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The American College of Surgeons is dedicated to improving the care of the surgical patient and to safeguarding standards of care in an optimal and ethical practice environment.
Throughout her nearly three decades of service to the ACS, Linn has been a consummate professional and an influential force in shaping the progress of this organization.

Looking forward

At the end of this month, one of the most dedicated and accomplished members of the American College of Surgeons (ACS) Executive Staff is scheduled to retire. On May 31, Linn Meyer, Director of the ACS Division of Integrated Communications, will leave her position here. Throughout her nearly three decades of service to the ACS, Linn has been a consummate professional and an influential force in shaping the progress of this organization. I speak for the ACS Board of Regents, the Officers, the Past-Presidents, the Board of Governors, the Executive Staff, and the entire Division of Integrated Communications staff in stating that we will miss her wise counsel and strategic thinking as we move forward.

Leadership

Originally hired to manage the College’s public information programs in 1982, Linn was promoted to Director of Communications in November 1986. Since then, she has been a key member of the College’s executive staff, providing behind-the-scenes support and trusted strategic counsel to five consecutive Executive Directors.

She has successfully sought to ensure that all areas of the College interact and communicate with each other concerning issues, programs, and products that overlap among the divisions and that concern the College as a whole. Linn also has led the impressive growth of her division. In 1986, she managed a staff of seven individuals, who were responsible for producing one periodical—the Bulletin of the American College of Surgeons—75 freestanding publications per year for the other departments of the College, and low-key media relations and public information programs.

Today, the 19 highly motivated, productive, and talented staff members in the Division of Integrated Communications publish four periodicals—the Bulletin, the Journal of the American College of Surgeons, Surgery News, and ACS NewsScope. In addition, this division now produces approximately 350 to 400 freestanding publications annually for all areas and committees of the College. The materials reflect tremendous topic diversity and contain attractive graphic illustrations to appeal to a broad range of readers. In addition, the media relations program is now very active, and staff are in regular contact with reporters representing the trade and consumer press for both traditional and electronic media outlets.

It was for these reasons that my predecessor, Thomas R. Russell, MD, FACS, and the Board of Regents agreed that the Communications area should be reclassified as the Division of Integrated Communications and accorded the recognition Linn and her staff so rightly deserved.

Reaching out

Needless to say, communications technology has advanced considerably in recent years, and Linn has been at the forefront of ensuring that the College makes use of the ever-growing list of electronic instruments available to engage members and other constituencies. Under her supervision, the College now boasts electronic versions of print publications, a public website that has grown from 100 to more than 6,000 “pages,” and a members-only Web portal that
continues to grow exponentially in use each quarter. More recently, she helped the College broaden its reach through social media tools, such as Twitter, YouTube, Facebook, and an online community project for rural surgeons that we plan to launch this spring.

In addition, Linn has made invaluable contributions to the College’s efforts to enhance the FACS brand and the organization’s reputation.

She took the initiative in expanding the scope of the Communications Committee and transforming the group into the Public Profile and Communications Steering Committee. Furthermore, Linn took responsibility for contracting with a consulting firm that could enhance the College’s visibility among prospective members and the public. The result was the development of our highly effective relationship with Weber...
Shandwick, which has greatly improved our ability to leverage the College’s strong surgical and medical reputation among key health care audiences and engage these parties in dialogue about clear, workable solutions that highlight the College’s quality programs and demonstrate their relevance to real outcomes improvements.

Commitment to quality

Linn has always exuded a commitment to helping ACS Fellows do what they do best—providing safe, high-quality care to their patients. She has proudly played a key role in the development and launch of the College’s new Inspiring Quality campaign, which, through one-on-one meetings, news stories, interviews, speeches, and other communications with key decision makers, intends not only to inform, but to deliver a call to action. (For more information on the Inspiring Quality campaign, see my column in the March 2011 issue of the Bulletin). She strongly believes that the College should not be shy about promoting the wonderful programs we have in place to improve outcomes for surgical patients while helping to eliminate complications and cut costs.

Moreover, she was actively involved in developing the College’s Out of Control video on the impaired surgeon for what was then the Board of Governors’ Committee on Physicians’ Health. She wrote the script and coproduced the video, which was designed to help surgeons recognize when they or a colleague may have a substance abuse or alcohol problem that will negatively affect their ability to provide safe, effective patient care.

A fond farewell

Everyone who has had the pleasure of working closely with Linn will attest to her unwavering dedication to her job and to this organization. Typically in the office by 6:00 am and almost always reachable by phone or e-mail, her work ethic is inimitable. She has an understated demeanor, is incredibly “hands-on” when it comes to getting the work done, and respectful and efficient in serving our members. Nonetheless, she is savvy enough to know that the ultimate service comes from being unafraid to voice an opinion or raise a concern when the need arises. At the same time, she has a compassionate and empathetic nature with the ability to understand another person’s point of view and to work in a collaborative fashion.

At press time, the College was interviewing candidates to fill the Director of the Division of Integrated Communications post. Thankfully, Linn has agreed to serve as a consultant to this individual in the coming months.

Although we will miss her greatly, the leadership of the College understands Linn’s desire to devote more time to her outside interests, including serving on the board of directors of a local community organization for youth from kindergarten through high school, gardening, and spending time with her husband Mike at their second home on a lake in Michigan. We wish her much happiness in the future.


David B. Hoyt, MD, FACS

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

PQRS reporting of the perioperative care measures group

by Caitlin Burley

Editor’s note: This is the fifth in an ongoing series of articles on the Physician Quality Reporting System (PQRS), formerly known as the Physician Quality Reporting Initiative (PQRI). These articles are intended to help surgeons understand and adapt to changes in the PQRS so that they can receive optimal Medicare Part B reimbursement.

The Centers for Medicare & Medicaid Services (CMS) has continued the PQRS into 2011 as required under the Medicare Improvements for Patients and Providers Act of 2008. PQRS links the reporting of quality data to physician payment by offering an incentive payment of 1 percent of the total allowed charges for Medicare Part B professional services covered under the physician fee schedule and furnished during the 2011 reporting period.

For those eligible surgeons who have previously reported in the PQRI program, it is important to note that the 2011 PQRS now includes 200 quality measures (including both individual measures and measures that are part of a 2011 measures group). Whereas 2010 PQRI quality measures and measures groups may be continued in the 2011 PQRS, measures specifications may have been updated for the new program year. Surgeons who are currently reporting in 2010 PQRI should review the 2011 PQRS Measure Specifications Manual for Claims and Registry Reporting of Individual Measures (for updates and changes to the individual measures), or the 2011 PQRS Measures Groups Specifications Manual (for updates and changes to the measures groups).

This article focuses on a specific PQRS measures group that surgeons are likely to use—Measure Perioperative Care Measures Group. It is important to note that while the perioperative measures group includes individual quality measures, the denominator coding has been modified from the individual measures to allow for implementation as a group. The denominator describes the eligible patient population for the specific measure. Please be sure to use the 2011 PQRS Measures Groups Specifications Manual when reporting a PQRS measures group. A previous article in this series gave an overview of the changes in the PQRS for 2011 and was published in the February issue of the Bulletin of the American College of Surgeons.

How do I use the measures group specifications manual?

The first step for implementing PQRS in your office is to use the 2011 PQRS Measures...
Groups Specifications Manual to identify applicable measures groups for professional services that your practice routinely provides. Next, select the measures group that makes sense based upon prevalence and volume in your practice, as well as your individual or practice performance analysis and improvement priorities. The 2011 PQRS Measures Group Specifications Manual can be found at http://www.cms.gov/PQRI/15_MeasuresCodes.asp#TopOfPage.

What is the description of the perioperative measures group?

