targets, legislation, and national improvement plans.

The WFSA Global Anesthesia Workforce Survey highlights the breadth of this health care crisis and helps measure how it progresses in the future. Conducted in 2015–2016, the survey documented the shortage of anesthesia providers against the LCQ recommendation of 20 specialist surgeons, anesthesiologists, and obstetricians (SAOs) per 100,000 population, with an interim target for the number of anesthesiologists set at five per 100,000 population. The survey showed the stark differences in physician and nonphysician anesthesia provider numbers between different regions of the world and between resource-rich and resource-poor countries. The study also found that to meet the target, at least an additional 136,000 anesthesiologists are needed—mostly in low-income countries.

To measure differences in anesthesia provider numbers, the aim is to repeat the survey every four years. Notably, the survey also is augmented by a web-based map, which is a real-time tool for tracking the anesthesia workforce and is updated as new information becomes available.
is received (see Figure 1, page 45). The survey also is enhanced by ongoing support of advocacy efforts.

In 2017, the WFSA member societies unanimously approved a position statement on anaesthesiology and UHC, describing how the federation and anesthesia providers will respond. The statement describes anaesthesiology as a medical specialty, one that is potentially high-risk and that must, wherever and whenever possible, be provided, led, or overseen by physicians. The statement explains that in many countries, nonphysician providers (nurses, clinical officers, and technicians) are and will be part of any solution and acknowledges that a range of trained providers are necessary to achieve UHC by 2030. Teamwork is vital to meeting this goal, as is the development of a task-sharing approach across the anesthesia-surgical team.

Four programs for accessibility

The WFSA has four program areas that are intended to ensure access to proper anesthesia care for all global populations, including: advocacy, education and training, safety and quality, and innovation and research.

The WFSA’s advocacy-related priorities include informing both the public and policymakers about the role of anesthesia and positioning it as a priority for all stakeholders, including the United Nations’ WHO/WHAs, government bodies, nongovernmental organizations, industry, and funders, as well as for the surgical team itself. As part of its mission to inform and support anesthesia care health policy, the WFSA organized the inaugural SAFE-T (Safe Anaesthesia For Everybody—Today) Summit, which took place in London, U.K., in April 2018.

Education and training priorities include the expansion of the WFSA’s fellowship program—a subspecialty mentoring program that provides clinical and leadership training for up to 50 young anesthesiologists every year. The WFSA also intends to expand short-term Safer Anaesthesia From Education (also known as SAFE) training aimed at all anesthesia providers, including those who work in obstetrics, pediatrics, and operating room settings, as well as training for those who work in pain management. In addition, the WFSA supports the attendance of young anesthesiologists at scientific conferences, including the World Congress of Anaesthesiologists, through the WFSA scholarship program.

The WFSA will continue to produce a range of online educational materials, including the web-based...
Anaesthesia Tutorial of the Week, the continuing medical education journal Update in Anaesthesia, and the global health section in Anesthesia and Analgesia via our partnership with the International Anesthesia Research Society. The federation plans to engage in ongoing improvement of in-person and online education resources available through the WFSA, member societies, and other partners.

The safety and quality goals include all WFSA program areas, specifically the ongoing revision and dissemination of the international standards, as well as the support of professional well-being programs for anesthesiologists. The WFSA soon will expand its role and that of its member organizations in the development of national surgical, obstetric, and anesthesia plans. The WFSA has developed an anesthesia capacity assessment tool (based on the standards) to help with the expansion process.

The innovation and research goals include a global innovation awards program and research fellowships. Alongside these programs, our publications aim to encourage more research in low- and middle-income countries (LMICs) where the lack of evidence and data hinders the drive for policy change and action.

**WHA 68.15: The main challenge to implementation**

The WFSA maintains that the primary hurdle to the implementation of WHA 68.15 is the workforce deficit—a deficit that is heightened when one considers the concentration of anesthesiologists in urban centers and, as is often the case, in private practice. Other resources, such as equipment and medicines, are also important, but workforce needs must be met first, both as a driver for change and as the essential resource to ensure that equipment and medicines are used appropriately and safely.

Although the WFSA has a well-developed strategy for strengthening the skills, knowledge, competencies, and leadership of anesthesia providers who are already qualified and providing anesthesia, the Federation recognizes that much more needs to be done to qualify and retain new anesthesia providers. In response to WHA 68.15, the WFSA is now developing a framework for anesthesia training that will help

**REFERENCES**


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national societies determine the different levels of competency required for specific operations at different levels of hospitals. In some countries, the guidelines might go on to provide a foundation for training programs to develop an expanded cadre of nonspecialist nurse and physician anesthesia providers who can be trained, mentored, and overseen by anesthesiologists (see Figure 2, page 46).

The data suggest that less than 1 percent of global health funding is spent on any aspect of anesthesia-surgical care, despite surgical conditions accounting for 30 percent of the global burden of disease.15 These disparities must change, and the WFSA will continue to work with partners such as the WHO and the G4 Alliance (also known as the Global Alliance for Surgical, Obstetric, Trauma, and Anaesthesia Care) to ensure that health care leaders and funders are aware of these inequities.

Governments seem to have a tendency to undervalue anesthesia, with providers in many LMICs unable to qualify in and go on to develop careers in the specialty. Indeed, in some low-income countries, anesthesia trainees do not receive a salary. Strengthened partnership with surgeons will be helpful in this regard, as will a broader acknowledgment of the role of anesthesia care in health system strengthening, mother and child health, pain management, palliative care, noncommunicable diseases, and trauma and critical care.

The WFSA’s solutions

Advocacy and education are paramount in the WFSA’s implementation of Resolution 68.15. The WFSA will continue to scale up activity, provided that funding and resources are available. The WFSA recognizes that large numbers of new providers are required and is working with national societies, educational organizations, and other stakeholders to scale up training of specialists and nonspecialist providers. In so doing, the WFSA is aware of both the urgency of the need and the economics involved, but is also determined to help every patient achieve access to safe and timely anesthesia.

The WFSA’s network is unique. Physician-led but patient-focused, this organization provides extraordinary and investible resources to ensure the realization of the goal of universal access to safe anesthesia and surgery.

REFERENCES, CONTINUED

Obstetrics and gynecology in global health:
Lessons learned for advancing public health to achieve universal health care

by Frank W. J. Anderson, MD, MPH; Lina Roa, MD; Chiara Benedetto, MD, PhD; Isabelle Citron, MB, BCh; Luis Curet, MD; Carla Eckhardt; Clark Johnson, MD, MPH; Barbara S. Levy, MD; Dereje Negussie, MD, MPH; Stephen Rulisa, MD, PhD; Rubina Sohail, MD; Rachel Spitzer, MD, MPH; Michael Stark, MD; Bellington Vwalika, MD, MSc; and Kwabena Danso, MB, ChB
Addressing global health inequities requires a comprehensive response from the world’s surgical, anesthesia, and obstetrics and gynecology (OB/GYN) communities. These health care professionals need to share evidence-based knowledge and experience and collaborate to develop training programs and initiatives that ensure sustained, functioning health care systems. The world has experienced significant improvements in health care for millions because of effective global public health programs. However, these improvements have exposed the significant burden of obstetrical and surgical disease facing most of the world’s population. Tremendous gaps exist in expertise, workforce, and infrastructure, all of which are essential to provide critical surgical, anesthesia, and modern OB/GYN care in low- and middle-income countries (LMICs).

International efforts are under way to address these gaps. In 2015, the 68th World Health Assembly (WHA) passed Resolution 68.15 to strengthen emergency and essential surgical care and anesthesia as a component of universal health care. That same year, The World Bank released the third edition of Disease Control Priorities, highlighting surgical procedures as cost-effective health care interventions and advocating for universal coverage of emergency surgery. Further evidence for the need to strengthen health care systems was provided by The Lancet Commission on Global Surgery (LCoGS), which reported that 5 billion people lack access to safe and affordable surgical and anesthesia care, recommending six core indicators to monitor the strength of surgical systems. Within this framework, the OB/GYN, surgery, and anesthesia global communities have a unique opportunity to develop a comprehensive partnership approach that provides the level of expertise needed to lead a coordinated public health response.

The Millennium Development Goals (MDGs) project, led by the United Nations (UN) from 2000 to 2015, included eight primary goals, ranging from halting the spread of the human immunodeficiency virus (HIV) to reducing neonatal and maternal mortality. Although the MDGs for neonatal and maternal health were not achieved, substantial progress was made, and the maternal mortality ratio (MMR) fell from 385 to 216 deaths per 100,000 live births.

Upscaling high-quality obstetrical interventions continues to be part of the response to the new sustainable development goal (SDG) of eliminating preventable maternal and early neonatal mortality. The SDG now calls for reducing global MMRs from 216 per 100,000 live births in 2015 to less than 70 per 100,000 live births by 2030 (SDG 3.1). This objective will be achieved only by expanding comprehensive obstetrical, anesthesia, and surgical care to a level not offered by community workers, general physicians, or midwives. These interventions will require novel partnership approaches and evidence-based strategies that go beyond relief and vertical programs and work toward long-term, sustainable capacity development.

OB/GYN services are linked to the environments that support the treatment of other surgical conditions, both requiring widely available anesthesia capabilities. Providing safe deliveries, including cesarean sections (C-sections), has been shown to be cost-effective. Furthermore, investing in improving access to safe reproductive health care, including family planning and abortion, when coupled with obstetric surgical care powerfully synergize cost-effectiveness. The importance of providing these services is based not only on ethical grounds, but on sound economic policy.

The maternal health community benefits from many years of global prioritization on these issues with funding and programmatic momentum. Moving forward to address more comprehensively the surgical burden of disease requires the coalescence of a global health agenda, with a strong collaboration between OB/GYN, surgery, and anesthesia to lead the next generation of global public health interventions.

The LCoGS created a road map for the way forward and recommended a list of key indicators to assess the strength of surgical systems and provide a baseline for measuring improvement. The improved health outcomes measured by these indicators can
be accomplished if surgery, OB/GYN, and anesthesia unite for a coordinated global effort of prospective data collection. Coordinating the collection and reporting of these indicators at the national level with The World Bank Development Indicators will provide the metrics for the global community to measure progress and to achieve the 2030 targets.

This article describes some of the major interventions that the global OB/GYN community has implemented to build long-term and sustainable capacity around the world. It identifies successful models for academic and professional society partnerships and highlights areas of collaboration to build surgical, obstetrical, and anesthesia capacity. Through strong partnerships to build OB/GYN residency programs, strengthen professional societies, and create certification programs, we are growing and mentoring leaders in research, clinical care, education, and policy development. The lessons learned from these interventions can be applied to other surgical specialties and pave the way forward in building capacity to provide sustainable, high-quality obstetrical, gynecological, surgical, and anesthesia care globally.

Academic partnerships
Partnerships between OB/GYN departments in sub-Saharan Africa with academic OB/GYN departments in high-income countries are a feasible and resilient approach to building obstetric capacity in LMICs. These partnerships increase the capacity of faculties and departments to provide clinical service, education, and research in the African OB/GYN community. These model programs are informative and present opportunities for replication in surgery and anesthesia.

Ghana, for example, has used a university partnership approach to advance obstetric capacity development when faced with a health care workforce crisis. Until 1989, Ghana sent OB/GYN trainees to train in the U.K. with only three out of 30 specialists returning in a 20-year period. The residency program established in 1989 resulted from a collaboration between the local medical community, the Ministry of Health, and academic partners in the U.S., the U.K., and the West African College of Surgeons. As of July 2017, according to Frank W. J. Anderson, MD, MPH, a co-author of this article, the program has graduated 246 certified OB/GYNs, 238 of whom have remained in Ghana, providing clinical services, academic leadership, and contributing to governmental policymaking. Those physicians choosing faculty positions are conducting high-quality basic science and clinical research, and many are working in rural district hospitals, opening new facilities, and leading OB/GYN departments in four new medical schools in Ghana. Subspecialty training in maternal-fetal medicine (MFM), gynecologic oncology, urogynecology, and reproductive health is now available.

This model of academic partnership is being replicated in Ghana in other specialties, including emergency medicine, family medicine, and otolaryngology, as well as in nonclinical departments. Notably, the “Charter for Collaboration” was created as part of the program implementation plan by partners in the U.S. and Ghana to foster an open dialogue on how to optimize the partnership. A concerted effort was made to ensure the priorities and concerns of both partners were integrated into the project’s development and implementation. A series of guiding principles were articulated by the group and featured in the charter, including trust, mutual respect, accountability, leadership, transparency, inclusion, communication, and sustainability. Now, the charter serves the function as a guideline for new collaborative projects.

The Ghana experience in training OB/GYNs and developing a model for partnerships provides a road map for numerous OB/GYN departments. At least four new OB/GYN partnerships have emerged and are actively training new OB/GYNs and other specialists. The 1000+ OBGYNs Project is another collaborative effort, led by the department of OB/GYN at the University of Michigan, Ann Arbor, comprising a network of U.S. and African academic OB/GYN...
departments. The project was created after two global meetings of OB/GYN leadership in Rome, Italy, in 2012 and in Accra, Ghana, in 2014 and is poised to train more than 1,000 new OB/GYNs in the sub-Saharan region over the next decade. At these meetings, 10 critical components of OB/GYN training were identified to provide a base from which to replicate these partnerships (Figure 1, this page). The educational programs will be supported by lectures, videos, textbooks, and curricula provided without cost. Online materials, together with the Global Library of Women’s Medicine, provide hundreds of OB/GYNs in sub-Saharan Africa with access to quality standardized material on the most prevalent issues in the region, as well as content related to general OB/GYN care, family planning, and cancer screening.

The Academic Model Providing Access to Healthcare (AMPATH) is an academic medical partnership between North American academic health centers and Moi University School of Medicine, Eldoret, Kenya. The partnership was initially focused on the department of internal medicine and progressed into a holistic HIV treatment program. A decade ago, the partnership expanded to include the University of Toronto, ON; Indiana University, Indianapolis; and Moi University to build capacity in OB/GYN. AMPATH leverages the tripartite academic mission of clinical care, research, and education. The focus has been prevention of maternal mortality and prevention and treatment of gynecologic malignancies. AMPATH has instituted numerous hospital-based training and protocol initiatives and has started a two-year training program in gynecologic oncology in Kenya. The program’s success has led to its expansion to a similar two-year in-country MFM fellowship in 2018.
Professional societies have great potential to play a significant role in promoting national policies, establishing national standards, developing quality assurance and outcome measures, and monitoring health care indicators.