The specifications state the perioperative measures group includes the following PQRS measures:

- #20—Perioperative Care: Timing of Antibiotic Prophylaxis—Ordering Physician
- #21—Perioperative Care: Selection of Prophylactic Antibiotic—First or Second Generation Cephalosporin
- #22—Perioperative Care: Discontinuation of Prophylactic Antibiotics (Non-Cardiac Procedures)
- #23—Perioperative Care: Venous Thromboembolism (VTE) Prophylaxis (When Indicated in All Patients)

The specifications also indicate that the perioperative measures group may be reported using either the claims or registry method; however, this article will focus on the claims-based reporting method.

What are the instructions?

The instructions explain when, by whom, and how the measures group should be reported. According to the instructions, the group-specific G-code, G8492, must be reported to indicate intention to report the perioperative measures group. This G-code needs to be reported only once during the reporting period. The instructions also include the following patient sample criteria:

Patients aged 18 years and older that have a specific surgical procedure performed:
19260, 19271, 19272, 19301, 19302, 19303, 19304, 19305, 19306, 19307, 19361, 19364, 19366, 19367, 19368, 19369, 22558, 22600, 22612, 22630, 27125, 27130, 27132, 27134, 27137, 27138, 27235, 27236, 27244, 27245, 27269, 27440, 27441, 27442, 27443, 27445, 27446, 27447, 27448,
27450, 43117, 43118, 43121, 43122, 43123, 43124, 43130, 43135, 43300, 43305, 43310, 43312, 43313, 43320, 43325, 43327, 43328, 43330, 43331, 43332, 43333, 43334, 43335, 43336, 43337, 43340, 43341, 43350, 43351, 43352, 43360, 43361, 43400, 43401, 43405, 43410, 43415, 43420, 43425, 43496, 43500, 43501, 43502, 43510, 43520, 43605, 43610, 43611, 43620, 43621, 43622, 43631, 43632, 43633, 43634, 43640, 43641, 43653, 43800, 43810, 43820, 43825, 43830, 43832, 43840, 43843, 43845, 43846, 43847, 43848, 43850, 43855, 43860, 43865, 43870, 44005, 44010, 44020, 44021, 44050, 44055, 44120, 44125, 44126, 44127, 44130, 44700, 47701, 47711, 47712, 47715, 47720, 47721, 47740, 47741, 47760, 47765, 47780, 47785, 47800, 47802, 47900, 48020, 48100, 48120, 48140, 48145, 48146, 48150, 48152, 48153, 48154, 48155, 48500, 48510, 48520, 48540, 48545, 48547, 48548, 48554, 48556, 49215, 50320, 50340, 50360, 50365, 50370, 50380, 60521, 60522, 61313, 61510, 61512, 61518, 61548, 61697, 61700, 62230, 63015, 63020, 63047, 63056, 63058, 63267, 63276.

These Current Procedural Terminology (CPT) codes and patient demographics identify the patients who are included in the measures group, otherwise known as the denominator. The instructions further note that “CPT Category I procedure codes billed by surgeons performing surgery on the same patient, submitted with modifier 62 indicating two surgeons (or dual procedures), will be included in the denominator population. Both surgeons participating in PQRS will be fully accountable for the clinical action described in the measure.”

What is the “frequency?”

The frequency refers to how often the measure
continued on page 10
Table 1. QDCs for four PQRS measures within the perioperative measures group

#20: Perioperative Care: Timing of Antibiotic Prophylaxis—Ordering Physician

<table>
<thead>
<tr>
<th>Event</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prophylactic parenteral antibiotic ordered to be given within specified time frame</td>
<td>G8629</td>
</tr>
<tr>
<td>Prophylactic parenteral antibiotic given within specified time frame</td>
<td>G8630</td>
</tr>
<tr>
<td>Not ordered or given for medical reasons (document reason in medical chart)</td>
<td>G8631</td>
</tr>
<tr>
<td>or Prophylactic parenteral antibiotic not ordered/given within specified time frame</td>
<td>G8632</td>
</tr>
</tbody>
</table>

#21: Perioperative Care: Selection of Prophylactic Antibiotic—First or Second Generation Cephalosporin

<table>
<thead>
<tr>
<th>Event</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cefazolin or cefuroxime ordered or given</td>
<td>4041F</td>
</tr>
<tr>
<td>Cefazolin or cefuroxime not ordered or given for medical reasons (document reason in medical chart)</td>
<td>4041F-1P</td>
</tr>
<tr>
<td>or Cefazolin or cefuroxime not ordered or given</td>
<td>4041F-8P</td>
</tr>
</tbody>
</table>

#22: Perioperative Care: Discontinuation of Prophylactic Antibiotics (Non-Cardiac Procedures)

<table>
<thead>
<tr>
<th>Event</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prophylactic antibiotics not given intraoperatively or within four hours prior to surgical incision</td>
<td>4042F</td>
</tr>
<tr>
<td>Prophylactic antibiotics given intraoperatively or within four hours prior to surgical incision and ordered to be discontinued within 24 hours of surgical end time</td>
<td>4042F and 4049F</td>
</tr>
<tr>
<td>Prophylactic antibiotics given intraoperatively or within four hours prior to surgical incision and not ordered to be discontinued within 24 hours of surgical end time for medical reasons (document reason in medical chart)</td>
<td>4046F and 4049F-1P</td>
</tr>
<tr>
<td>or Prophylactic antibiotics given intraoperatively or within four hours prior to surgical incision and not ordered to be discontinued within 24 hours of surgical end time</td>
<td>4046F and 4049F-8P</td>
</tr>
</tbody>
</table>

#23: Perioperative Care: Venous Thromboembolism (VTE) Prophylaxis (When Indicated in All Patients)

<table>
<thead>
<tr>
<th>Event</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>VTE prophylaxis ordered or given within specified time frame</td>
<td>4044F</td>
</tr>
<tr>
<td>VTE prophylaxis not ordered or given within specified timeframe for medical reasons (document reason in medical chart)</td>
<td>4044F-1P</td>
</tr>
<tr>
<td>or VTE prophylaxis not ordered or given within specified time frame</td>
<td>4044F-8P</td>
</tr>
<tr>
<td>Table 2. PQRS 2011 reporting options matrix</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Claims-based methods</strong></td>
<td><strong>Registry-based methods</strong></td>
</tr>
<tr>
<td><strong>Full-year period</strong></td>
<td>1. At least three PQRS measures (one–two if fewer than three apply), for 50% of applicable Medicare Part B fee-for-service (FFS) patients of each eligible professional</td>
</tr>
<tr>
<td>Measures groups</td>
<td>2. One measures group for at least 30 Medicare Part B FFS patients</td>
</tr>
<tr>
<td></td>
<td>3. One measures group for 50% of applicable Medicare Part B FFS patients of each eligible professional (at least 15 patients during reporting period)</td>
</tr>
<tr>
<td><strong>Half-year period</strong></td>
<td>4. At least three PQRS measures (one–two if fewer than three apply), for 50% of applicable Medicare Part B FFS patients of each eligible professional</td>
</tr>
<tr>
<td>Measures groups</td>
<td>5. One measures group for 50% of applicable Medicare Part B FFS patients of each eligible professional (at least eight patients during reporting period)</td>
</tr>
</tbody>
</table>

should be reported. In order to successfully report the perioperative measures group, quality data codes (QDCs) must be reported on all four measures within the group (20, 21, 22, and 23) for each patient for each time a surgical procedure is performed during the reporting period. The specifications include instructions for reporting each of the measures.

I've identified a patient in the denominator for the perioperative measures group. Now what?