The Human Resources for Health (HRH) program in Rwanda resulted from the Ministry of Health's (MOH) vision to strengthen and sustain a specialized health workforce. With the help of the Clinton Health Access Initiative, an academic consortium was formed by U.S. universities, medical centers, and schools of nursing, dentistry, and public health to develop a seven-year partnership for sustained collaboration and the establishment of new medical residency programs. Since 2012, the program has deployed nearly 100 U.S. faculty members to Rwanda annually to partner with local faculty in clinical and academic teaching. A total of 19 OB/GYNs have participated in this program, including 11 MFM specialists who have provided training in high-risk obstetric management, curriculum development, teaching, and testing.

Ultrasound is an essential diagnostic tool for OB/GYN. MFM specialists provide ongoing training in ultrasound diagnosis, and more than 90 percent of admitted patients at the partnership sites receive an ultrasound in the triage unit. Furthermore, the number of OB/GYN residents has increased by 45 percent in Rwanda, and quality improvement measures, such as guidelines development and maternal mortality conferences, have been initiated. The partnerships facilitate research capacity, clinical teaching, and the development of Rwandan specialists to address the specialized health care workforce shortage.

Professional society partnerships
After completion of residency training, physicians need ongoing medical education and access to professional associations to maintain their knowledge base and provide quality care, sustain the specialty, and inform policy development. Unlike high-income countries (HICs) where these institutions and their infrastructure exist, many LMICs have yet to create their own national societies, or have young and nascent programs.

The effort to build workforce capacity is best achieved starting at the education level, then continuing through participation in lifelong learning opportunities. Certification programs lead to the creation of an objectively assessed professional status, which is critical for public confidence. Ongoing maintenance of certification allows for peer learning and participation in continuing education while in practice. The content of the training must be informed by the local context, academic curriculum, and professional associations and defined by best clinical evidence.

A process for certification of specialists in OB/GYN is in development in Ethiopia. In 2005, a new health care strategic plan was created to increase the number of trained medical physicians annually from 120 to 3,000, and the national government increased the number of OB/GYN residency programs from three to 12. The Ethiopian Society of Obstetricians and Gynecologists (ESOG) was well-suited to define the quality of medical training and standards for providers. Together with consultation from the American College of Obstetricians and Gynecologists (ACOG) and with endorsement from the MOH, ESOG launched a national harmonized residency curriculum in July 2017. The project has ambitious goals to expand collaboration between universities in the areas of education, research, and service, not only focusing on technical capabilities and quality assurance, but also on leadership, social accountability, and advocacy. The curriculum development resulted from the ESOG-ACOG partnership, a supportive government, and collaboration between experts and residency program directors. This model has been successful, and other national associations are considering replicating it.

Similarly, the Federation of Central American Associations and Societies of Obstetrics and Gynecology (FECASOG) and ACOG partnered in 2003 to strengthen residency training in Central America. The Comité de Acreditación FECASOG-ACOG (CAFA) created a residency accreditation committee and an
in-service examination for residents and a certification exam for graduates, allowing them to become fellows. ACOG fellows assisted the programs seeking accreditation, facilitating and mentoring local leaders to institutionalize regular quality assurance measures. Residency programs received feedback and accreditation. An annual examination process was developed for administration to OB/GYNs in six countries across Central America. CAFA examinees receive a detailed report on their performance relative to peers nationally and internationally, and CAFA members get an in-depth review and track performance at the individual, program, and national level over time.

Professional societies have great potential to play a significant role in promoting national policies, establishing national standards, developing quality assurance and outcome measures, and monitoring health care indicators. Professional associations are well-positioned to influence national policy and advocate for prioritization of improved health services and strengthening of surgical systems. The ability of professional societies to assume this leadership role relies on their overall organizational capacity, their ability to identify gaps and solutions, and the ongoing development of a vibrant professional cadre. OB/GYN societies have recognized the need for comprehensive education that includes nontechnical skills. Leveraging the experience of mature OB/GYN associations, partnerships between established and newer professional societies promote credibility with policymakers and facilitate advocacy for comprehensive training, thereby expanding the role of physicians as drivers of change.

Quite often, physicians without training or experience find themselves in leadership roles that use these skill sets. Training future specialists in the importance of nontechnical skills and teamwork among surgery, obstetrics, and anesthesia is key in the provision of safe surgery. Professional OB/GYN societies are able to assume a leadership role in the development of these skills for practicing physicians and those in training.

A substantial proportion of intraoperative adverse events are due to surgeons’ poor behavior and a lack of communication. An example of an association actively enhancing communication skills is the Society of Obstetricians and Gynaecologists of Canada, which has long been involved in organizational capacity development through the International Federation of Gynecology and Obstetrics’ (FIGO) Leadership in Obstetrics and Gynecology for Impact and Change (LOGIC) program. The LOGIC program has developed a toolkit for professional associations to strengthen capacity or institute organizational change. The toolkit focuses on the areas of culture, organizational capacity, performance, external relations, and function.

OB/GYN societies have recognized the need for comprehensive education inclusive of advocacy. FIGO is the international coordinator of many global OB/GYN professional development projects. FIGO’s strategy to achieve SDG 5 on gender equality and empowerment of women involves an advocacy and education strategy to eliminate gender violence and ensure universal access to sexual and reproductive health. Advocacy actions prompt policymakers and regulators to further the recognition, promotion, and protection of girls’ and women’s human rights.

In addition, an essential component of women’s health advocacy is education of women to take ownership of their health, and education of professionals to integrate a human rights framework into projects and policies. As part of the training, regular workshops take place in several countries to raise awareness on providing human rights-based health care assistance to women. Furthermore, FIGO is in the process of publishing a handbook titled Women’s Health and Human Rights: Mapping Possible Contributions to the United Nations Selected Bodies for More Conductive Legislation, Regulations and Policies at Country Levels.

Standardization of surgical methods is essential for comparison of surgical outcomes and meta-analysis.
Surgical Database project focusing on C-section, hysterectomy, and basic endoscopy. FIGO partnered with the New European Surgical Academy (NESA) and the International Society for Gynecologic Endoscopy to standardize and transfer evidence-based surgical knowledge to LMICs. The Université Cheikh Anta Diop, Dakar, Senegal, provides the platform for training, which includes lectures, workshops, and live operations. Furthermore, NESA and the Institute of Numerical Mathematics in Russia have partnered to establish a standardization of surgical methods with a detailed collection of surgical steps that allow for comparison between different surgeons and institutions. The All-African Surgical Database project is the first of this type, and its model can be applied to different disciplines and localities with high potential to measure and improve surgical outcomes worldwide.

Other professional clinical and certifying organizations have been critical in expanding clinical and research expertise across the globe. The Royal College of Obstetricians provides extensive clinical and certification support, as outlined in its strategy document. The Association of Professors in Gynecology and Obstetrics, through its global health committee, contributes faculty development resources, scholarships, and educational materials for the international OB/GYN community. The Council on Resident Education in Obstetrics and Gynecology offers scholarships for the residency director program “school,” whereas the Society for Maternal and Fetal Medicine has created capacity-building fellowships through its global health committee, which seeks to improve outcomes for pregnant women in resource-limited areas of the world. The International Urogynecological Association has extended its mission to assist in training OB/GYNs and others in pelvic surgery and fistula repair.

Bringing obstetrical, anesthetic, and surgical capacity together
Efforts to reduce maternal and neonatal mortality have traditionally been a central part of the global health agenda as reflected by the MDG and SDG frameworks. Consequently, most LMICs have
integrated initiatives to reduce maternal mortality into core elements of national strategic health plans. These programs have succeeded to the extent to which emergency care, capacity building of community health workers and midwives, and decentralization of services to increase facility-based deliveries can be effective. However, universal access to comprehensive, modern obstetrics and essential and emergency surgery by qualified specialists and anesthesia is still lacking. The LCoGS proposed a framework to assist countries in creating national surgical, obstetrical, and anesthetic plans (NSOAP) which, when implemented, would comprehensively address the need for universal, safe, and affordable surgery, anesthesia, and obstetrical services. The NSOAP originally set forth five domains for improvement of access and quality: service delivery, infrastructure, workforce, information management, and financing. A sixth domain, governance, has subsequently been recommended (see Figure 2, page 55). Leveraging the success around programs to reduce maternal and neonatal mortality, to expand obstetric, anesthesia, and surgical capacity is key to improving health outcomes.

Monitoring and evaluation through a common set of health indicators, with a consistent method of data collection is another key area of collaboration between the maternal health and the surgical communities. One LCoGS indicator focuses on tracking surgical volume, with a target of 5,000 surgical procedures per 100,000 population by 2030. Data on C-section volumes are widely collected, and these reporting systems could be expanded to report more broadly on other surgical procedures.

Another indicator of a strong surgical system is tracking of perioperative mortality. Countries have been reporting maternal mortality ratio for several years, and, as a result, many have started systems for quality improvement review around mortality cases. These review and reporting systems could go beyond obstetrics and expand to cover perioperative mortality from all surgical procedures. By leveraging existing structures, surgery and anesthesia can leapfrog many

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TABLE 1.
KEY LESSONS LEARNED IN OB/GYN TO BUILD GLOBAL CAPACITY

- Academic institutions and hospital-based training programs: Engage in long-term multidisciplinary partnerships with LMIC institutions to build clinical, research, and leadership capacity to create a sustainable workforce
- Global researchers: Ensure long-term research projects are driven by local needs and experts while supporting the development of research training among clinicians
- Professional societies: Create global networks to strengthen residency program certification, accreditation, and continuing medical education
- Clinical professional organizations: Facilitate and share resources to standardize clinical care and training
- MOH: National surgical, obstetric, and anesthesia plans offer platforms for interdisciplinary collaborations at the national level to strengthen universal access to care
- Collection and reporting of the surgical indicators recommended by the LCoGS will require the collective efforts of the surgery, anesthesia, and OB/GYN communities to measure progress and achievement of the 2030 targets
Monitoring and evaluation through a common set of health indicators, with a consistent method of data collection is another key area of collaboration between the maternal health and the surgical communities.

years of slow and costly institutional reform by learning from the advances achieved by the maternal health community.

Another key area of synergy between NSOAP and maternal health planning is the sharing of infrastructure and workforce resources. Most maternal health plans dedicate resources to decentralization of comprehensive emergency obstetric and newborn care (CEMONC) services to ensure the provision of C-sections at the district- or health-center level. This endeavor will require significant investment in functional and well-equipped operating theaters, as well as qualified personnel. For example, Tanzania’s national health strategy includes upgrading all district hospitals and 50 percent of the health centers to provide CEMONC. This move has resulted in significant upgrading or construction of operating rooms to provide C-sections. The incremental infrastructure required to convert a CEMONC-ready facility to one that provides all other emergency and essential surgical procedures expected at the district level is minimal. The expansion of surgical services should be tied to expansion in the workforce of qualified anesthesia and surgery providers.

Zambia has been a leader in NSOAP. Facing a workforce shortage, weak infrastructure, and poor referral systems that resulted in high mortality, morbidity, and financial catastrophe for patients led the MOH to prioritize access to surgery as an essential component of universal health care. In May 2017, the Zambian MOH drafted, budgeted, and signed the world’s first NSOAP to be integrated into Zambia’s National Health Strategic Plan.54 By coordinating and leveraging existing momentum around maternal and neonatal health, surgery and anesthesia can accelerate progress in implementing NSOAP, with the overarching goal of decreasing the global burden of disease preventable with timely accessible surgery.

**REFERENCES**


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REFERENCES, CONTINUED


Conclusion

Improving health for all requires expansion of public health interventions to include obstetrics, surgery, and anesthesia. Consequently, a professional class of surgeons, OB/GYNs, and anesthesiologists will need to define and maintain quality standards, provide leadership and supervision, and promote growth of their medical fields. To achieve these outcomes, strong university and hospital-based training programs must exist in every country. In many LMICs, the ability to train, certify, and maintain the programs, institutions, and infrastructure that define surgical professions is weak and cannot be initiated again without significant inputs from experienced academic and professional society partners. Leaders in OB/GYN, surgery, and anesthesia who participate in functioning departments and supportive policy environments have a unique opportunity to share their expertise for replication in LMICs.

Established departments anywhere in the world can initiate a process for mutually beneficial partnerships to strengthen research, service, and education. Success in these partnerships has been demonstrated by OB/GYN in Ghana, Ethiopia, and Kenya, among other locations, and serves as a template for any specialty to work in global health. Creating the appropriate context for academic partnerships is a critical first step in sharing expertise across the world. A long-term capacity-building context also is critical. When authentic partnerships are created, the goals, barriers, and opportunities must be clearly defined. The examples described previously did not include short-term clinical interventions, surgical camps, or one-week training workshops. The sustainably successful interventions are those that lead to benefits for faculty and students on both sides. In this context, efforts to improve research, education, and service can all occur within the overall goal.

continued on next page
of long-term capacity building, professional and leadership development, and measurably improved clinical outcomes.

As the number of professionals increases, certification and ongoing continuing medical education are critical components that must be strengthened or, in many cases, created for each country. Professional associations ensure their members meet high professional and ethical standards while promoting collegiality, mentoring, and lifelong learning. Creating professional association partnerships in surgery, anesthesia, and OB/GYN to achieve this goal must be initiated in tandem with academic partnerships. By creating partnerships between strong, longstanding professional associations in HICs with nascent societies in LMICs, the sustainable infrastructure for creating quality, consistent, and properly staffed surgical, obstetrical, and anesthesia services can be developed.

This article discusses only some of the initiatives the global OB/GYN community has led to build long-term and sustainable capacity around the world (see Table 1, page 56). By developing residency programs, strengthening professional societies, and creating certification programs, the field of OB/GYN is growing and mentoring leaders in research, clinical care, training, and policy development. The lessons learned from these endeavors can be applied to all surgical specialties and anesthesia. Furthermore, the opportunity to leverage ongoing national efforts in maternal health with NSOAP is compelling. As public health interventions are expanded to include global surgery, anesthesia, and modern, comprehensive obstetrics and gynecology, these disciplines must support each other and partner to achieve the SDGs and the global goal of strengthening universal health coverage.

REFERENCES, CONTINUED

The West African College of Surgeons (WACS) started as an association in 1960, with a membership of 25 surgeons.* According to Ajayi and co-authors in *Knife in Hand: History of the West African College of Surgeons*, the end of World War II resulted in a wave of disentanglement from colonial vestiges in Africa, Asia, and around the world.† This decolonization resulted in a need to focus on the surgical needs of these newly independent countries. It was in this environment that Victor Anomah Ngu, MD, FWACS, a 33-year-old Cameroon-born, English-trained surgeon, met an Irish surgeon, Charles Bowesman, MD, on a ship heading to Nigeria from the U.K. Both men identified the need for a forum of practicing surgeons in West Africa to exchange ideas and share experiences. Letters of invitation were sent to known individuals and Ministries of Health of all West African countries, describing the formation of the Association of Surgeons of West Africa (ASWA) and announcing the inaugural meeting on December 3, 1960, in Ibadan, Nigeria. This organization eventually transformed into a College in 1973 to address the growing demand for surgical specialists in the region, as it had become obvious that the cost of overseas training was unsustainable.

The WACS membership now consists of more than 6,000 Fellows in seven surgical specialties, from 18 countries in West Africa (see map, page 61, for a visual representation of the West Africa sub-region). The mission of the WACS is to promote postgraduate professional surgical education, disseminating surgical knowledge and technical skills toward the attainment of the highest possible standards, with the overall goal of protecting the health of the peoples of West Africa, through cooperation among member countries.

The WACS now has more than 220 accredited surgical training programs in 120 institutions, and between 4,000 and 5,000 trainees sit for examinations annually. In 2017, the WACS examined the first post-fellows in trauma care within the faculty of surgery.

**HIGHLIGHTS**
- Describes the history and mission of the WACS
- Summarizes the WACS diplomate programs and their role in curbing workforce shortages in West Africa
- Outlines the WACS strategies for implementing WHA resolutions

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The WACS mission

The main objectives of the WACS include the following:

• The promotion, organization, and conduct of postgraduate education, training, and certification in surgery, related disciplines, and specialties in West Africa

• Cooperation with appropriate national and international bodies worldwide with aims and objectives likely to promote, assist, develop, and advance the interests of the WACS

Although the mission of the WACS is broad, the core has always been training skilled surgical specialists to provide surgical services to the population of member countries. In its 57 years of existence, the WACS has made significant strides in achieving its objectives, including middle-level workforce training, endowment funding, and professional development.

Middle-level workforce training

In response to the immense need for surgical services, the WACS in the late 1980s introduced diplomate programs in anesthesia, ophthalmology, and otorhinolaryngology. Approximately 1,000 physicians have been trained so far under this model.

Today, the WACS has introduced the membership program as an exit platform to serve workforce needs of the sub-region and fast-track capacity building. There is a mandatory supervised rural surgery posting for membership level trainees, intended to scale up rural surgical services and improve trainee retention in the rural district and rural hospitals that serve the bulk of the population in West Africa.

Endowment funds

Introduced in 1990, the endowment fund program was designed to help meet the needs of local surgical training programs for the enhancement of surgical practice for community health care facilities (district and general hospitals) in member countries. All member countries have such funds, which are used under the direction of a board of trustees to fund locally identified relevant surgical training or programs. The endowment fund in each constituent country is relaunched each time the WACS Scientific and Annual Conference is held in that country.

Professional development programs

As part of its mission to update surgical knowledge and skills, the WACS organizes regional courses and workshops during the year using local, regional, and international faculty. These workshops are well-attended and some are mandatory for trainee eligibility.
to sit for examinations. These courses include the following:

• Manuscript writing workshop
• Health management and ethics course
• Research methodology course
• Basic surgical skills courses
• Basic laparoscopic and endoscopic skills training
• Advanced Trauma Operative Management course
• Disaster management course

The WACS role in implementing WHA resolutions
Most of the functions of the WACS are already in tandem with the resolutions of the World Health Organization’s World Health Assembly (WHA). Examples of WACS programs that directly address the WHA resolutions include the following:

• The development of a sub-regional surgical, obstetric, anesthesia, and nursing plan, which aims to update information about the capacity of member countries and use data to appropriately determine need and distribution of surgical care.

• Surgical outreach programs, which are regularly conducted in various countries, are truly a collaborative effort involving international teams of surgeons, anesthesiists, and nurses. Participants in these programs address complex surgical cases and ensure proper follow-up by handing over patients to the local surgeons who are always part of the team. The most recent outreach program took place in February in Gambia.

• Provision of various surgical specialists on a short- to mid-term basis to member countries that are particularly disadvantaged due to natural or man-made disasters.

Challenges, goals, and opportunities for collaboration
Despite significant strides, much more work is necessary to achieve the goals of the organization. Surgical workforce density is extremely low, and with a population of 300–350 million in the sub-region, West Africa is far below the minimum of 20 specialist surgeons, anesthesiologists, and obstetricians per 100,000 recommended by The Lancet Commission on Global Surgery.

In addition to these workforce shortages, rapid population expansion and frequent disease outbreaks in the sub-region increase the burden for existing health care providers and highlight the need for a larger, more robust surgical workforce. The following areas are ripe for collaboration with our international partners:

• Improve the quality of skills training by supporting more basic skills programs within existing training institutions and expanding the number of institutions with basic skills training programs

• Establish a small number of regional advanced skills acquisition centers with simulation

• Improve the efficiency of fellowship examinations using new technology and modernized testing methods

• Enhance research capacity building and attract funding for regional multi-institutional research projects

• Streamline data collection of basic surgical health indices from member countries through the West African surgical obstetrics and anaesthesia planning committee of the WACS

It is our hope that our sister colleges in North America and Europe will find value in working with the WACS to accomplish these goals. ♦
The American College of Surgeons (ACS) was founded 105 years ago to provide opportunities for the continuing education of surgeons, rooted in a deep and effective concern for the improvement of surgical patient care and for the ethical practice of medicine in the U.S. and Canada. The ACS always has been a global organization, now with more than 80,000 members representing six continents. It is the premier surgical organization in the world—a recognized leader with respect to surgical education, with its mission to ensure access to quality surgical care and to develop trauma systems and educational programming worldwide.

This article outlines some of the College’s global engagement activities and future initiatives.

International Guest Scholarships program
For half a century, the International Guest Scholarships have provided young surgeons from around the globe with opportunities to visit clinical, teaching, and research facilities in North America with the goal of enhancing the scholars’ patient care and research practices when they return to their respective countries. The scholarships, in the amount of $10,000 each, also provide scholars with the opportunity to participate in the annual ACS Clinical Congress and to observe and participate in clinical, teaching, and research activities in the U.S. and Canada. Over the years, approximately 326 surgeons from 70 countries have received this scholarship and have benefited from this program.

Other scholarships for international surgeons
The ACS offers a variety of scholarships for surgeons outside of the U.S. and Canada. Examples are as follows:

• ACS/AAST International Scholarship: This scholarship is awarded to surgeons in acute care surgery, trauma, and emergency general surgery in countries other than the U.S. and Canada to improve the quality of acute care surgical services. Preference is given to applicants from developing nations. The scholarship, in the amount of $5,000, provides scholars with an opportunity to attend the annual meeting of the American Association for the Surgery of Trauma (AAST) and to visit one or two Level I trauma centers and/or the Trauma Quality Improvement Program (TQIP®) at the College’s headquarters in Chicago, IL, to learn about the standards for a trauma program/database and the importance of multidisciplinary acute care surgery.

• ACS/ASBrS International Scholarship: This scholarship is awarded to breast cancer surgeons in countries other than the U.S. and Canada to improve the quality of breast cancer surgical services. Preference is given to applicants from developing countries. The scholarship,
in the amount of $5,000, provides the scholars with an opportunity to attend the annual meeting of the American Society of Breast Surgeons (ASBrS) and to visit the National Accreditation Program for Breast Centers headquarters in Chicago, IL, to learn about the standards for a breast cancer program/database and the importance of multidisciplinary breast cancer care.

- **Community Surgeons Travel Awards:** The ACS International Relations Committee provides travel awards for surgeons ages 30 to 50. This award supports community surgeons in countries outside the U.S. and Canada to attend and participate fully in the educational activities at the ACS Clinical Congress.

- **International ACS NSQIP Scholarships:** The College’s National Surgical Quality Improvement Program® (ACS NSQIP®) and the International Relations Committee offer International ACS NSQIP Scholarships for two surgeons from countries other than the U.S. or Canada who demonstrate strong interest in surgical quality improvement.

Further educational opportunities for international surgeons

The ACS Division of Education and the International Relations Committee provide two international scholarships focused on surgical education. These awards are for young faculty members from countries other than the U.S. and Canada and provide opportunities for these individuals to participate in a variety of educational opportunities for faculty development and enhancement that will result in the acquisition of new knowledge and skills in surgical education and training.

The Advanced Trauma Life Support® (ATLS®) program is designed to teach a systematic and reliable approach to the care of trauma patients. With leadership from the ACS Committee on Trauma, ATLS was first widely introduced in the U.S. and abroad in 1980. Since its inception, ATLS for health care professionals has spread to more than 60 countries. The MyATLS app, a mobile electronic platform, has been downloaded in more than 170 countries.

**Operation Giving Back**

Operation Giving Back (OGB) is the volunteer arm of the ACS. OGB grew out of an interest in surgical volunteerism expressed both by the ACS Board of Governors Committee on Socioeconomic Issues and by the membership-at-large as represented in a study spanning from 2001 to 2003. OGB was established in 2004 with the mission to “leverage the passion, skills, and humanitarian ethos of the surgical community to effectively meet the needs of the medically underserved.” The organization’s objective is to serve as a comprehensive resource center for surgeons at any level of training who want to participate in volunteer activities, encouraging the formation of a cohesive community of volunteers.

The web-based OGB resource center matches fellow surgical volunteers of the ACS with opportunities to provide patient care and teaching in low-resource communities. Over the years, thousands of volunteers have been placed to provide much-needed care to underserved populations. One of the activities of OGB is to support peer-initiated selection of the recipients of the ACS/Pfizer Surgical Humanitarian and Volunteerism Awards each year.

To underscore the need for global surgical system improvement, the World Health Organization (WHO) passed the World Health Assembly Resolution 68.15 in May 2015. The resolution, which includes surgery as an essential component of universal health care, was accepted and signed by all participating countries with the understanding that more than 5 billion people lack access to basic surgical care and that the major deficit is a shortage of surgical workforce. Following a retreat on global engagement in 2016, the ACS Board of Regents (the highest governing body of the College) provided strategic direction for the ACS leadership to engage
directly in the training of surgical workforce in low- and middle-income countries (LMICs). ACS OGB, in addition to improving existing services, is actively working to develop programs to implement this strategic direction. Developing partnerships with surgical colleges and societies in LMICs based on mutual benefits and shared goals is our guiding principle.

ACS Fellows have been engaged in volunteerism across sub-Saharan Africa. OGB and the College of Surgeons of East, Central and Southern Africa (COSECSA) have developed working relationships based on local priorities, including the following:

- The ACS-COSECSA Women Scholars program promotes and encourages women to join the surgical workforce (see photos, this page).

- The ACS Surgeons as Leaders: From Operating Room to Boardroom Course is a recognized national program. COSECSA leaders have attended this training
program with the intention of recreating a contextually relevant leadership course for COSECSA.

- The OGB has supported the COSECSA fellowship examination process by recruiting ACS Fellows to serve as external examiners (see photo, this page).

- The *East and Central African Journal of Surgery* is developing a twinning partnership with the *Journal of the American College of Surgeons* to improve its standing in quality as reflected in impact factor and PubMed indexing.

- A proposed partnership between COSECSA; the ACS; U.S. Consortium of Academic Global Surgery Programs, in development at present; and a COSECSA-accredited training program in Hawassa, Ethiopia, would develop a surgical training center of excellence. The goal is for this site to serve as a training hub with local and regional impact that will encourage improved innovation, clinical research, and patient care. The pilot project for this initiative will be implemented by fall 2018.

As we celebrate the passage of the third anniversary of the WHA Resolution 68.15, the ACS will continue to engage in the implementation of the global surgery agenda. To this end, the College looks forward to working closely with WHO and the office of the Global Initiative for Emergency and Essential Surgical Care. ♦

REFERENCES

The 2018 state legislative sessions started off with a flurry of health care-related legislation introduced across the country. Bills affecting trauma funding, injury prevention, out-of-network billing, the Uniform Emergency Volunteer Health Practitioners Act (UEVHPA), and Maintenance of Certification (MOC) started working their way through state capitols as early as December 2017.

By February, less than halfway through the legislative session, State Affairs staff in the American College of Surgeons (ACS) Division of Advocacy and Health Policy sent out Action Alerts to more than 5,800 Fellows, tracked more than 6,000 health care-related bills, submitted comment letters in nearly a dozen states, and participated in six chapter lobby day events. State Affairs staff members will continue to work diligently with ACS state chapters to stay engaged and support legislation that promotes high-quality surgical care.

2017 state legislative update: Lawmakers engage on MOC, trauma funding, and other issues

by Christopher Johnson, MPP, and Christian Johnson, JD

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In December 2017, a similar bill, H.B. 1263, was introduced in Missouri, which would initiate a study to provide a recommendation on whether to install bleeding control kits in public. California legislation, A.B. 238, formerly an unrelated bill which was originally introduced in January of 2017, was completely amended to include language pertaining to public bleeding control kits, similar to provisions in other 2017 legislation, A.B. 909. A bill in South Carolina, H. 5003, would require the installation of bleeding control kits in all public schools, as well as require training of employees to use the kits.

Stop the Bleed®
A state resolution declaring February 14 “Georgia Stop the Bleed Day” was introduced to coincide with the Georgia Society of the ACS lobby day. Other Stop the Bleed resolutions were introduced in Wisconsin, declaring March 31 as Wisconsin Trauma Awareness Day, and in Utah, declaring March 31 as Stop the Bleed Education Day.