The specifications for the perioperative measures group indicate that QDCs must be reported on all measures within the group. The specifications include a description and numerator for each of the four measures. The numerator describes the clinical action required by the measure for reporting and performance. Each time a surgeon encounters a patient in the denominator, a QDC for each of the four measures should be reported. If all quality actions for the patient are performed for all four measures, the composite G-code, G8501, may be reported on the claim instead of the individual QDCs. QDCs are CPT II codes that are used to report the numerator. Beginning on page 60 of the 2011 PQRS Measures Groups Specifications Manual, the numerators are listed for measures 20, 21,
Can you provide a step-by-step overview of the process for submitting a claim form?

CPT II codes can be reported on claim form CMS 1500 or via electronic form ASC X12N 837.

• **Step 1:** If your patient is age 18 or older on the date of the encounter, look in the measure specifications for the perioperative measures group to see if the CPT code is listed in the table of surgical procedures for which there are indications for a prophylactic antibiotic (including first or second generation cephalosporin) and VTE prophylaxis. If so, continue to step 2.

• **Step 2:** On the CMS 1500 claim form, list the CPT procedure code 44120 on line 1.

• **Step 3:** On lines 2 through 5, list the CPT II codes, or QDCs, based on the numerator actions.

• **Step 4:** On the following lines, list CPT II codes that correspond to PQRS measures #20, #21, #22 and #23. (See Table 1, page 9.) Or, if all quality actions for the patient have been performed for each of the four measures, G8501 may be reported. However, G8501 may not be reported if any of the QDCs with the 8P modifier have been selected.

• **Step 5:** Be sure billing software and clearinghouse can correctly submit PQRS CPT II codes, or QDCs.

• **Step 6:** Regularly review the remittance advice notice from the carrier to ensure the denial remark code N365 is listed for each QDC submitted. This indicates that claims have made it to the CMS national claims history file.

Surgical practices that follow these steps should be able to successfully report via claims in PQRS 2011 to receive incentive payments. There are various ways to report for PQRS, and as previously stated, this article has only covered the claims-based method for the perioperative measures group. Please refer to the correct measure specifications manual if you choose another method, such as registry-based reporting. Table 2 on page 10 is a matrix that lists all 11 options for reporting in PQRS 2011.

For more background information regarding the PQRS program, go to [http://www.cms.hhs.gov/pqri/](http://www.cms.hhs.gov/pqri/) and access the resources posted at [http://www.facs.org/ahp/pqri/index.html](http://www.facs.org/ahp/pqri/index.html). If you have any further questions regarding PQRS, contact Caitlin Burley at cburley@facs.org.
The strategic planning experience of the Michigan Chapter by Philip R. Corvo, MD, FACS
Deciding that a new strategy to increase membership and relevance to its community surgeons was necessary, the Michigan Chapter held a strategic planning session, moderated by the author of this article, Dr. Corvo, on January 7.

To date, at least 10 chapters have held strategic planning sessions facilitated by ACS volunteer-leaders. Overviews of these strategic planning sessions have been published in the *Bulletin* and presented at education programs for chapter leaders, such as the annual Leadership Conferences in Washington, DC, and chapter showcase sessions at the Clinical Congress meetings. John T. Preskitt, MD, FACS, led the first strategic planning session with the South Texas Chapter in 2006. Since then, several chapters have successfully used the same formula for strategic planning—including the Connecticut Chapter, which had its own session, led by Mary McGrath, MD, MPH, FACS, in May 2010. For a report on the Connecticut Chapter’s experience, see the January 2011 issue of the *Bulletin,* and for a report on the Tennessee Chapter’s planning experience, see the April 2009 issue of the *Bulletin.*

**Initiating the process**

As with other planning sessions, a conference call was first held with several participants and was run by Dr. Corvo; Rhonda Peebles, ACS Division of Member Services; and Angie Kemppainen, Executive Director of the Michigan Chapter. The purpose of the call was to introduce the participants to each other and to set the tone for the planning session. The questions addressed during this call, previously e-mailed to call participants, included topics such as the size of the chapter’s membership, history, and organizational structure; the expected outcomes of the planning session; and the chapter leaders’ perspectives on strengths, weaknesses, and challenges for the Michigan Chapter.

On the evening before the strategic planning session, a few Michigan Chapter leaders and staff met for an informal, pre-meeting dinner. The information gleaned from the questionnaire and conference call was again quickly reviewed and proved invaluable as starting points for the next day’s session.

On the day of the planning session, the members present (see photo, page 14) engaged in an ice-breaker exercise: after introducing themselves, each described their favorite car. This seemed very fitting given the session took place just outside of Detroit, in Novi, MI. As a testament to their dedication, some of the participants drove four hours—each way—to attend this session.

Ms. Peebles and Dr. Corvo led the session and started off with a few ground rules, including the proviso that the meeting was to be a brainstorming session and no reasonable idea was off limits. As group facilitators, Ms. Peebles and Dr. Corvo kept discussions on track, initiated feedback, and provided examples of other chapters’ experiences. In addition, during the session they repeatedly stressed that the final, important outcome of the meeting was to be a document—a strategic plan—that the Michigan Chapter would create and own, and hold itself to in the future.

**Mission and vision**

As with other ACS strategic planning sessions, the first item on the agenda was the development of a mission statement. The team reviewed other chapters’ mission statements and then brainstormed about what they provided to their members, what made them relevant, and what they wanted to improve upon. Issues that were discussed included the following:

- The chapter’s strong, two-day statewide meeting, as well as concerns that the meeting seemed too resident-focused and lacked relevance for the community surgeons
- The composition of the council, in that there were not many new members in recent years
- The lack of interest in the chapter among young surgeons

Eventually, the chapter produced the following mission statement:

Dedicated to achieving the best practices of surgical care and assisting surgeons in Michigan by promoting and advocating for the highest

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standards of surgical education and ethical, quality-driven, patient-centered care.

The next task the team worked on was the development of a vision statement. While a mission statement describes what the group is about and what the group does, a vision statement describes where the group would like to find itself in the future. During the Connecticut Chapter session, a vision statement exercise was initiated by Dr. McGrath. Dr. McGrath asked the Connecticut Chapter leaders to describe, in detail, a newspaper article about a possible major chapter achievement five years in the future. This same exercise was repeated at the Michigan meeting, and was possibly the most fun activity of the day. The exercise revealed the following about the Michigan council:

- Council members wanted the chapter to be an advocate for patients and surgeons
- Council members wanted the chapter to be an educator for current and future members and patients

This is the vision statement that was created for the Michigan Chapter:

Committed surgeons in Michigan advancing patients’ health through education and advocacy.

SWOT analysis

The third activity of the day involved conducting a traditional SWOT analysis—a review and discussion of the organization’s Strengths, Weaknesses, Opportunities, and Threats. For this exercise, a large flip chart was used so that the
lists for each component of the SWOT analysis could be viewed side by side. Using a flip chart helps attendees to better visualize how identified strengths could be used to overcome identified weaknesses, and how weaknesses could be turned into opportunities for improvement. It is interesting and important to note that several of the Michigan Chapter’s strengths, weaknesses, and threats were similar to those of other chapters, which were revealed during their own strategic planning sessions.