The College received a record number of applications for its 2018 State Lobby Day Grant Program. Several of the applicants for the grants have included a bleeding control program at their lobby day. ACS Chapters in Washington (January 10), Kansas (January 24), Florida (January 30), Georgia (February 14), Arkansas (February 28), Oregon (March 5), and Louisiana (March 21) conducted Stop the Bleed training sessions in their respective state capitols during their 2018 lobby days.

Trauma

Public bleeding control kits
At press time, the Massachusetts legislature was currently considering introducing a bill based on the College’s model bill for the installation of bleeding control kits in public buildings and spaces. The Massachusetts Chapter has engaged with the sponsor, Rep. Shawn Dooley (R), to support introduction and passage of the bill.

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days. Stop the Bleed training not only helps to expand the number of people able to respond to a traumatic bleeding injury, but also builds goodwill with legislators, helping them to be more receptive to discussing other important surgical-and patient-care issues.

Other states receiving the lobby day grants in 2018 include: Alabama, Arizona, California, Illinois, Indiana, Massachusetts, Michigan, Nebraska, New York, North Carolina, Ohio, Tennessee, Texas, Virginia, and Wisconsin.

**Trauma funding**
The Virginia Chapter sent letters in support of bills that would increase and protect funding of the commonwealth’s trauma system. Virginia H.B. 1513, which was introduced in January, would require individuals convicted of a violent felony to pay a $50 fine to the Trauma Center Fund. The fine already applies to individuals convicted of certain vehicle violations, such as speeding and impaired driving. A proposed amendment to Virginia’s 2018 budget bill, H.B. 30, would delete language authorizing the transfer of more than $8 million out of the Trauma Center Fund and into the state’s general fund.

Preliminary discussions have taken place in Delaware to have the state or a coalition of trauma centers hire a third-party consultant to evaluate the state’s ability to establish a funding source of public money for the state’s trauma system. Although there is interest in the study, sources of funding have yet to be identified.

**Injury prevention**
In New Hampshire, Committee on Trauma (COT) State Chair Lisa Patterson, MD, FACS, testified on January 11 before the House Transportation Committee in support of H.B. 1259, which would have required all New Hampshire drivers to wear seat belts. The bill, which was introduced in November 2017, ultimately failed to pass out of committee and died in March. New Hampshire is the only state in the U.S. to not have any type of legal requirement to wear a seat belt.

On January 10, the Nebraska Senate rejected legislation L.B. 368, which would have repealed the state’s universal motorcycle helmet law. Nebraska is a unicameral state with only one legislative chamber. The bill was carried over from the 2017 session, where it had previously failed to receive the necessary support for passage. The Nebraska Chapter engaged members to contact their senators on the bill, which helped to influence its defeat. It is expected that the legislation will not be recalled again this year.

In Connecticut, an effort is under way to build a coalition of medical and other organizations to revitalize legislation to enact a universal helmet law in the state. The Connecticut Chapter and COT are pushing forward to build support for the coalition. A universal helmet bill was tabled at a hearing in the legislature during the 2017 session.

**UEVHPA**
On March 6, the Washington State Senate approved S.B. 5990 to adopt the model legislation for UEVHPA. The legislation passed out of the legislature and was signed by the governor March 22. A similar UEVHPA bill in Maine was carried over from the 2017 legislative year, but at press time had not yet been called for a hearing or vote.

**MOC**
MOC continues to be a contentious issue in 2018, sparking conflicting opinions among physician organizations. Opponents of MOC have asked state legislatures to step in to prohibit the use of MOC in licensure, reimbursement, and privileging decisions, therefore interfering with professional self-regulation, private contracting rights, and hospital medical staffing decisions. These critics have succeeded in getting anti-MOC legislation introduced in 16 states so far. Of those, the following 10 are still considering bills: Massachusetts, Missouri, New Hampshire, New Jersey, New York, Ohio, Rhode Island, South Carolina, Tennessee, and Wisconsin.
Surgeon advocates have responded to this issue by writing letters, testifying at hearings, and meeting with their elected officials to oppose anti-MOC bills. In Indiana, Oklahoma, South Carolina, Tennessee, Utah, and Virginia, the College worked with chapters to draft letters urging elected officials to oppose bills that restrict the use of MOC. In Indiana and Florida, chapter leaders scheduled visits to the statehouse to meet with their legislators, and in Indiana, Tennessee, and Virginia, chapter leaders testified at committee hearings to oppose anti-MOC legislation. To date, nearly half a dozen state chapters have included MOC on their chapter lobby day agendas encouraging Fellows to discuss the importance of board certification and physician self-governance with their representatives.

Due in part to the efforts of engaged ACS chapters, bills in California, Florida, Indiana, Iowa, Maryland, Oklahoma, and Utah have been defeated, while a bill in Virginia failed to receive enough support in a subcommittee for further consideration. The only MOC bill that has passed so far is Washington H.B. 2257, which was signed March 22. The bill restricts MOC for initial licensure only.

In spite of this early success, surgeons across the country are still working as grassroots advocates on the topic of MOC reform by providing testimony at hearings, meeting with individual legislators, sponsoring lobby days in state capitols, and writing letters to representatives and senators. Surgeons interested in getting involved in this issue should download the MOC toolkit available at facs.org/advocacy/state/moc or contact State Affairs staff at state_affairs@facs.org.

Cancer prevention
Cancer prevention legislation covering cancer screening coverage, raising the minimum age for tobacco purchase and tanning bed use, and permitting the use of sunscreen by children in school continued to advance from the 2017 legislative session.

The Indiana Chapter joined with a state coalition to participate in legislative efforts to clarify contradictory rules about permitting students from possessing and using over-the-counter sunscreen at school and school-sponsored events. The sunscreen in schools legislation was signed into law in Indiana and Rhode Island in 2018, with legislation also pending in Colorado, Georgia, Illinois, Kentucky, Maryland, Massachusetts, Mississippi, Missouri, Nebraska, New Jersey, Oklahoma, Pennsylvania, and Virginia.

Efforts to establish prohibitions on access to tanning beds for individuals younger than 18 years old are ongoing. Arizona, Indiana, Missouri, Mississippi, Nebraska, New York, Tennessee, and Rhode Island have tanning bed legislation pending. The Tennessee Chapter sent an Action Alert asking members to support the tanning bed age legislation H.B. 1489. On March 12, H.B. passed both chambers, and was sent to the governor’s desk to be signed.

With respect to tobacco age limits, the states of Arizona, Florida, Idaho, Illinois, Maryland, Michigan, Nebraska, New York, Utah, Washington, and West Virginia have legislation to increase the minimum age to 21 years of age to purchase tobacco products. The states of California, Hawaii, Maine, New Jersey, and Oregon have raised the minimum age to 21 for tobacco purchase.

In partnership with the ACS Commission on Cancer, the College has developed a legislative toolkit for members and ACS chapters to engage on cancer screening coverage legislation related to colorectal cancer screening and insurance coverage for three-dimensional (3-D) breast tomosynthesis mammography. The toolkit is available on the ACS website at facs.org/advocacy/state/resources.

Three states, Mississippi, New York, and Wisconsin, have introduced legislation to prohibit cost sharing for colorectal cancer screening tests, even if they are designated as diagnostic tests rather than initial screening. Patients can encounter unexpected cost sharing for screening colonoscopy under three different clinical circumstances: when a polyp is detected and removed during a screening colonoscopy; when a colonoscopy is performed as part of a two-step screening process.
following a positive stool blood test; and when the individual is at increased risk for colorectal cancer and may receive earlier or more frequent screening compared with average-risk adults.

Legislation has been introduced to expand insurance coverage of breast mammography to include 3-D tomosynthesis screening in the states of Maryland, Massachusetts, Missouri, New Hampshire, New Jersey, New York, Oklahoma, and Washington. Breast tomosynthesis is a mammography screening test that creates a 3-D image of the breast from multiple X-ray images. The screening was approved by the U.S. Food and Drug Administration in 2011. Proponents for the screening procedure tout the benefits of tomosynthesis as advancement from two-dimensional screenings, resulting in an increase in breast cancer detection rates and a decrease in call-backs for additional screenings.

In January, additional cancer screening legislation was referred to the New York Assembly Committee on Insurance. The bill, A. 1807, would require insurance coverage for comprehensive genetic screening for breast, ovarian, prostate, colon, and lung cancers. Meanwhile, in Vermont, H. 639 would prohibit cost sharing for all breast imaging services. The Vermont bill passed the House and was referred to the Senate in March.

Other issues
Other issues that have been considered at the state level as of press time include video recording of operations, coverage for out-of-network services, scope of practice, and medical professional liability.

Videotaping of operations
In Wisconsin, legislation was introduced January 2018 that would have mandated that patients have the option of having all operative and dental procedures performed under general anesthesia recorded in color. This bill, A.B. 863, would require that each entrance to the room be covered so that all incoming and departing staff members are date and time stamped and would require that the discharge instructions are videotaped. Additionally, it would require that all setup and preparatory time be recorded. All patients undergoing nonemergency procedures would be offered this option. Health care facilities would be responsible for installing and maintaining the recording devices and for providing one copy of the recording to the patient and for maintaining one in the patient’s medical record.

Out of network
Out-of-network/balanced billing legislation has been introduced in a number of states this year, including Alaska, Georgia, Idaho, Illinois, Kentucky, Minnesota, Missouri, New Hampshire, New Jersey, New York, Oklahoma, Pennsylvania, Rhode Island, Tennessee, Virginia, Washington, West Virginia, and Wisconsin. Notably, Georgia and Missouri are considering bills for payors to reimburse providers for health care costs that are associated with all covered emergency room visits. This represents a shift in policy at the state level that has arisen due to a new Anthem payment policy that is being implemented in 14 states. Anthem has been systematically denying claims for emergency room visits that it considers “medically unnecessary.” The result is insured individuals (who are being seen by in-network providers) being saddled with tens of thousands of dollars in uncompensated medical bills that they cannot afford to pay.

Scope-of-practice legislation
The advanced practice registered nurse (APRN) compact has been introduced in two more states this year (Nebraska and West Virginia) and may come up in other jurisdictions before the legislative session is over. The APRN compact is a model bill, which, if adopted by 10 or more states, will give APRNs independent medical practice with no legal requirement for collaboration, direction, or supervision by a physician. Critics of the APRN compact have argued that it grants carte blanche authority to APRNs and puts patients at risk. To date, the compact has been enacted in Idaho, North
Dakota, and Wyoming, and a carryover bill from 2017 is still being considered in Iowa.

The New York Chapter spurred a call to action to Fellows in that state to oppose a provision in the governor’s proposed budget bill, which would remove the physician supervision requirement for certified registered nurse anesthetists (CRNAs) and replace it with a poorly defined collaborative agreement. The proposal would also grant nurse anesthetists full prescribing authority upon obtaining a vaguely described certificate.

A variety of different optometrist scope-of-practice bills have been introduced in a number of states, including California, Georgia, Illinois, Iowa, Maryland, Massachusetts, Nebraska, New York, North Carolina, Tennessee, and Virginia. Most of the legislation allows optometrists to perform pharmaceutical injections subject to certain limitations, or administer controlled substances in conjunction with performing medical procedures. However, legislation in states such as Nebraska and North Carolina would give optometrists the ability to perform scalpel or laser eye surgery without having attended medical school or undergone surgical residency. The Virginia Chapter engaged the state legislature to oppose a bill to allow optometrists to perform certain surgical procedures. The bill was amended to specifically exclude treatment through surgery, laser surgery, and injections from the practice of optometry. In Illinois, the College sent a letter to the Illinois Department of Financial and Professional Regulations (IDFPR) in response to a proposed rule to expand optometrists’ scope to include surgery and injections without new training and education requirements. In the opinion of the College, the IDFPR acted beyond its legislative authority in proposing a rule that was in conflict with the state’s Optometric Practice Act.

The Brooklyn-Long Island and New York Chapters initiated Action Alerts targeting the legislature and governor to oppose S. 6800/A. 8516, legislation pending since June 2017, which expands the medical liability statute of limitations for cases involving “alleged negligent failure to diagnose a malignant tumor or cancer.” The bill permits lawsuits 2.5 years from the “date of discovery” of such alleged negligence, up to an outside limit of seven years from the date of the alleged negligent act. The governor signed the law after the legislature agreed to a separate bill to amend errors in the original legislation, which fixes ambiguous language that could have greatly expanded the time to bring lawsuits for all potential medical liability cases, not just cancer cases, and to limit the retroactive impact of the bill to 2.5 years.

The Washington state legislature considered legislation, H.B. 2262/S.B. 6015, which would expand medical liability in wrongful death awards. The Washington Chapter sent an Action Alert, calling for members to oppose the legislation. As of March 2018, both bills are awaiting further action in the House and Senate Rules Committees.

Get engaged

Engagement of ACS Fellows is paramount to ensuring that the surgical profession continues to be a leader in patient safety and quality health care outcomes. Fellows can support ACS advocacy through several activities, including responding to Action Alerts from the College, participating in state chapter meetings and lobby days, building relationships with elected officials (critical to effective grassroots advocacy), talking about public policy issues with physician colleagues, and attending the annual ACS Leadership & Advocacy Summit.

As you take on these challenges, the ACS State Affairs team is always available to answer questions and direct you to pertinent information on state issues and policy programs. Numerous state advocacy resources are available on the College’s website at facs.org/advocacy/state, and Fellows may contact us any time at state_affairs@facs.org or at 202-337-2701.

♦
The 2018 inpatient-only list

The Centers for Medicare & Medicaid Services (CMS) created and implemented the hospital Outpatient Prospective Payment System (OPPS) in 2001, as required by the Social Security Act. The OPPS required that CMS identify those services that could safely be provided to Medicare patients in the outpatient setting of a hospital, initially considered a stay of less than 24 hours. For services and procedures that were identified as inpatient only, CMS created an “inpatient-only list” that is updated annually in the OPPS final rule, published November 1 each year. This article provides an update to a previous Bulletin column, “What surgeons should know about…The inpatient list,” published in June 2013.*

What is the Medicare inpatient-only list?
The Medicare inpatient-only list refers to procedures and services that CMS has identified as typically only provided in the inpatient setting and therefore not paid under OPPS. Many of the services on the inpatient-only list are surgical procedures that may be complex, complicated, and/or require the care and coordinated services provided in the inpatient setting of a hospital. It is important that surgeons be aware of procedures that are on this list because of the potential impact on reimbursement and interactions with their hospital.