- Some strengths that were identified for the Michigan Chapter included the following:
  - Leadership
  - Dedicated core group of council members
  - Annual meeting and the educational opportunities it provides chapter members

- Some weaknesses included the following:
  - Lack of depth/no leadership succession planning
  - Annual meeting participants were mostly residents who were presenting papers
  - Lack of involvement by young surgeons
  - Lack of relevance to community surgeons
  - Poor communication with members and ineffective branding efforts
  - Ineffective legislative/advocacy efforts

- Some opportunities that were identified for the Michigan Chapter include the following:
  - Increase the number and participation of the council members by creating new leadership activities and by limiting leaders to one active role. For example, currently, the vice-president also serves as the annual meeting program director. In the future, these duties would be separated.
  - Increase involvement of young surgeons by aggressively recruiting young surgeons and residents to participate in council meetings, ACS-sponsored leadership conferences, and the College’s Joint Surgical Advocacy Conference.
  - Reach out to members by using electronic communications embedded with hyperlinks instead of a printed newsletter.
  - Utilize social networking sites such as Facebook and Twitter to better reach young surgeons and residents.
  - Create a Michigan Chapter speaker’s bureau for local hospitals, similar to the one being created in Connecticut.
  - Address advocacy by having meet-and-greets with Michigan legislators and their staff members and spearhead efforts to introduce Uniform Emergency Volunteers Health Practitioner’s Act (UEVHPA) legislation in Michigan. (The UEVHPA allows creation of a volunteer database so that physicians can cross state lines to provide help during mass casualties. The intricacies of medical insurance, licensing, and liability currently prohibit this form of assistance in many states.)

Moving forward
At the conclusion of the meeting, the Michigan Chapter had realized its immediate goals of creating new mission and vision statements, and, just as important, listed several concrete objectives that were achievable within a reasonable time frame. The group’s next task will be to periodically review their goals to make sure they either stay on track, or adjust their goals according to newly identified issues.

Chapters interested in hosting their own strategic planning session should contact Rhonda Peebles at 888-857-7545 or rpeebles@facs.org. Chapters that need more information or help with advocacy efforts or the UEVHPA in their state should contact Charlotte Grill, State Affairs Associate, at 312-202-5363 or cgrill@facs.org, or Alexis Macias, Regional State Affairs Associate, at 312-202-5446 or amacias@facs.org.

Dr. Corvo is assistant professor of clinical surgery, Columbia University College of Physicians and Surgeons, Stamford Hospital, Stamford, CT, and a health commissioner for the city of Stamford. He is the immediate Past-President of the Connecticut Chapter and the state’s alternate Governor to the ACS.
On November 2, 2010, Congressman Larry Bucshon, MD (R-IN), a cardiothoracic surgeon from Newburgh, IN, was elected to represent Indiana’s eighth congressional district in the U.S. House of Representatives. Indiana’s Eighth District has been referred to as the “Bloody Eighth” because of the close elections that have often characterized its history. Yet, in what was his first campaign for public office, Congressman Bucshon won more than 57 percent of the vote and all 18 counties in the district, for a margin of victory of more than 20 percent.

Before his election to Congress, Dr. Bucshon was a board-certified cardiothoracic surgeon in southern Indiana, where he served as president of Ohio Valley HeartCare (OVHC), Evansville, IN, a comprehensive cardiology and cardiovascular surgery practice. In addition, Dr. Bucshon served as chief of cardiothoracic surgery and medical director of the open heart recovery intensive care unit at St. Mary's Hospital in Evansville. In 2007, Dr. Bucshon was recognized as St. Mary’s medical staff physician of the year.

Dr. Bucshon was born and raised in Kincaid, IL, and is a graduate of the University of Illinois, Urbana-Champaign.

by Shawn Friesen
He attended medical school at the University of Illinois College of Medicine in Chicago. During his residency at the Medical College of Wisconsin, in Milwaukee, Dr. Bucshon met his wife Kathryn, who is a practicing anesthesiologist in Evansville. After completing his residency, Dr. Bucshon remained at the Medical College of Wisconsin to complete a fellowship in cardiothoracic surgery. During this time, Dr. Bucshon also joined the U.S. Navy Reserve, where he served for almost 10 years. Dr. Bucshon lives with his wife and four children in Newburgh, IN.

In a recent interview, Congressman Bucshon discussed his recent election and the importance of surgeon involvement in the American political process.

**Why did you decide to run for elected office?**

I decided to run for office because I did not like the direction our nation was heading. I believe we need to show fiscal restraint, and I also feel we need people with private sector experience in Congress—specifically, in health care. I feel that in these times that we really need to have health care professionals in the room when important policy decisions are being made at the federal level.

**How did you first become involved in politics?**

I have always been interested in politics. Ever since I was a young college student, I was fascinated with the political process. It started in the 1980s with President Ronald Reagan, and it really started the day that President Reagan was shot. I remember coming back from class to my dorm, and everybody in the dorms had the TV on. We watched the whole scenario as it played out. I remember how President Reagan handled himself after that event, and how he was able to successfully achieve tax reform and other items on his agenda. Subsequently, I started to realize that even though my father and my family were of a different party than President Reagan, my personal views were those of a conservative. So, while I have followed politics for many years, I first became officially involved when I decided to run for Congress.

**This was your first run for elected office. Had you considered running for public office before?**

Running for office was a big step and a complete change in profession for me. Looking at the direction our nation was heading, I felt called to serve. The first time I considered running for office was in 2008, but I realized that because of the time for me personally, and because of the political climate, the timing was wrong. Other than that, I had never thought about running.

**When you first announced your candidacy for the U.S. House of Representatives, it appeared that you would be facing Rep. Brad Ellsworth (D-IN) in the general election. Then, U.S. Senator Evan Bayh (D-IN) announced he would not run for re-election. This opened the door for Representative Ellsworth to declare for the U.S. Senate race and meant that the Eighth District was now an open seat with no incumbent. How did this turn of events affect your campaign and the way you approached it?**

While it changed the dynamic of the election, it didn’t change much about our approach; it really didn’t. Instead of running against an incumbent, it made the election an open-seat race, but it didn’t change our approach much because it happened very early in the campaign.

We had a plan in place to talk to our constituents about my views on the direction we should be taking the country. But other than the fact that I was running for an open seat rather than running against an incumbent, my strategy didn’t change.

**Before running for office, among your experiences, you had served in the U.S. Navy Reserve as a cardiothoracic surgeon and as president of OVHC. How have these experiences shaped your perspective and helped to prepare for your new role as a member of Congress?**

I believe that a diverse group of representatives from various sectors of the economy should be serving in Congress. The Founding Fathers’ intent was for a citizen legislature, and I intend to represent my district as a citizen legislator.

The various experiences I have had help in many ways. I can draw on my experiences as a former small business owner—president of OVHC—and as a surgeon to understand how
legislation affects my constituents, to provide leadership, and to make informed decisions. As a small business owner, I understand what it is like to have a payroll, what it is like to meet a payroll, what it is like to deal with regulations and the tax code, and how all these things affect small businesses. As a surgeon, I have frontline experience in our health care industry. I have witnessed the very positive things our health care system—which I believe is still the best health care system in the world—offers. But, having a physician’s perspective, I am also familiar with the shortcomings of our health care system that we need to work on.

The first thing I learned in the U.S. Navy Reserve was to recognize the chain of command and how to get things done in a particular system. I learned that you have to recognize that there is a flow to getting things done and identifying the people you need to talk to and work through to be effective. Even though I’m an individual congressman, there is still a hierarchy in Congress. As a freshman representative, and in thinking about my military experience, I realize that I need to work my way up. I think that is an important principle to understand—not only for people in Congress, but in life. If you don’t understand that concept, you won’t get anything done—you’ll just spin your wheels. And so, I think the U.S. Navy Reserve really helped me in that regard. The U.S. Navy Reserve also gave me a very deep respect for our citizens who are protecting our country, for their families, and for what their families sacrifice when their loved ones are serving in the military.

**Over the past several years, increasing numbers of physicians have been running for elected office. Including yourself, six physicians were newly elected to the House. To what do you attribute this rising interest in politics?**

As I mentioned earlier, a diverse group of representatives from various sectors of the economy provides a variety of perspectives in Congress, but, historically, I think the medical community has been less engaged than we should be in the political process. In retrospect, physicians have realized that we needed to be involved politically and how much politics affects everything we do.