Does the Medicare inpatient-only list change?
Each year, clinicians, specialty societies, and other stakeholders contact CMS to request that procedures identified by American Medical Association Current Procedural Terminology (CPT)† codes be reviewed and considered for addition to or removal from the inpatient-only list. Since the inception of the OPPS, some hospital stays have extended beyond 24 hours and up to 48 hours. In addition, medical technology has improved, coordination of care has improved across different clinical settings, and the effective and successful management of non-Medicare

For services and procedures that were identified as inpatient only, CMS created an “inpatient-only list” that is updated annually in the OPPS final rule, published November 1 each year.
patients in the outpatient setting has led to many services being removed from the inpatient-only list.

When considering whether to add or remove a procedure from the inpatient-only list, CMS considers the type of procedure or service being performed, whether the procedure is safely being performed on non-Medicare patients in the outpatient setting, and whether any published data on outcomes are available to help in the decision-making process.

Will I get paid if I perform a procedure in the outpatient setting if it is on the inpatient-only list?
A physician who performs an inpatient-only list procedure in the outpatient setting of a hospital may receive payment if the documentation for the procedure meets requirements for medical necessity. The hospital, however, will not be paid for the procedure. Consequently, hospitals will often have someone from the quality or case management team review the medical record early in the patient’s stay to assess the appropriateness of the admission and assess whether medical necessity for inpatient care is supported by the documentation in the medical record.

Were there any changes to the inpatient-only list in 2018?
The American College of Surgeons (ACS) reviews the procedures on the inpatient-only list on an annual basis and makes recommendations to CMS regarding those procedures that can be removed from the list without compromising patient safety or quality. The ACS also comments against the proposed removal of procedures from the list. The changes to the inpatient-only list for 2018 are provided in Table 1, this page. For a list of all the CPT codes that are included in the Medicare 2018 inpatient-only list, see Addendum E of the OPPS final rule at www.aq-iq.com/cms-inpatient-only-list-cy2018/.

<table>
<thead>
<tr>
<th>CPT Code</th>
<th>Long descriptor</th>
<th>Inpatient-only list 2018 status change</th>
</tr>
</thead>
<tbody>
<tr>
<td>27447</td>
<td>Arthroplasty, knee, condyle and plateau; medial and lateral compartments with or without patella resurfacing (total knee arthroplasty)</td>
<td>Removed</td>
</tr>
<tr>
<td>43282</td>
<td>Laparoscopy, surgical, repair of paraesophageal hernia, includes fundoplasty, when performed; with implantation of mesh</td>
<td>Removed</td>
</tr>
<tr>
<td>43772</td>
<td>Laparoscopy, surgical, gastric restrictive procedure; removal of adjustable gastric restrictive device component only</td>
<td>Removed</td>
</tr>
<tr>
<td>43773</td>
<td>Laparoscopy, surgical, gastric restrictive procedure; removal and replacement of adjustable gastric restrictive device component only</td>
<td>Removed</td>
</tr>
<tr>
<td>43774</td>
<td>Laparoscopy, surgical, gastric restrictive procedure; removal of adjustable gastric restrictive device and subcutaneous port components</td>
<td>Removed</td>
</tr>
<tr>
<td>55866</td>
<td>Laparoscopy, surgical prostatectomy, retropubic radical, including nerve sparing; includes robotic assistance, when performed</td>
<td>Removed</td>
</tr>
<tr>
<td>92941</td>
<td>Percutaneous transluminal revascularization of acute total/subtotal occlusion during acute myocardial infarction, coronary artery or coronary artery bypass graft, any combination of intracoronary stent, atherectomy and angioplasty, including aspiration thrombectomy when performed, single vessel</td>
<td>Added</td>
</tr>
</tbody>
</table>
Intrathecal baclofen pumps are placed for movement disorders, such as dystonia and spasticity. Surgical site infections and deep infections related to implant surgery are a problem in this challenging patient population. Known risk factors and special considerations include low body mass index, presence of percutaneous gastrointestinal access, and scoliosis, among others. Most infections occur within 60 days of an operation, reported at a rate of 4 percent in the first 60 days and 1 percent per year thereafter.

Using national benchmarks, Texas Children’s Hospital, Houston, found it had an unacceptably high rate of infection (23 percent) in comparison with other hospitals. Surgical team leaders aimed to address implant-related infections. Specifically, they conducted a quality improvement initiative, following an infection prevention bundle with evidence-based best practices, and examined the pre- and post-protocol-implementation outcomes of perioperative infection and postoperative complications.

**Putting the QI activity in place**

Texas Children’s Hospital is a freestanding metropolitan quaternary referral and teaching hospital with more than 650 beds. Advanced QI is valued in the organization. In addition, the neurosurgery division runs a data-driven research program, which further motivated this QI activity.

In weekly ongoing quality assurance conferences, the team reviewed American College of Surgeons National Surgical Quality Improvement Program Pediatric metrics and ongoing occurrences. All stakeholders recognized the need for QI over the course of information dissemination.

The team designed an intervention for QI using a plan-do-study-act model. The treating physicians conducted a literature review of best practices; the pediatric neurosurgery team reached consensus for steps in the perioperative treatment pathway where no recommendation could be found in the literature. As a result, the team developed and implemented an infection prevention bundle, which included preoperative, intraoperative, and postoperative steps. We modeled our process after the Hydrocephalus Clinical Research Network shunt infection protocol, which is a successful example of QI in pediatric neurosurgery.

The implementation was pushed forward with team effort from surgery, perioperative nursing, and acute care nursing “micro-team” fronts. Each micro-team had a point person in charge of peer education and compliance with steps of the protocol pertaining to their field. With a surgical schedule and team members on different working schedules, it was difficult to carve out in-person meeting times. It was reassuring to find over time that the contemporaneous efforts of different micro-teams worked well, with monthly check-ins via e-mail reporting. Weekly Surgical Quality Assurance case conferences also provided a forum for adjustments in workflow and for addressing any problems or concerns that arose.

The protocol was implemented starting in August 2014. Our QI project was published in *Journal of Neurosurgery: Pediatrics* in 2018.

**Resources used and skills needed**

This QI effort received no funding and had no additional staff support beyond the usual clinical care efforts. Workflow and clinical care processes were restructured according to an agreed-upon protocol, and in so doing, allowed for standardization of workflow. The goal was to reduce variation in care, which, in turn, produced improved clinical results.
The key to physician-led and provider-led QI without additional financial support is designing a clinical workflow that can be incorporated into daily practice.

The implementation depended on efforts from surgery, perioperative nursing, and acute care care nursing micro-team fronts. The lead surgeon knew the protocol (and provided education to other surgeons), and asked for the protocol form and help in adherence to the steps during operations. The lead operating room nurse educated the rest of the perioperative nursing team, filled out the protocol forms, ensured adherence to the protocol steps by providing supplies and reminders, and made enhancements in operative workflow to make the protocol the “default” behavior. The lead acute care nurse educated peers, ensured adherence to the protocol steps, and activated enhancements in workflow to make the protocol the default behavior in the postoperative phase.

Results
A total of 128 cases were included for study: 64 cases in each of the preimplementation and postimplementation groups. In the preimplementation group, 15 complications (23.4 percent) and eight infections (12.5 percent) with Clavien-Dindo grade II or higher were documented. After protocol implementation, six total complications (9.4 percent) with four (6.3 percent) infections were documented. The total complication rate was significantly reduced after protocol implementation (p = 0.032), with absolute and relative risk reductions of 14.1 percent [95 percent confidence interval (CI): 1.5–26.7 percent] and 60 percent, respectively.

The infection rate essentially was cut in half, from 12.5 percent to 6.3 percent. The infection rate was not a statistically significant reduction (p = 0.225), with absolute and relative risk reductions of 6.3 percent [95 percent CI: -3.8–16.3 percent] and 50 percent, respectively. A relatively small sample size to date may contribute to limited ability in achieving statistical significance.

There was no “hard stop” mechanism to ensure full compliance in every operation, so implementation depended on people and their behaviors. The 88 percent compliance rate is viewed favorably and is higher over time given penetration of educational efforts across the entire surgical and nursing team.

The protocol was reviewed monthly, and steps of the protocol were discussed regularly, seeking to enhance workflow to prepare for and ensure proper execution of each step at the right time. For instance, storage places of specific dressings were relocated to allow for easier access.

Cost savings
Because this project had no budget and required no additional personnel, the amount invested is not quantifiable in financial terms. The team ultimately believes that quality improvement initiatives are the right thing to do for patient care. The key to physician-led and provider-led QI without additional financial support is designing a clinical workflow that can be incorporated into daily practice. Savings per case have not been fully quantified.
in our patient population. Extrapolating from comparative literature of spinal surgery infections—which have reported incrementally increased treatment costs (compared with non-infection controls) of $12,619 to $38,701—total savings in the reduction of complications would range from $113,571 to $348,309 in inpatient hospital costs alone. Implications for quality of life of the patient and family are targets for future study.

**Tips for others**

In a surgical team setting, implementation did not require multiple meetings, which would take away from clinical care or require cancellation of scheduled operations. Once motivated stakeholders were on board, feedback continued regularly with updates and scorecards on compliance and complications. Existing in-person clinical quality assurance conferences provided a forum for weekly check-ins as needed.

Regularly updated data and feedback are essential, as is providing meaning to daily work. Positive feedback functions as a great motivator. On the other hand, setbacks also provide extra incentive to do better. A shared value of striving to improve for our patients provided the best reason to come together as a team and to do our best.

**Acknowledgments**

Special thanks to JoWinsyl Montojo, RN; Valentina Briceno, RN; Virendra R. Desai, MD; Jeffrey S. Raskin, MD, MS; and the entire pediatric neurosurgery and movement disorders team at Texas Children’s Hospital, including consultants, trainees, nursing staff, allied health staff, office staff, and operating room staff.

**REFERENCES**

Duration of adjuvant therapy for stage III colon cancer: No longer one size fits all

In 1990, a National Institute of Health consensus conference concluded that adjuvant chemotherapy should be recommended to patients with stage III colon cancer after surgical resection to reduce the risk of recurrence and improve survival.1 The initial trials that led to this conclusion tested 12 months of adjuvant fluoropyrimidine-based (either intravenous 5-FU or oral capecitabine) therapies; however, at least three trials demonstrated that six months of therapy was non-inferior to 12 months.2-4

Six months of therapy remained the standard for the subsequent decade of trials testing multidrug regimens that combine fluoropyrimidine with oxaliplatin, irinotecan, bevacizumab, or cetuximab. At least three trials showed improved disease-free survival (DFS) with the addition of oxaliplatin.5-7 Although moving the bar on the cure rate was an important advancement, oxaliplatin led to additional toxicities, particularly long-lasting neuropathy that can affect patients for extended periods and can become permanent. Multiple trials to test supportive agents to reduce or prevent neuropathy were unsuccessful. Given that neuropathy from oxaliplatin is cumulative and dependent on total dose delivered, researchers have expressed great interest in testing shorter duration of therapy.

### IDEA collaboration

The International Duration Evaluation of Adjuvant therapy (IDEA) collaboration included six trials to test three versus six months of adjuvant fluoropyrimidine and oxaliplatin (see Table 1, page 78).8 Based on data from the metastatic setting, the efficacy of FOLFOX (5-fluorouracil, leucovorin, and oxaliplatin) and of capecitabine and oxaliplatin (CAPOX) was assumed to be similar in the adjuvant setting.9 Balancing goals of minimizing relapse risk with reducing toxicity (particularly cumulative neuropathy), the international team agreed on a non-inferiority margin for disease relapse that allowed for up to 12 percent relative risk increase, when comparing three versus six months of adjuvant therapy. This margin for relapse practically translates to the fact that the upper limit of the 95 percent confidence interval (CI) of the hazard ratio (HR) needed to be less than 1.12.

Over the span of nearly a decade, 12,834 patients from around the world were enrolled, treated, and followed in the IDEA collaboration on six randomized clinical trials.9 In June 2017, the results of non-inferiority were presented. As anticipated, toxicities were significantly less after three versus six months of therapy. Of particular interest, grade 2 or higher neuropathy rate was 16 percent versus 47 percent (p < 0.0001). When considering all patients randomized who received at least one dose of chemotherapy, the disease relapse HR comparing three versus six months of therapy was 1.07, with 95 percent CI of 1.00–1.15. Since the CI crossed 1.12, non-inferiority was not demonstrated.

### IDEA results

Notably, several preplanned subgroup analyses also were presented. First, approximately 60 percent of patients received FOLFOX and approximately 40 percent received CAPOX across the six trials. For patients who received FOLFOX, three-year DFS was 73.6 percent versus 76 percent (three versus six months, HR 1.16 [95 CI...
1.06–1.26)); these results suggest inferiority of three months of therapy when treated with FOLFOX. In contrast, and to the surprise of investigators given the data for metastatic disease, for patients who received CAPOX, three-year DFS was 75.9 versus 74.8 percent (three versus six months, HR 0.95 [95 CI 0.8–1.06]); this subgroup met the criteria for non-inferiority.8

Because patients were not randomized to FOLFOX versus CAPOX, it is impossible to conclude CAPOX is a more efficacious adjuvant regimen, but the interaction by regimen was significant (p = 0.0051) and thus if one chooses CAPOX as an adjuvant therapy, three months of therapy is non-inferior to six months. The biological rationale for this apparent difference by treatment regimen is unclear. Chance or bias by indication are possible reasons, but the difference in fluoropyrimidine dosing (more continuous with CAPOX) or total dosage of oxaliplatin in the initial month of the treatment also are possible explanations.