Historically, medical professionals also have relied on their professional associations, such as the American College of Surgeons and The Society of Thoracic Surgeons, to represent them in Washington, DC. Although those organizations do a tremendous job of representing their members, given the direction the health care discussion has been going, I think that we also have to have some of those physicians in Congress to vote on legislation. Other than among the physicians in Congress, when health care is discussed, few in Congress demonstrate the deep understanding of the health care system that I would like to see among our elected officials.

Many people in Washington, DC, work hard on health care issues, but the perspective of a physician is something you just can’t replace. I think doctors are realizing that if our specialties and if our nation’s health care system are going to move forward in a way that helps our patients, we need to have excellent physicians—and enough of them—in our government. I think people are realizing that, and that’s why physicians are running for office.

**Now that you have been elected, what goals and policy objectives do you have for the next two years and beyond?**

My goal is to represent the people of Indiana’s eighth congressional district. We need to get our fiscal house in order so we can create jobs and grow the economy. I believe that part of getting this job accomplished involves repealing the health care law and replacing it with common-sense reforms that focus on quality care and reducing costs.

We need to create jobs and grow our economy. The number one thing that is stifling our economy is our federal deficit and the uncertainty it creates. The American public—both workers and businesses—realizes that if the federal government cannot get its fiscal house in order, that this will create an uncertainty about the direction of the country. This uncertainty means that people will not create jobs, and that people will not be able to find jobs.

Right now, everyone is very nervous. Much like right before World War II, this is a time in history when the American people are very con-


Many people in Washington, DC, work hard on health care issues, but the perspective of a physician is something you just can’t replace.

Concerned about the direction of the government. Of course, in the 1960s, there was certainly concern about the Vietnam War, but that was a unique circumstance. The way I see it, if you look at the direction of the world right before World War II, people felt uncertain because they did not know what was going to happen around the world. Now with our financial situation—not only in our country, but in other countries—people are again very concerned about our future.

Also, I do believe that the health care law will specifically affect job creation. Because of the law, there will be increased taxes and increased numbers of onerous regulations coming out of the Department of Health and Human Services, both of which will stifle job creation and result in long-term job loss, not only in health care but in small businesses as well. It is for these reasons that I’m in favor of repealing the whole law and starting over.

Succinctly, I am focused on creating jobs, growing the economy, and getting our fiscal house and our health care system in order.

Some physicians have continued to practice medicine after being elected to Congress. Have you continued to practice?

I have not. With the new obligations on my time, it would be difficult, if not impossible, to maintain my skills and guarantee quality care for my patients. You just can’t continue to be a practicing surgeon and serve in Congress. It basically comes down to ensuring quality care for your patients. Heart surgery is a very technically demanding specialty, and as a heart surgeon, you really want to make sure you’re doing quality work. As a heart surgeon, I took pride in my work. As a member of Congress, I just don’t feel I would have the time to keep up my skills to the level that I would be comfortable with.

Was it hard to know that you were leaving that behind?

It was a very difficult decision, because I do miss the patients and their families. I miss making a difference in individual patients, and in their families, lives. I also miss the people in the health care community with whom I worked. It is all I have really known since I was in medical school. For the past 26 years—since I was 22 years old—the only thing I have really known is medicine. So, yes, it was difficult to give that up. But I really felt that we needed people in office who were really going to look at the bigger picture and at the direction of health care in our country. So, I was willing to personally sacrifice my career to improve our health care system, to achieve better quality health care for all our citizens at a reasonable price, and to ensure that there will be a sufficient number of quality physicians in our health care system going forward.

What would you say to surgeons who are considering a run for public office? What should they know before they decide to run?

I would encourage anyone to run for public office if that is where their convictions lie. It is very different from surgery in many aspects. You have to learn a wide range of topics, and you have to travel a lot around your district to get to know your constituents. It is similar to surgery in that it is a profession that still puts the best interests of people first, and that is very rewarding, but things do move a little slower.

If you are going to run, don’t just run for the sake of running for office. You really have to have the conviction that you are running to make a
difference in our government. Also, instead of taking satisfaction from your work with specific patients, you will need to take satisfaction in making a difference at a different level—be it in our government or in our health care system overall. And there is a transition in that respect. But I would love to see more surgeons in Congress.

**Beyond serving in Congress or in other elected offices, there are other ways to be involved in the political process. What would you say to surgeons who do not want to run for elected office but still want to be involved and affect the political debate in a positive way?**

I strongly encourage surgeons to attend forums and meetings and to reach out to their elected officials and offer their expertise. I would also recommend that they support their professional and specialty societies. It is very important to support what those groups are doing through personal involvement—by attending meetings and forums and by responding to surveys, if asked. It also is important to financially support those groups that are working on your behalf in Washington, DC.

At the local level, reach out to your local elected officials, reach out to your congressman and your senators, vote to voice your opinion, and offer help. For example, if your elected official wants to hold a forum about health care, volunteer, attend, and offer your opinion.

**Since you announced your campaign in 2009, what have you enjoyed most about the process of running for office, winning election, and now serving in the U.S. Congress?**

I have enjoyed the process. It has been stressful, at times, being away from my family, but it does make me value my time with them more when I do get home.

I enjoy interacting with the people in Indiana. I know a lot about interacting with the public, having worked as a surgeon for so many years, but I have really enjoyed actually seeing people in their own environments by visiting businesses, touring factories, listening to people, and going to events. I have enjoyed that a lot.

In your own backyard, a lot of people are doing different things that you don’t know about, especially if you stay in your own little world. I’ve enjoyed expanding my horizons in that respect—meeting more people, seeing what is going on, and listening to what people have to say about how government is affecting them and about how we might be able to change things.

**Is there anything that surgeons should know about Congress and the American political process that we haven’t touched on?**

What I would say to surgeons is that the squeaky wheel gets the grease. What I mean is that the more surgeons are involved in the political process—by talking with, and voicing their opinions to, their elected officials—the better the chance we have as surgeons to affect the direction of health care in this country. That is the bottom line. The squeaky wheel really does get the grease.


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Advanced en-route critical care during combat operations

By
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CMDR Eric A. Elster, MD, FACS;
and LT COL Sandra M. Wanek, MD

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Our ability to take combat casualties from the battlefield to definitive care has advanced significantly over the past 70 years. At the same time, many intensive care unit (ICU)-based therapies have evolved to the point where they can be offered as part of en-route critical care. However, many of these therapies require significant training and logistical support; as such, offering them in a combat theater presents significant challenges. In addition, because the number of patients who benefit from these therapies is relatively small, the question of balancing resource allocation against highly individualized casualty care arises.

This article describes two specific, recent examples of such advanced critical care being offered to our U.S. and coalition service members in theater: intensivist-run renal replacement therapy (RRT) and transport extracorporeal membrane oxygenation (ECMO). The Joint Theater Trauma System (JTTS), which serves to monitor and improve combat casualty care, played a significant role in the introduction of these therapies. This system can be used as a platform for vetting future advanced therapies prior to implementation as a routine part of our en-route critical care. These examples also hold important lessons for specialized critical care in the civilian sector that may need to be regionalized as the health care system enters a new era of increased scrutiny and cost consciousness.

**MAJOR ADVANCES IN EN-RUTE CRITICAL CARE**

Taking a soldier from the point of wounding to definitive care requires a robust support system in which surgical capabilities, technology-intensive critical care, and long-range transport all interface simultaneously. The multiple echelons of care that our casualties pass through have been well described as a complex but highly coordinated system. Within this system of care, soldiers receive a thorough re-evaluation and any indicated surgical care at each waypoint, with ongoing critical care support during transport—a concept that is termed “en-route care” (see photos, pages 23 and 24).