Additionally, subgroup analyses by T and N stage were presented. The initial analysis plan considered subgroup by T stage (T 1–2 versus T3 versus T4) and N stage (N1 versus N2). There were no statistically significant interactions by T stage (p = 0.36) or N stage (p = 0.44), though T4 tumors showed inferiority with three months of therapy compared with six months. However, higher-risk tumors (T4 or N2), which constituted 40 percent of the cohort, had a clinically meaningful worse three-year DFS (60 percent) as compared with better-risk tumors (T1–3, N1; 80 percent three-year DFS). When considering risk groups, the HR for three versus six months of therapy for patients with T1–3 N1 tumors was 1.10 (95 percent CI 0.90–1.12), whereas the HR for patients with T4 or N2 tumors was 1.12 (95 percent 1.03–1.23), suggesting non-inferiority with three months of therapy for better-risk tumors but inferiority for higher-risk tumors (see Table 2, page 79).

**Unanswered questions remain**

The IDEA collaboration is the largest prospective effort in colon cancer conducted, demonstrating the feasibility of publicly funded international research. While the intention was to arrive at a simple answer of whether three months is sufficient or six months is necessary, stepping back, it is not surprising that it is more complicated because stage III colon cancer is not a single disease biologically.

Many unanswered questions remain, including how to apply these data to rectal cancer or stage II colon cancer.
TABLE 2. DFS BY REGIMEN AND T AND N STAGE-BASED RISK GROUPS

<table>
<thead>
<tr>
<th>Risk group</th>
<th>Three-year DFS rate (percent) and HR by risk group and regimen</th>
<th>Regimen</th>
<th>Three-year DFS rate (percent) and HR by risk group and regimen</th>
<th>Regimen</th>
<th>Three-year DFS rate (percent) and HR by risk group and regimen</th>
<th>Regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CAPOX * (95 percent CI)</td>
<td>Hurley (95 percent CI)</td>
<td>FOLFOX * (95 percent CI)</td>
<td>Hurley (95 percent CI)</td>
<td>CAPOX/FOLFOX combined (95 percent CI)</td>
<td>Hurley (95 percent CI)</td>
</tr>
<tr>
<td></td>
<td>Three-year DFS, percent (95 percent CI)</td>
<td>Hurley (95 percent CI)</td>
<td>Three-year DFS, percent (95 percent CI)</td>
<td>Hurley (95 percent CI)</td>
<td>Three-year DFS, percent (95 percent CI)</td>
<td>Hurley (95 percent CI)</td>
</tr>
<tr>
<td></td>
<td>3 m</td>
<td>6 m</td>
<td>3 m</td>
<td>6 m</td>
<td>3 m</td>
<td>6 m</td>
</tr>
<tr>
<td>Low-risk (T1-3 N1)</td>
<td>85.0 (83.1-86.9)</td>
<td>83.1 (81.1-85.2)</td>
<td>0.85 (0.71-1.01)</td>
<td>81.9 (80.2-83.6)</td>
<td>83.5 (81.9-85.1)</td>
<td>1.10 (0.96-1.26)</td>
</tr>
<tr>
<td>High-risk (T4 and/or N2)</td>
<td>64.1 (61.3-67.1)</td>
<td>64.0 (61.2-67.0)</td>
<td>1.02 (0.89-1.17)</td>
<td>61.5 (58.9-64.1)</td>
<td>64.7 (62.2-67.3)</td>
<td>1.20 (1.07-1.35)</td>
</tr>
</tbody>
</table>

*CAPOX = capecitabine + oxaliplatin; FOLFOX = infusional 5-fluorouracil, leucovorin, oxaliplatin

Non-inferior
Not proven
Inferior

Non-inferiority of three months compared with six months of adjuvant therapy

whether a mixed strategy of three months oxaliplatin-based therapy followed by three months of fluoropyrimidine only would be a better option, and the possibility of further refining prognostic features that can be considered to determine duration of therapy. Although IDEA will not answer all of these questions, many ongoing efforts seek to further classify phenotype and molecular markers to eventually develop a model that can be used to individualize the duration of adjuvant therapy for each stage III patient. ♦

REFERENCES

The assassination of Archduke Franz Ferdinand of Austria on June 28, 1914, helped to trigger the start of World War I, and within weeks, the Allies (the U.K., the Russian Empire, and the French Third Republic) were at war with the Central Powers (Germany and Austria-Hungary). The Allies were later joined by Italy, Japan, and the U.S., whereas the Ottoman Empire and Bulgaria joined the Central Powers.

To defeat the enemy, the Allies and the Central Powers used trench warfare to create strong defensive positions that were hard to breach. Frequently, these trenches were constructed in three interconnected rows, which enabled the combatants to retreat and continue fighting to maintain their positions. Tens of thousands of miles of trenches were quickly built from the Belgian coast to the border of Switzerland. Reliable, rapid-fire machine guns became widely used and forced troops to seek protection in the trenches. Barbed wire was used extensively to inhibit movement on the ground between trenches, and tanks were used for the first time in 1916. Later in the war, poison gases and flamethrowers were introduced to kill and debilitate enemy troops.

When World War I began in 1914, the combatants wore only cloth hats as part of their uniforms. Soldiers had worn body armor in the past, but it became less effective after the long rifle was invented, so this early form of body armor was eventually abandoned. Because trench warfare exposed the head and neck area to gunfire and artillery assaults, many soldiers died as the result of penetrating intracranial injuries. In 1916 the British, and then the German and French, adopted widespread use of steel helmets. Although the number of fatal cranial injuries was reduced after the introduction of helmets, soldiers now survived with more devastating facial injuries.

Plastic and reconstructive surgery’s evolution
Sir Harold Delf Gillies, MD, FRCS, was a talented surgeon born in 1882 in New Zealand and received his medical degree at Cambridge University in the U.K. He then trained as an otolaryngologist and developed an interest in facial reconstruction, so he traveled to France to study with Charles Valadier, a French-American dentist, and Hippolyte Morestin, MD, a plastic surgeon skilled in facial reconstruction techniques. While serving in the British military, Dr. Gillies worked to establish a specialized facial reconstructive unit, which evolved into Queen’s Hospital, located just outside London. More than 5,000 patients received reconstructive procedures there primarily to rehabilitate facial injuries.

John Staige Davis, MD, FACS, was born in 1872 in Norfolk, VA, and received his medical degree in 1899 from the Johns Hopkins University School of Medicine, Baltimore, MD. Dr. Davis was the first U.S. surgeon to devote his career to the study and advancement of plastic and reconstructive surgery.

In 1917, the U.S. entered World War I and established treatment units at the specially constructed Fort McHenry U.S. Army General Hospital No. 2 in Baltimore to care for injured servicemen. More than 20,000 wounded soldiers were treated in this 3,000-bed receiving hospital from 1917 to 1923, when it was closed. In 1919, just one year before Dr. Gillies published Plastic Surgery of the Face, Dr. Davis...
Conclusion

The texts by Drs. Gillies and Davis on plastic and reconstructive surgery formed the foundation for the surgical specialty both in the U.S. and in the world. Dr. Davis was an early member in the American Association of Plastic Surgeons (AAPS), which was founded in 1921. He served as the president of the AAPS in 1944. Dr. Davis eventually established the American Board of Plastic Surgery (ABPS) and served as its first chairman. The ABPS established the specialty, which became one of the 24 specialty boards now recognized by the American Board of Medical Specialties (ABMS), which maintains the standards for physician certification. In 1946, Dr. Davis was elected to serve as a Regent of the American College of Surgeons. Both the College and the ABMS focus on improving the quality of health care for patients, families, and communities through continuous professional development.

Acknowledgments

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BIBLIOGRAPHY

Stemming the tide of violence

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

The recent rise in mass shootings and firearm violence across the U.S. has taken an emotional toll on all Americans, but we as surgeons witness firsthand the devastating effects of firearm injuries. To help effect change, the American College of Surgeons (ACS) issued a letter on violence, its impact on health care, and how surgeons can take the lead in finding solutions by addressing this crisis as a public health issue.

ACS perspective on violence prevention

“We understand that not all of our Fellows agree on firearms, but the College is dedicated to improving care for the surgical patient, and as frontline caregivers for survivors of these tragedies, we must convene and lead where these issues are concerned,” the letter to all ACS Fellows reads.

In February, a gunman took the lives of 17 people—14 of whom were students—at a high school in Parkland, FL. An additional 17 people were wounded. But firearm violence doesn’t only involve mass casualty events. Indeed, the Gun Violence Archive website shows that, as of March 15, 2018, 2,867 people in the U.S. died as a result of firearm violence. An estimated 4,880 were injured as a result of firearm violence in the U.S. during the same time period, according to the website.

The ACS first issued a Statement on Firearm Injuries in 1991. The statement was later revised and updated in both 2000 and 2013—the latter in response to the mass casualty event at Sandy Hook Elementary School in Newtown, CT.

According to the 2013 ACS Statement on Firearm Injuries, the College supports the following initiatives:

• Enacting laws that would ban civilians from accessing assault weapons, high-capacity clips, and munitions intended for use by the military or law enforcement

• Strengthening and requiring background checks for individuals seeking to purchase a gun, including at gun shows and auctions

• Creating programs that educate and improve safe gun storage practices, as well as teach nonviolent conflict resolution

• Researching firearm injuries and creating a database on

In a study published in March 2016 issue of the American Journal of Medicine, the authors found that the homicide rate involving firearms was 25.2 times higher in the U.S. than in other high-income countries.
To help effect change, the ACS issued a letter on violence, its impact on health care, and how surgeons can take the lead in finding solutions by addressing this crisis as a public health issue.

these types of injuries to inform federal health policies

   After the Sandy Hook mass shooting event—during which a gunman shot and killed 20 first-graders and six adults—ACS Regent Lenworth M. Jacobs Jr., MD, MPH, FACS, convened a number of experts, and they developed the Hartford Consensus.4 This consensus of recommendations dealt primarily with the issue of how health care providers and law enforcement could work together to provide medical service to injured victims. The consensus led later to the development of the Stop the Bleed® program, which trains laypeople in first-response measures to help individuals who are experiencing blood loss. To date, the program has trained more than 100,000 people.

   In addition, the ACS Committee on Trauma (COT) is working to create an action plan to reduce firearm violence. Nine recommendations—which are still being fine-tuned—have been developed and include the following:

   • Continuing to support the development of trauma systems and the Stop the Bleed program, as well as access to bleeding control kits in public places, across the country
   • Gathering gun-owning Fellows to discuss violence prevention strategies, as well as surveying ACS members to better understand their views on firearm ownership and injury prevention strategies
   • Supporting programs that aim to counsel patients on safe firearm storage practices and injury prevention methods in order to reduce violence-related injuries
   • Conducting research and supporting efforts to strengthen background checks and enforcement of laws designed to keep firearms out of the hands of criminals

Active shooter situation in health care facilities

The Joint Commission also is acutely aware of the issue of firearm violence and its impact on health care institutions. A Quick Safety advisory on preparing for active shooter situations updated as of February 2017 provides additional resources and safety actions to consider for health care workers who are involved in an “active shooter” situation. An active shooter is defined as an individual who is actively engaged in killing or attempting to kill people, most commonly in confined and populated areas.5

   These safety actions include the following:

   • Involving local law enforcement in emergency plans
   • Developing a communication plan for these types of events
   • Establishing processes and procedures to ensure patient and employee safety
   • Training and drilling employees on these procedures and for these types of events
   • Planning how to handle the event after it ends

Additional resources from The Joint Commission include the following:

• Quick Safety, Issue 5: Preventing violent and criminal events
• Sentinel Event Alert, Issue 45: Preventing violence in the health care setting
These data demonstrate that a clear problem exists in this nation, which is why the ACS and The Joint Commission have taken action to try to better manage these emergencies and, hopefully, minimize injuries and deaths.

A challenge that must be addressed
In a study published in the March 2016 issue of the American Journal of Medicine, the authors found that the homicide rate involving firearms was 25.2 times higher in the U.S. than in other high-income countries. The results of the study also showed that the gun homicide rate among 15- to 24-year-olds was 49 times higher in the U.S. than in other high-income countries.

These data demonstrate that a clear problem exists in this nation, which is why the ACS and The Joint Commission have taken action to try to better manage these emergencies and, hopefully, minimize injuries and deaths.

These actions are important, but more involvement from the surgical community is needed. The ACS and The Joint Commission join our nation’s students, parents, teachers, patients, nurses, and physicians in asking Congress to act. Americans need our leaders to adopt the mantra that gained traction hours after the tragedy at Marjory Stoneman Douglas High School: “No more.”

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

REFERENCES
The definition of compartment syndrome has evolved over the last two centuries. Volkmann first introduced the concept of compartment syndrome when he described post-traumatic ischemic muscle injury leading to paralytic limb contractures, which he termed Volkmann’s Contracture in 1881.* The more modern definition from Carter et al describes muscle swelling within a fixed muscular compartment impairs distal blood supply leading to necrosis.† Physicians now agree that compartment syndrome occurs when pressure within a closed space increases past a critical pressure (typically greater than 30 mmHg), resulting in decreased perfusion to the components of the compartment and the sequelae following such an insult (muscle edema, ischemia, and necrosis).

Prompt diagnosis and treatment
Lower extremity gunshot wounds, stab wounds, fractures as a result of blunt injuries, and prolonged pressure on an extremity are common causes of lower extremity compartment syndrome in trauma patients. No matter the mechanism of injury, prompt diagnosis and treatment of compartment syndrome is essential.

The classic signs of acute compartment syndrome include the six “Ps”: pain, paresthesia, poikilothermia (differing temperatures between limbs with affected side being cooler), pallor, paralysis, and pulselessness. Pain that is disproportionate to injury must trigger a workup for compartment syndrome. Pain is often described as a dull, deep, aching worsened by passive stretching of the involved muscles in the lower extremity or dorsiflexion of the foot. Paresthesias in the web space between the first and second toes is also an early indicator of compartment syndrome. Paralysis and pulselessness is often a late indicator of compartment syndrome and many times results after irreversible nerve and muscle injury have already occurred.

Suspicion of compartment syndrome should prompt further workup or definitive treatment. Compartment pressures may have a limited role in diagnosis but are useful in patients without a reliable physical examination. Several commercially available devices allow for pressures to be measured within the muscular compartments of concern. An absolute compartment pressure greater than 30 mmHg is concerning for compartment syndrome.