Within this system of care, the guiding military doctrine has traditionally emphasized providing the greatest good for the largest number of casualties. Consequently, as medical advances are made in the U.S. and around the world, intense debate over the application of these advances to our wounded soldiers has ensued. Important points for discussion include: (1) whether the technology or medical advance really has proven benefit; (2) how that proven benefit applies to combat casualty care; (3) what the cost of offering the benefit at a given level of care might be in terms of expense, personnel, and logistical support; and (4) where along the continuum of care the particular therapy should be offered, if at all.

Historic examples of such debates include the use of whole blood for trauma resuscitation both in World War II and today, performing vascular reconstruction for limb salvage rather than arterial ligation in the Korean War, using ventilators for respiratory failure and long-range transport for burn victims in Vietnam, and the role of medical research teams in Desert Storm. Although some of these debates, such as the role of vascular reconstruction, have been resolved, in other cases, the best approach is still not known with certainty.

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**Abbreviations and acronyms used in this article**

<table>
<thead>
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<th>Acronym</th>
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<tr>
<td>ALRT</td>
<td>Acute Lung Rescue Team</td>
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<td>CPGs</td>
<td>clinical practice guidelines</td>
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<tr>
<td>ECLS</td>
<td>extracorporeal life support</td>
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<td>ECMO</td>
<td>extracorporeal membrane oxygenation</td>
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<td>HD</td>
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<td>LRMC</td>
<td>Landstuhl Regional Medical Center</td>
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<td>JTTR</td>
<td>Joint Theater Trauma Registry</td>
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<td>JTTS</td>
<td>Joint Theater Trauma System</td>
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<tr>
<td>PI</td>
<td>performance improvement</td>
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<td>RRT</td>
<td>renal replacement therapy</td>
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<td>USAISR</td>
<td>U.S. Army Institute of Surgical Research</td>
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Overleaf: A critical care air transport team providing ICU care during a flight from Afghanistan to Germany.
the meantime, new innovations have arisen, and the same cycle of proposed paradigm shift followed by intense debate has continued.

This sort of debate has recently arisen over the use of advanced critical care technologies as part of en-route care. Although ventilator support is routine, the use of more advanced therapies for severe organ failure is not. Two examples include RRT and rescue oxygenation maneuvers for severe respiratory failure. In the past year, the authors have been involved in offering both intensivist-directed RRT and extracorporeal life support (ECLS) to casualties with profound early organ failure due to combat wounds. The question now is whether such an approach is justified and sustainable.

**Renal and respiratory support for combat casualties**

Several outstanding reviews on the topic of renal replacement therapy in a combat setting have summarized the history of this approach, including a recent report from the U.S. Army Institute of Surgical Research (USAISR). In 1951, CAPT Paul E. Teschan facilitated transport of a hemodialysis (HD) machine to the Korean theater of war, where he established a team capable of providing RRT. Improvements in resuscitation led to a decrease in the overall incidence of renal failure in Vietnam, but the ability to perform HD was maintained in-theater by both the U.S. Army and Navy. The Army subsequently established a hospital augmentation team to provide HD during combat operations. Because the need for RRT is relatively infrequent, this augmentation team has not been activated since its inception—an approach in keeping with the doctrine of providing the greatest benefit for the most patients. Why invest significant time, energy, and finances in a technology with such a high logistical overhead for the occasional patient with early renal insufficiency? Some have also suggested that having this type of asset in-theater would unwittingly result in the expectation that the team would provide HD for local nationals with chronic renal insufficiency.

In the meantime, early acute renal failure has periodically presented significant management challenges for deployed medical teams treating both U.S. and host nation casualties. Because equipment for RRT has not been routinely available, so-called field-expedient methods for providing RRT, including peritoneal dialysis and arteriovenous hemofiltration, have been devised. En-route care teams also occasionally found themselves scrambling to control hyperkalemia during long-range critical care air transport until arriving in Germany, where emergency RRT could be performed. For those providers caught in these binds, not having the ability to request urgent HD prior to flight and risking a possible...
en-route fatality seemed highly dissonant with the standard practice in the U.S., especially if a solution for pre-positioning low maintenance RRT resources could be identified.

As with renal failure, the care of combat casualties with respiratory failure has progressed in fits and starts as both technology and our medical insights have matured. During World War II, the etiology of this problem was unclear, and the means to provide support was limited to noninvasive ventilation supported by an anesthesia circuit. The medical community’s understanding of early acute respiratory failure and the ability to support patients with this complication has grown significantly since then, such that both basic and advanced ventilator support is routinely available as part of en-route care (see photo, this page).

But what if the patient is too unstable, from a respiratory standpoint, to fly? The only option in this case has been to either fly on maximal settings, risking an in-flight emergency, or to leave the patient in the combat zone until the respiratory failure improves or the patient expires. In the meantime, the U.S. Air Force has maintained the ability to transport children with profound respiratory failure on ECLS since the mid-1980s. Providers aware of this capability periodically called upon these resources from the theater for combat casualties with severe respiratory failure. However, this transport team had no experience with adult ECLS and was never authorized to perform these missions. Consequently, another heated debate ensued over the role of advanced technologies for post-traumatic respiratory failure, which has only recently started reaching resolution.

Thankfully, the ability to explore these options has been facilitated by the foresight of the military leadership, which established the JTTS. Within this system, combat casualty data is rapidly entered into the Joint Theater Trauma Registry (JTTR), which can then be readily queried with performance improvement (PI) questions, including the following: How often does acute renal failure occur? What about hyperkalemia? Where were these diagnoses made? How often are patients developing respiratory failure? What percentage of these patients expire?

At the same time, there has been a radical paradigm shift in our military medical philosophy of care. The old concept of providing the greatest good to the largest number has been largely supplanted by an all-out approach to any and all soldiers who make it to medical care—the combat support hospital equivalent of the Soldier’s Creed, which commits, “I will never leave a fallen comrade,” or the Airman’s Creed, which similarly vows, “I will never leave an Airman behind.” Thus, the results of these queries and the actions resulting from these PI findings have been shaped by this philosophy: if something can
be done to improve the outcome of our patients, we should approach any logistical challenges that stand in the way of applying this clinical capability with a “can-do” attitude.

**Technology-intensive Therapies in Combat Hospitals**

With the JTTR search data in hand and a rash of cases where RRT may have improved outcomes over the previous months in Afghanistan, a convincing argument was made to pre-position a new generation of compact HD equipment at the Craig Joint Theater Hospital (the U.S. aeromedical hub on Bagram Air Base, Afghanistan) in October 2010. The recent experience at the USAISR and Landstuhl Regional Medical Center (LRMC) with intensivist-run RRT also assured the leadership that with proper training, the goal of therapy (for example, reverse acute hyperkalemia long enough to permit safe transport) could be safely met by the personnel currently in place and those in the pipeline for future deployments. Within one week, the first candidate patient rolled through the doors—a 33-year-old U.S. Army soldier with polytrauma who had developed early acute renal failure. Despite aggressive interventions to normalize his intravascular volume and address his electrolyte derangements, he became anuric with a serum creatinine over 3 mg/dL, while his K+ climbed to 6.2 mmol/L. The multidisciplinary team of surgical intensivists, medical specialists, and flight medicine physicians caring for the patient decided that acute RRT was indicated to stabilize him for transport (see photo, this page). Within six hours of RRT initiation, his K+ had normalized and he was evacuated safely to LRMC for ongoing care.

The occasion for ECLS in a combat casualty arose several weeks later. A review of the JTTR demonstrated that respiratory failure represents a significant proportion of post-resuscitation combat deaths (6.6 percent of in-hospital fatalities). With recent technological advances in ECLS making it both safe and compact, and the new clinical evidence that its use as an advanced rescue option has a possible mortality benefit, a military team was trained to support an adult patient on ECLS. In this case, a decision had been made to keep the equipment with the Acute Lung Rescue Team (ALRT) from Germany, due to the specialty training required to set up the circuit and initiate support and the potential for other alternative therapies and advanced ventilator modes prior to ECLS initiation (for example, recruitment maneuvers, high-frequency percussive ventilation). Thus, this group of trained specialists would both be able to identify a real need for ECLS and then ferry the patient back to Germany for ongoing care while on ECLS.

Soon after the ALRT added ECLS to their armamentarium, a candidate patient quickly pro-
gressed to severe respiratory failure in Afghanistan. A 22-year-old U.S. Army soldier suffered a trans mediastinal gunshot wound and required a damage control thoracic exploration. The injury to his right lung was so severe that after hilar clamping, massive transfusion and postoperative resuscitation, he required a pneumonectomy on his second look operation. In addition, a non anatomic wedge resection of the left upper lobe had been required at the first operation. The surgical team called the ALRT down from Germany, anticipating a rocky postoperative course. And true to form, despite optimal postoperative care, the patient developed severe hypoxemia and hypercarbia over the subsequent 12 hours. The ALRT tried several advanced ventilator modes to no avail and decided to initiate veno-venous ECLS. The patient rapidly stabilized, and his oxygenation improved to the point where one team member observed that “this was the most uneventful ALRT transport I had ever experienced.” The patient then went to Germany, where he was able to be weaned from the ECLS circuit after about two weeks and then subsequently made his way back to San Antonio, TX, where he quickly transitioned to outpatient rehabilitation. (See photos, page 27.)

Sensible sustainability and civilian applications

These success stories highlight the power of collecting and reviewing data in near real-time as physicians seek to tailor their en-route critical care to identified needs. However, in order to circumspectly apply emerging technologies, this approach must be balanced by taking input from multiple sources and by developing a framework within which these capabilities can be used and carefully scrutinized. Thankfully, the JTTS offers just such a solution for the way ahead. Over the past six years, a series of clinical practice guidelines (CPGs) have been compiled that balance clinical evidence against the realities of surgical practice in an austere environment, and they are now available in the public domain at http://www.usaisr.amedd.army.mil/cpgs. These guidelines are regularly updated, and as new patient care issues are identified, a process exists for adding new guidelines. Going forward, as new findings from the JTTR emerge that motivate the fielding of new technologies, this process should be done in the context of a supporting CPG so that the use of these technologies can be standardized as much as possible and the effects of their use can be carefully evaluated. With this approach in mind, CPGs for both renal and respiratory failure are currently in development and will incorporate guidance on the appropriate use of advanced organ replacement therapies.

Adding the appropriate support to these logistically intensive therapies is also essential. To maintain these programs with appropriate clinical competence, training for intensivists preparing to deploy must incorporate hands-on experience with RRT and ECLS, which requires a significant commitment. For example, the members of the ALRT who were already very experienced in long-range transports spent several weeks at Regensburg University Hospital immersed in ECLS initiation and management in order to comfortably initiate this high-stakes therapy in an austere environment. Another consideration is the personnel cost of each of these transports. Each time the Burn Flight Team from Brooke Army Medical Center, San Antonio, TX, or the ALRT from LRMC launches, these providers have to find colleagues to cover the ICU and their practices for days at a time. Thus, to maintain both the training required to sustain this capability and the staffing levels to launch at a moment’s notice, a paradigm of collaboration with civilian centers, and possibly the reserve component, for manning assistance would be prudent.

These cases also highlight the need to have a formalized mechanism in place for evaluating new, potentially beneficial therapies as they might apply to combat casualty care. Recent examples where such an approach might have saved significant time and public scrutiny include the collection and administration of fresh whole blood, the potential use of tranexamic acid, and the introduction of intensivist-run RRT and ECLS as highlighted earlier in this article. One example where such a mechanism could be used in the near future to evaluate a continued on page 28
ECLS in practice. Clockwise from top left:
1. Damage control hilar clamp applied in a combat casualty with a trans-mediastinal gunshot wound.
2. After a right pneumonectomy the following day, the patient developed profound respiratory failure which required ECMO support initiated at a Level III Hospital in Afghanistan.
3. This support was continued by the ALRT in-flight to Germany.
4. The ECMO patient (pictured with Dr. Cannon) transferred to Brooke Army Medical Center three weeks postoperatively for ongoing care.
Consequently, offering therapies such as ICU-based RRT, active thermoregulation, or ECLS may not necessarily make sense for every medical center in a given catchment area. Similar to the military approach described earlier, the British system in which a few hospitals are established within a region as quaternary centers for these advanced therapies permits a balance between resource utilization and optimal patient care. Within such a system, a robust transport program is required to avoid unnecessary patient deaths in transit to these quaternary centers, and typically these specialized transport teams are based at the quaternary center.9 Lastly, a process of community education and PI for the initial care, the transport, and the specialty care should be in place to assure adherence to referral agreements and practice standards.

In the past 70 years, en-route care has evolved dramatically. The combination of long-range transport by critical care teams with advanced critical care therapies for early acute organ failure allows us to evacuate patients both quickly and safely to definitive care. This paradigm of doing whatever it takes to save a life is consistent with our societal expectations and is imminently feasible with recent advances in critical care technology. The JTTS also provides the framework for identifying potential critical care needs in the future, although a formal system for evaluating advanced therapies would be beneficial. Civilian trauma systems and Level I trauma centers may also benefit their patients by modeling these approaches to providing advanced critical care therapies to our sickest and most severely injured patients.

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Disclaimer

The opinions expressed in this article are solely those of the authors and do not represent an endorsement by, or the views of, the U.S. Air Force, Army, Navy, the Department of Defense, or the U.S. government.

References


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Haiti is a country that defies easy answers. There is a Haitian Creole proverb, “Piti, piti, wazo fe nich li,” which means “Little by little, the bird makes its nest.” The proverb reminds me that everything in Haiti takes time, and that progress, meaningful progress, is made in painfully slow steps. It has also taught me that big things can be accomplished with patience, persistence, and dedication. Collaborations, personal friendships, and mutual respect between Haitian and foreign health care providers will play increasingly crucial roles in improving long-term health care, one small step at a time.

Haiti in crisis

Haiti is an island nation with 10 million people. The suffering of its people has, at times, taken on biblical proportions. In 2010, the World Above left: Dr. Broaddus (center right) with Jory Desir, MD (center left), a urology resident, with the urology team at Justinien Hospital.
Health Organization ranked it the country with the worst health statistics in the Americas. The list of problems is depressingly long: Haiti has the highest maternal and under-five infant mortality rates; the lowest rate of births attended by skilled health personnel; the highest percent of newborns of low birth weight; the lowest measles immunization coverage among one-year-olds; the highest tuberculosis mortality rate among HIV-negative people; the lowest percentage of the population using improved drinking water sources and using improved sanitation; the lowest prevalence of contraception and unmet need for family planning; the lowest per-capita health spending; the lowest physician-to-population ratio, and the second highest malaria mortality rate. Malnutrition, life-threatening endemic diseases, and lack of access to even basic health services are not uncommon.

In 1804, Haiti became the first and only country to be born from a slave uprising. The U.S., France, and other Western powers did not look kindly on this new independence. The history of Haiti, by any measure, is a long history of both foreign domination and domestic subjugation by a variety of despots who ruled by fear, intimidation, and an iron fist. Only recently has Haiti seen movement toward democratic principles. It is not surprising, then, that Haitians have become quite weary of foreigners, their intentions, and their ability to deliver on their promises. Sadly, Haiti and Haitians are rarely mentioned in international media reports without some association with the extremes of natural, political, medical, or environmental disasters. The world press rarely reports laudatory stories about Haiti or Haitians. It is known as the nation suffering through the “worst natural disaster in modern history.”