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syndrome. Calculating the “delta-p” (diastolic blood pressure minus intracompartment pressure) is an additional way to determine the need for operative intervention. Whitesides in 1975 suggested that a compartment was at risk when the compartment pressure was within 10–30 mmHg of the diastolic blood pressure. The definitive treatment of compartment syndrome is fasciotomy.

To examine the occurrence of lower extremity compartment syndrome in the National Trauma Data Bank® (NTDB®) research admission year 2016, medical records were searched using the International Classification of Diseases, 10th Revision Clinical Modification codes. Specifically searched were records that contained a diagnosis code of either T79.A21 (traumatic compartment syndrome of right lower extremity) or T79.A22 (traumatic compartment syndrome of left lower extremity). A total of 979 records were found, of which 937 contained a discharge status, including 656 patients discharged to home, 160 to acute care/rehab, and 87 to skilled nursing facilities; 34 died (see Figure 1, this page). Of these patients, 82 percent were men, on average 38.1 years of age, had an average hospital length of stay of 12.8 days, an intensive care unit length of stay of 7.7 days, an average injury severity score of 9.4, and were on the ventilator for an average of 7.2 days. Of those tested, 26 percent (105 out of 403) were over the legal limit for alcohol.

Several different mechanisms of injury may result in a lower extremity compartment syndrome. No matter the etiology, if the diagnosis and treatment are delayed, serious sequelae will occur. Examples include muscle loss, permanent nerve injury, functional loss, or even amputation. However, urgent operative fasciotomy provides a slice in time that will go a long way to reduce the potential morbidity of lower extremity compartment syndrome.

Throughout the year, we will be highlighting these data through brief reports in the Bulletin. The NTDB Annual Report can be found on the on the ACS website as a PDF file 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.

Acknowledgment
Statistical support for this article was provided by Ryan Murphy, Data Analyst, NTDB.

FIGURE 1. HOSPITAL DISCHARGE STATUS

![Figure 1. Hospital discharge status](image-url)
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 2–3 at the College’s headquarters in Chicago, IL. The following is a summary of key activities discussed. The information provided was current as of the date of the meeting.

ACSPA
From January 1 to December 31, 2017, the ACSPA and its political action committee, ACSPA-SurgeonsPAC, collected $505,000 in donation receipts from more than 1,200 individual ACS members and staff. SurgeonsPAC also disbursed $377,990 to more than 170 congressional candidates, leadership PACs, and political campaign committees. In line with congressional party ratios, 57 percent of the amount given was to Republicans and 43 percent to Democrats.

ACS
In addition to reviewing reports from the ACS division directors, the Regents reviewed and approved the following policy statements, both of which were published in the April issue of the Bulletin:

• Statement on Credentialing and Privileging and Volume Performance Issues
• Statement on Medical Student Use of the Electronic Health Record

In addition, the Board of Regents accepted resignations from 11 Fellows and changed the status from Active or Senior to Retired for 99 Fellows. The Regents also approved the reinstatement of 177 Fellows.

Division of Education
Clinical Congress 2017
A total of 8,228 surgical professionals attended Clinical Congress 2017, October 22–26 in San Diego, CA. This total included the highest numbers of Initiates and residents in attendance since 2008.

TTP Program
The Transition to Practice (TTP) Program in General Surgery was established five years ago, primarily in response to concerns about readiness for independent general surgery practice among graduating surgery residents. To better reflect its mission and goals, TTP will be renamed the Program for Mastery in General Surgery. The basic tenets of the program will remain the same, and additional educational and networking opportunities will be introduced. The rebranded and revised program will formally launch in spring 2018.

Academy of Master Surgeon Educators
The Academy of Master Surgeon Educators™, which recognizes and assembles a cadre of Master Surgeon Educators of national and international renown, will select the inaugural cohort of members in spring 2018 for induction into the Academy in summer 2018. Members of the Academy will be selected through a rigorous peer-review process and are expected to engage in activities in conjunction with the Division of Education to advance the science and practice of avant-garde surgical education and training. Goals include defining megatrends in surgical education training, steering advances in the field, fostering innovation and collaboration, supporting faculty development and recognition, and underscoring the critical importance of surgical education and training in the changing milieu of health care.

Committee on Ethics
The Committee on Ethics, which is housed in the Division of Education, released Ethical Issues in Surgical Care at Clinical Congress 2017. More than 30 authors contributed to 21
chapters that are organized by the predominant arenas in which ethical issues in surgical care arise, including the surgeon-patient relationship, the surgeon and the surgical profession, and the surgeon and society. Chapters feature case scenarios to ground discussions in the realities of clinical practice.

The Fellowship in Surgical Ethics, sponsored by the Division of Education and the MacLean Center for Clinical Medical Ethics, University of Chicago, IL, prepares surgeons for careers that combine clinical surgery with scholarly studies in surgical ethics. Two fellows will complete the program in June 2018.

**Safe and Effective Pain Control Initiative**

The Division of Education’s Patient Education Committee launched the Safe and Effective Pain Control Initiative in 2017 with grant funding support from the ACS Foundation. The goals of the program include preventing chronic opioid use following surgery; reducing opioid distribution into the local communities, which may lead to misuse and nonmedical use through improved disposal and pursuit of opioid-sparing options; and implementing a patient-centered approach to safe opioid prescribing through education of the patient, caregiver, and surgical professional. The Opioid Workgroup, which includes members from all surgical specialties and several other external organizations, such as the Centers for Disease Control and Prevention and the Association of Hospital Pharmacists, has worked on several activities, including the following:

- A College Statement on the Opioid Abuse Epidemic, which was published in the August 2017 Bulletin
- Clinical Congress Panel Sessions
- Development of six professional e-learning programs
- Dedicated web page
- Creation of an office sign and patient handout on Safe and Effective Pain Control available to all ACS members
- Easy access to state Continuing Medical Education (CME) pain management and opioid prescribing requirements

**Division of Integrated Communications**

In 2017, the Division of Integrated Communications put an increased emphasis on data analysis to ensure that the College is communicating effectively and fine-tuning its communications strategies as needed. A far-reaching examination has included analyzing data on the transition to the online Bulletin, to the effectiveness of various online marketing campaigns, to data on which types of Twitter posts generate the most “likes” and “retweets.” The Comprehensive Communications Committee continues to provide leadership and guidance to refine the College’s messaging to ensure it resonates with key audiences.

**Bulletin**

As of January 1, 2018, the Bulletin has been a mostly online publication for a full year. The Bulletin team surveyed all Domestic Members in December 2017 to determine whether the transition has been successful. At the time of the B/R meeting, staff was analyzing the results from the survey and preparing to make recommendations for moving forward.

**facs.org**

The division continues to provide a contemporary, user-friendly website experience for members and all facs.org visitors. In 2017, several new outward-facing features were made to the College’s website, including the ability to search and filter Clinical Congress sessions by Webcast availability, Credit to Address Regulatory Mandates, and Credit to Address ACS...
Accreditation/Verification Requirements; and the addition of a "Donate" button to the top of all pages and ACS NewsScope to support the ACS Foundation. Usability improvements were made to the site content search tool to prepopulate suggested search terms in the search field. Web traffic increased in 2017 from the previous year. The College’s website logged 9,644,134 page views; returning visitors represented 43.5 percent of the website traffic, and the remaining 56.5 percent were new visitors.

**Bleedingcontrol.org**
Bleedingcontrol.org recently completed its first full year online. In 2017, the site captured 401,147 page views. Returning visitors represented 39.7 percent of the site’s traffic; 60.3 percent were new visitors. In the last year, the public profile was substantially raised with the national Stop the Bleed® campaign, expanding awareness among the public and press. Extensive media coverage of bleeding control training and related issues occurred in the aftermath of shooting tragedies and continued throughout most of 2017.

Stop the Bleed is increasingly becoming part of the nation’s emergency preparedness consciousness, and the College’s role in the campaign has been prominently mentioned. In 2017, almost 500 news stories mentioned or were fully focused on bleeding control techniques, with either the College, the Committee on Trauma (COT), or the Hartford Consensus mentioned. These articles provided an estimated total reach of 603.12 million media impressions.

**Social media**
The College continued to improve its social media presence in 2017, with the most significant growth happening on Twitter. In just one year, the number of people who followed @AmCollSurgeons on Twitter increased by more than 22 percent. The Clinical Congress 2017 hashtag received nearly 110.5 million impressions (number of times users potentially saw #ACSCC17 on Twitter). New hashtags, such as #BulletinACS and #ACSredbook, were introduced to increase reach and usefulness. Launched in 2016, the @bleedingcontrol Twitter account now has 3,000 followers. A five-part series of stories, “Putting the Pieces Together: A National Effort to Complete the U.S. Trauma System,” was developed to draw attention to gaps in the system and proposed solutions. To date, the stories have received 5,500 page views on facs.org, as well as significant shares on the College’s social media sites.

**Communities**
A total of 2,233 unique discussion contributors posted 18,922 messages across all communities in 2017, a year in which members viewed 764,122 community web pages. Overall, 3,030 more discussion posts were logged in 2017 than in 2016.

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

**Quality and Safety Conference**
Following a successful 2017 conference, the 2018 Quality and Safety Conference will take place July 21–21 in Orlando, FL. The 2018 conference will include two additional ACS Quality Program tracks: Cancer and Trauma. With the theme of Partnering for Improvement, the program will focus on collaborative approaches to better understanding how the fundamentals of quality and safety apply across all programs.

**Optimal Resources for Surgical Quality and Safety**
The College officially released Optimal Resources for Surgical Quality and Safety in July 2017. The manual is intended to be a trusted resource for surgical leaders.
seeking to improve patient care in their institutions, departments, and practices. Exploratory work is under way to develop adjunct and integrated resources/standards within the manual to ultimately launch a Surgical Quality Verification Program. The aim is to present a set of standards for discussion and review by a larger group to pilot with a targeted group of hospitals in 2018.

**ACS NSQIP**

A total of 796 hospitals participate in the College’s National Surgical Quality Improvement Program® (ACS NSQIP®)—685 in the adult option and 111 through the pediatric option. An additional 28 hospitals are in various stages of the onboarding process. At present, 87 hospitals outside of the U.S. participate in ACS NSQIP—approximately 11 percent of all ACS NSQIP participating hospitals. Interest from international sites continues to build, particularly in Australia, Chile, Mexico, and Portugal.

Interest in collaboratives continues to grow. To date, more than 68 percent of all NSQIP hospitals participate in at least one of the 56 established collaboratives. In late 2017, the NSQIP Collaborative Leader Quarterly Call Series was launched to aid in engagement and provide a forum for discussion and sharing of quality improvement efforts.

**MBSAQIP**

A total of 866 facilities participate in the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP), and 63 surgeon surveyors performed 245 site visits during 2017. MBSAQIP’s efforts continue to focus on data registry design, training enhancement and support for the Metabolic and Bariatric Surgery Directors, long-term patient follow-up tactics, and opioid-sparing surgery.

**Children’s Surgery Verification Program**

In January 2017, the ACS Children’s Surgery Verification Quality Improvement Program officially released its verification program with the goal of ensuring that pediatric surgical patients have access to quality care. Seven sites have been verified and 20 sites are involved in the verification process. Efforts will continue to focus on the framework to develop and bridge the resources of verification and the registry.

**The Coalition for Quality in Geriatric Surgery Project**

The Coalition for Quality in Geriatric Surgery Project, funded by the John A. Hartford Foundation, aims to systematically improve surgical care of patients older than 65 years of age by establishing a verification program in older adult surgery. In recent months, the team achieved the following: revised the beta standards, created a program compliance assessment, and launched the beta pilot. The four-year project will conclude in July 2019.

**ISCR**

The Agency for Healthcare Research and Quality Improving Surgical Care and Recovery (ISCR) Program, a collaborative effort between the College and the Johns Hopkins Armstrong Institute for Patient Safety and Quality, is under way. At present, 206 hospitals are participating in the first cohort to implement the colorectal pathway and establish systems for collecting data in the ISCR platform on compliance with the pathway processes and outcomes. The second cohort, scheduled for March 2018, allows hospitals to focus on orthopaedics (joint replacement and hip fracture).

**Strong for Surgery**

Strong for Surgery, a joint program between the ACS and the University of Washington, Seattle, is a quality initiative aimed at identifying and evaluating evidence-based practices to optimize the health of patients before surgery. The program empowers hospitals and clinics to integrate checklists into the preoperative phase of clinical practice for elective
operations. The checklists target four areas known to be high determinants of surgical outcomes: nutrition, glycemic control, medication management, and smoking cessation. An online toolkit launched in July 2017 to aid two active pilot sites and access was provided to 178 other sites.

SSR
The new Surgeon Specific Registry (SSR) platform has an active user base of more than 5,000 surgeons. Since its launch in April 2017, more than 600,000 records have been entered in the new system. The case data migration from the legacy system was completed in late 2017.

The SSR offers several regulatory compliance opportunities for surgeons, including the Merit-based Incentive Payment System (MIPS) by the Centers for Medicare & Medicaid Services (CMS); Maintenance of Certification (MOC) Part 4 by the American Board of Surgery (ABS); and submission of cases to the ABS during the MOC exam application. The College worked closely with CMS to achieve recognition and approval of the SSR as a MIPS-Qualified Registry and MIPS-Qualified Clinical Data Registry, and more than 500 SSR participants registered for MIPS 2017 participation. Continued enhancements are under way to improve the system’s functionality.

Cancer Programs
The Commission on Cancer (CoC) has more than 1,500 accredited programs, and 42 new cancer programs applied for accreditation in 2017. The CoC Accreditation Committee is undertaking a review of existing standards, which will lead to publication of a new manual in 2019 to align with the College-wide standardization of accreditation/verification programs.

The National Accreditation Program for Breast Centers (NAPBC) has accredited nearly 600 U.S. centers and received 62 new applications for accreditation in 2017. The NAPBC released a revised standards manual in January 2018 and were to begin using these standards in April 2018 following surveyor training.

The National Accreditation Program for Rectal Cancer is launching in 2018 with surveyor training; the first surveys were scheduled for March and April.

Trauma Programs
The Committee on Trauma’s (COT) Trauma Quality Improvement Program (TQIP®) has 754 participating hospitals. The TQIP Quality Measures Performance Workgroup developed several new performance measures, which CMS has approved and are set for implementation in 2018.

Attended by 1,800 participants, the 2017 TQIP Annual Scientific Meeting and Training took place November 11–13 at the Hilton Chicago, IL. The program comprised 26 educational sessions, 29 oral abstract presentations, and 102 posters. The 2018 TQIP Annual Scientific Meeting will take place November 16–18 in Anaheim, CA.

The COT released the “TQIP Best Practices Guidelines on Palliative Care” in November 2017, and the ”TQIP Best Practices Guidelines on Imaging for Trauma Patients” is expected to be released at the November 2018 TQIP meeting.

This year marks 40 years of the Advanced Trauma Life Support® (ATLS®) Program. Several events and awards are planned throughout the year to recognize this achievement.

The Bleeding Control program has experienced rapid and unprecedented growth since its inception in January 2017. The Stop the Bleed program has a presence in all 50 states, with instructor requests from more than 50 countries. As of December 31, 2017, the program had been provided to more than 100,000 individuals via 17,000 registered classes. Integral to the growth of the program has been advocacy.
work by the COT. Several states have been able to develop and enhance their efforts based on lobbying and educational efforts to formulate legislation and increase funding for the Bleeding Control program.

**ACS Foundation**

The ACS Foundation had a strong year in its mission to obtain financial support for the College’s philanthropic and educational efforts. Thanks to the generous support of Fellows and friends of the College, contributions for fiscal year 2017 increased by 35 percent from fiscal year 2016. With the support of two major donors, successful matching gift opportunities were offered at Clinical Congress 2017 and the 2017 Annual Fund fall appeal, raising $100,000 and $200,000 respectively. The Foundation also offered several new initiatives to broaden its outreach to Fellows, including working with each division of the College to offer more defined giving opportunities to donors, as well as using 19 strategic projects to assist in fundraising goals and streamlining operations. ♦

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Rajiv Datta, MD, FACS, FRCS, chief of surgery, South Nassau Communities Hospital, Oceanside, NY, recently received South Nassau’s 2017 Mary Pearson Award. The award is presented annually to an individual for extraordinary effort and individual contributions that advance the hospital’s mission to provide compassionate care and standard-setting health care services.

Dr. Datta, also medical director, Gertrude & Louis Feil Cancer Center, Valley Stream, NY, and director, division of surgical oncology and head and neck surgery, joined South Nassau in 2001 and has since gained an international reputation for leadership and surgical innovation. His leadership allowed Gertrude & Louis Feil Cancer Center to be equipped with cutting-edge cancer treatment technology, and colleagues and patients recognize Dr. Datta for his surgical skill and compassionate demeanor.

American College of Surgeons Regent Henri R. Ford, MD, MHA, FACS, FRCS, FAAP, in March was named the new dean of University of Miami, FL, Miller School of Medicine. Dr. Ford will start in his new position June 1. At press time, he was vice-president and surgeon-in-chief, Children’s Hospital Los Angeles, CA; and professor of surgery and vice-dean for medical education, Keck School of Medicine, University of Southern California.

A Haitian immigrant who moved to the U.S. with his family when he was 13 years old, Dr. Ford was drawn to the Miller School of Medicine position because of the University of Miami’s dedication to providing medical resources to Haiti after the devastating 2010 earthquake. Dr. Ford regularly visits Haiti.
to assist in procedures and train surgeons. He performed Haiti’s first separation of conjoined twins in 2015.

In his upcoming role, Dr. Ford aims to make the University of Miami Health System and the Miller School of Medicine a primary location for those seeking the latest and best in health care and biomedical research.

Frederick L. Greene, MD, FACS, clinical professor of surgery, University of North Carolina, Chapel Hill, was awarded the Southeastern Surgical Congress (SESC) Distinguished Service Award in February. The award is the SESC’s highest honor, awarded to a member for their continued contributions, commitment, and service to the Congress.

Dr. Greene was a Lieutenant Commander in the U.S. Navy Medical Corps, serving as surgeon on the USS Nimitz and at the Naval Regional Medical Center in Portsmouth, Virginia. He worked on the surgical faculty at the University of South Carolina, Columbia, for 17 years, and then Carolinas Medical Center, Charlotte, NC, for 15 years. Dr. Greene has authored peer-reviewed manuscripts, book chapters, and textbooks, and participated on several editorial boards.

The SESC noted that Dr. Greene earned the organization’s Distinguished Service Award for his contributions to the field of surgery, which significantly added to the SESC’s mission of supporting professional development and educational opportunities.

Natan Zundel, MD, FACS, FASMBS, clinical professor of surgery and vice-chairman, department of surgery, Florida International University Herbert Wertheim College of Medicine, Miami Beach, recently was awarded the 2017 American Society for Metabolic & Bariatric Surgery (ASMBS) Foundation Master Educator Award.

The Master Educator Award recognizes an ASMBS member who has demonstrated excellence as a master educator and mentor in the field of bariatric surgery. Recipients of this award have made significant contributions in at least one of the following areas: educational leadership, curriculum development, and education research; have participated in national educational meetings, educational publications in peer-review journals, and the creation of innovative teaching programs; and contributed to the development of Continuing Medical Education programs.

Dr. Zundel, Secretary-Treasurer of the American College of Surgeons (ACS) South Florida Chapter, is a world-renowned expert in minimally invasive and bariatric surgery. He has given lectures across the world and trained surgeons of all levels in bariatric and minimally invasive procedures. ♦
Dr. Pellegrini receives Seattle Business Leaders in Health Care Lifetime Achievement Award

Carlos A. Pellegrini, MD, FACS, FRCSI(Hon), FRCS(Hon), FRCS(Ed)(Hon), a Past-President of the American College of Surgeons, has received Seattle Business magazine’s 2018 Leaders in Health Care Lifetime Achievement Award for his committed service to improving the quality of patient care in the Seattle, WA, area.

Dr. Pellegrini has worked in the University of Washington (UW), Seattle, department of surgery since 1993, first as chair of the department and then in 1996 as the Henry N. Harkins Professor and Chair, until 2015, when he was appointed to serve as UW Medicine’s first chief medical officer (CMO).

According to the Seattle Business article on his achievement, as CMO Dr. Pellegrini oversees thousands of health care providers and has led a program that has visibly improved patient care quality, reduced costs, and “ensured that all of the health care system’s 270,000 patients have an assigned primary care provider across its primary care clinics.” He also integrated clinical services for key programs and created a training program to prepare young clinicians for leadership roles.

Dr. Pellegrini said that his motivation has always been to help people, as a surgeon, a mentor, or, as he notes about his role as CMO, by “advancing social issues and the care that we provide our patients.”

Read more about Dr. Pellegrini’s life and career in the Seattle Business article on this achievement at goo.gl/MV9iMo.

Dr. Pellegrini
The American Board of Surgery (ABS) has announced details about its new Continuous Certification Program, designed to provide greater value, flexibility, and convenience in maintaining ABS certification.

The ABS is transitioning to a new assessment process that will gradually replace the traditional secure recertification exam. Rather than one recertification exam every 10 years, ABS diplomates will use the new assessment process to continually demonstrate their surgical knowledge.

The new assessment is being introduced in 2018 for general surgery, with other ABS specialties launching over the next few years. Following are a few of the new details about the general surgery assessment:

• Consists of a 40-question, open-book assessment; 20 questions will cover core surgical principles, and the other 20 will cover a practice-related area of the diplomate’s choice, including general surgery, abdomen, alimentary tract, and breast

• Can be taken from personal computer at a time within the given assessment window

• Provides immediate feedback, with two opportunities to answer a question correctly

• Should be taken and passed every two years

All ABS certificates will remain valid until their expiration date. Diplomates will not need to begin taking the general surgery assessment until their certificate is due to expire. The new general surgery assessment will be available this year for interested surgeons. Registration for the new general surgery assessment will open August 1. The assessment will be available this fall, September 7 to November 5.

This new paradigm is intended to more accurately reflect the rapid changes in surgical knowledge and practice and better promote high-quality patient care.

"It was important to all the ABS directors and staff that this new program reflect the way our diplomates practice today, and to support them by providing a high-value assessment process that focuses on essential developments in surgical practice," said Mary E. Klingensmith, MD, FACS, ABS chair. "We welcome diplomates’ input as this new program continues to evolve."

Read more about the Continuous Certification Program on the ABS website at www.absurgery.org/default.jsp?exam-moc.
New oral histories added to the ACS Archives

At Clinical Congress 2017, the American College of Surgeons (ACS) Archives continued its Past-Presidents Oral History Project. This project is designed to capture an official, historical record of ACS Past-Presidents and reflections on their careers and time serving as President of the ACS. The Archives seeks to include the voices of all the living Past-Presidents in a collection that is intended to be recognized and researched for years to come.

The 2017 interviews captured the thoughts and reflections of the four most recent ACS Presidents (one-year terms, 2013–2017, respectively): Carlos A. Pellegrini, MD, FACS, FRCSI(Hon), FRCS(Hon), FRCSEd(Hon), Seattle, WA; Andrew L. Warshaw, MD, FACS, FRCSEd(Hon), Boston, MA; J. David Richardson, MD, FACS, Louisville, KY; and Courtney M. Townsend, Jr., MD, FACS, Galveston, TX. These video interviews provide insight into their careers, interests, and impressions of the College and its significance to the field of surgery.

These interviews, as well as the entire collection of oral histories on the ACS Archives Catalog, are available online by clicking on the “Oral Histories” featured category at goo.gl/cyDYmM. Send any questions or comments to ACS Archivist Meghan Kennedy at mkennedy@facs.org.

Coming next month in JACS and online now

Post-discharge opioid prescribing and use after common surgical procedures

Mayo H. Fujii, MD, MS; Ashley C. Hodges; Ruby L. Russell; et al found that median opioid use after surgery was 27 percent of the total prescribed, and only 18 percent of patients reported receiving disposal instructions. Significant variability in opioid prescribing and use after surgery warrants investigation into contributing factors.

This article and all other JACS content is available at www.journalacs.org.
Making quality stick:
Optimal Resources for Surgical Quality and Safety

Lifelong learning: A key responsibility of the individual surgeon

Editor's note: In July 2017, the American College of Surgeons (ACS) released Optimal Resources for Surgical Quality and Safety—a new manual that is intended to serve as a trusted resource for surgical leaders seeking to improve patient care in their institutions and make quality stick. Each month, the Bulletin highlights some of the salient points made throughout the “red book.”

Without lifelong education and training, there is no quality. The groundwork for developing the knowledge and capabilities needed to provide safe, reliable, quality care is set in medical school. In residency, trainees develop hands-on skills they will apply in practice while honing their theoretical and practical knowledge. Practicing surgeons learn with each new case, but also must continually seek out opportunities to learn new techniques and procedures.

Many tools are available to assist in applying the principles of adult learning to the education and training of residents and surgeons. Examples include morbidity and mortality conferences; simulation; video review; the American College of Surgeons National Surgical Quality Improvement Program® (ACS NSQIP®) Quality In-Training Initiative, which offers defined training in quality improvement for residents; journals; and so on.

The pursuit of lifelong learning and continuous professional development is the responsibility of each surgeon. The individual surgeon who is committed to quality should participate in Continuing Medical Education programs, evaluate performance in practice, and engage in self-assessment activities. Surgeons also are obligated to engage in quality improvement programs, such as ACS NSQIP and specialty programs that benchmark outcomes data; use tools designed to make surgical care more patient-centered, including the ACS NSQIP Risk Calculator, Strong for Surgery checklists, and patient-reported outcome measures; and reeducate and retool to maintain and advance their performance.

Be sure to read next month’s overview of the red book for insights into how disruptive behavior affects the patient care team and the value of mentoring and coaching. Optimal Resources for Surgical Quality and Safety is available for $44.95 per copy for orders of nine copies or fewer and $39.95 for orders of 10 or more copies at facs.org/redbook.
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**Chile Chapter**  
May 6–9  
Viña del Mar, Chile  
Contact: Lorena Lopez, coordinadora@acschile.cl, www.acschile.cl

**Region 16**  
May 7–10  
Sydney, Australia  
Contact: Rowena Bentley, anz_acs@surgeons.org, asc.surgeons.org

**Brooklyn-Long Island Chapter**  
May 8  
Garden City, NY  
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**Region 17**  
May 10–12  
Ankara, Turkey  
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**West Virginia Chapter**  
May 10–12  
White Sulphur Springs, WV  
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**Metropolitan Chicago Chapter**  
May 11  
Chicago, IL  
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**Missouri Chapter**  
May 11–13  
Lake Ozark, MO  
Contact: Denise Boland, MissouriChapterACS@gmail.com, www.moacs.org

**Southern California Chapter**  
May 11–12  
Indian Wells, CA  
Contact: Tracey Dowden, socalsurgeons@gmail.com, www.socalsurgeons.org

**Metropolitan Washington, DC Chapter**  
May 12  
Washington, DC  
Contact: Ashley Porter, aporter@facs.org, www.dcfacs.org

**Metropolitan Philadelphia Chapter**  
May 14  
Philadelphia, PA  
Contact: Lauren Newmaster, lnewmaster@pamedsoc.org, www.metrophilasurgeons.org

**San Diego Chapter**  
May 15  
San Diego, CA  
Contact: Jim Cox, surgeons@sdcacs.org, www.sdcacs.org

**Michigan Chapter**  
May 16–18  
Acme, MI  
Contact: Carrie Steffen, carrie@michiganacs.org, www.michiganacs.org

**2018 ACS Coding and Reimbursement Workshop**  
May 17–19  
New York, NY  

**Maine Chapter**  
May 18–20  
Kennebunkport, ME  
Contact: Cathy Stratton, maine@mainefacs.org, www.mainefacs.org

**Puerto Rico Chapter**  
May 18–19  
San Juan, Puerto Rico  
Contact: Aiza Velez-Silva, acspuertoricochapter@gmail.com, www.acspuertoricochapter.org

**Brooklyn-Long Island Chapter**  
Young Surgeons Dinner  
May 29  
Garden City, NY  
Contact: Teresa Barzyz, acsteresa@aol.com, www.bliacs.org

**FUTURE CLINICAL CONGRESSES**

2018  
October 21–25  
Boston, MA

2019  
October 27–31  
San Francisco, CA

2020  
October 4–8  
Chicago, IL