This international perception of Haiti as a failed state neglects the humanity of its people. Haitians are both aware of and sensitive to this sense of pathos, as if those were the only defining qualities of its 200-year rich culture, art, and history. There are many past and present Haitian artists, writers, activists, intellectuals, musicians, athletes, and actors who have made Haiti’s culture robust, unique, and full of joie de vivre: the love of life.

Teaching general surgeons prostate surgery

My path to Haiti has been a long one. After completing my urology residency at the Medical Center Hospital of Vermont in Burlington in 1982, I spent two years teaching transurethral prostate surgery to general surgeons in mission hospitals in St. Lucia, Egypt, Pakistan, Sri Lanka, and Thailand. After soliciting, collecting, and shipping donated fiber optic resectoscopes to each hospital ahead of my arrival, I spent two to four months in each locale teaching general surgeons how to perform transurethral resection of the prostate (TURP). This educational exercise ensured that the technique would continue after my departure.
The logistics of this pre-Internet undertaking were complex, and took months of writing letters, filling out visa applications, and conducting arrangements via telephone. The two-year trip and medical volunteer work were challenging on many levels. There were many days when I questioned what I was doing in geographically remote areas, and whether my efforts were making any difference to the people I was serving.

Life lessons from medical volunteerism

However, I came to believe that the ripple effects of humanitarian work go far beyond the people directly touched by the effort: whole communities can be transformed and empowered by the actions and dedication of even one person. I learned some life lessons about medical volunteerism. All efforts will ultimately fail unless six basic tenets are followed: (1) the project must be sustainable, with well-established local infrastructure in place; (2) there must be strong and lasting collaborations, partnerships, and friendships with local physicians and health leaders; (3) the mission must be well-defined, have a narrow focus, and have attainable goals; (4) there must be persistence and a sense of humor in the face of unforeseen adversity and frustration; (5) there must be a belief in empowering others to meet their own health needs; and (6) there must be an understanding that as medical volunteers, we are guests in the countries and hospitals we serve, and as such, physicians need to change their expectations and realize that many decisions about health care delivery are not theirs to make.

My early years in Haiti

I first came to Haiti in 1994 with my young family to work as a volunteer urologist at the Albert Schweitzer Hospital in the Artibonite Valley of central Haiti. I spent two weeks each year between 1994 and 1997 as the only urologist at the hospital. In 1994, a military junta was in power, having overthrown democratically elected President Jean-Bertrand Aristide in a coup in September 1991. A United Nations (UN) embargo was in place during the spring of 1994 against all goods except “humanitarian items,” in order to pressure the regime to relinquish power.

The next year, U.S. and UN troops arrived, and I recall several poignant scenes at the Albert Schweitzer Hospital. The first was the daily arrival of American helicopters ferrying equipment and personnel, and my children running up to the soccer field to see them land. As an American surgeon in Haiti, I was never prouder of what the U.S. military did to bring needed materiel and security back to a country that had neither for the preceding three years. The second was having my son Nathan help me in the operating room (OR) with case setup and breakdown, and for him to...
have the opportunity to see what it means to be a volunteer surgeon.

**Konbit Sante—A medical collaboration**

I have continued to return to Haiti on a regular basis as the surgical team leader of Konbit Sante, a Maine-based volunteer medical partnership founded in 2000. One person’s vision, that of Michael Taylor, MD, a dermatologist from Portland, ME, created this organization. A konbit is a Creole word meaning “a partnership.” This surgical team is an organization built on friendships, professionalism, and collaboration. I know all the Haitian surgeons at Justinien Hospital by name—and they know me and my family by name, as well. It is this type of long-term friendship that will ultimately make a difference in how Haitians view foreigners, outside the glare of international media spotlights, and ultimately how health care will be improved in Haiti, one small step at a time. Piti, piti, wazo fe nich li: Little by little, the bird makes its nest.

Konbit Sante has grown to involve 25 Haitian staff and 70 American volunteers, all with well-defined skill sets that assist our mission. It is now a Haitian government-recognized legal entity known throughout northern Haiti as a team player.

Konbit Sante has partnered with the Haitian Ministry of Health, the U.N., Doctors Without Borders, and Oxfam on a variety of health projects.

The organization finances its work through donor contributions and grants. Konbit Sante’s mission has been simple: to save lives and improve health care in northern Haiti. Rather than developing a second, parallel health system, Konbit Sante works with the Haitian Ministry of Health and with Haitian colleagues to build capacity within the public system to care for Haitians. The organization has developed specialized programs to improve care in pediatrics, infection control, neighborhood outreach, and women’s health. Konbit Sante also has ongoing teaching efforts in nursing, pediatrics, internal medicine, psychiatry, obstetrics-gynecology, urology, family medicine, and public health. The organization has sent more than a dozen shipping containers with donated equipment, which were inventoried and vetted prior to shipment to ensure that what was sent was needed by the Haitian partners. Volunteers helped with upgrading the electrical grid, procuring and distributing clean water, and improving information technology capability.

**Health care delivery challenges in Haiti**

Accomplishing the organization’s mission has been anything but simple. The harsh realities of logistics, politics, limited funding, and competing priorities have made progress difficult to measure. Existing Haitian health care delivery has been fragmented for many years, consisting of...
a mélange of government-run, faith-based, and non-governmental organization-run hospitals, most with their own vision of the ideal health care landscape, many with their own list of needs and agendas. Government facilities are generally antiquated, poorly funded, and badly in need of physical rehabilitation. The lack of a coordinated supply chain and the lack of dependable hospital infrastructure like potable water, sanitation, and electricity make the delivery of even basic hospital services challenging. The lack of adequate educational opportunities, core curricula, and livable salaries paid in a timely manner to medical staff compromise the next generation of caregivers. It has been estimated that as many as 35 percent of Haitian-trained physicians have left the country to find better opportunities, both financial and educational, in the U.S., United Kingdom, and Europe.3

The Justinien Hospital in Cap-Haitien is a poor government hospital with a marginal operating budget. Unlike private Haitian hospitals supported by faith-based or philanthropic organizations, it has been largely left to provide services without a sound financial foundation. Konbit Sante has partnered with the hospital for the last 10 years to help provide basic services, including surgery, to a population base of 775,000 people living in the Northern Department of Haiti.4

As the surgical team leader of Konbit Sante, I became the point person for helping to improve surgical and urological care and surgical resident education at Justinien. One of my main goals has been to ensure a functional surgical supply chain at a hospital with very little. As a urologist, I have partnered for the last eight years with the only other Haitian urologist outside of Port-au-Prince, Jean Geto Dube, MD. This “urological konbit” is more than simply teaching residents, finding needed equipment, promoting best practices, and helping with surgical cases. It is a long-lasting collaboration based on mutual respect and friendship.

In 2008, we brought two Haitian chief surgical residents from Justinien to the Maine Medical Center for six weeks each to make sure they received an adequate experience in U.S. surgical training skills. Konbit Sante provided all the surgical residents at Justinien with the Surgical Education and Self-Assessment Program™, teaching aids, textbooks, and a computer to log their surgical cases and to access Internet resources. The surgical needs assessment I co-authored has become a model for other medical departments at Justinien. This assessment helps these health care providers understand, using clearly defined SWOT (strengths, weaknesses, opportunities, and threats) methodology, what they have, what they need, and how to get from one to the other.

In 2009, we brought the Justinien chiefs of surgery and anesthesia to Maine so that they could see first-hand our OR efficiencies and bring
back some of those improvements to Cap-Haitien. In 2010, Konbit Sante hired a full-time Haitian wound care nurse who received additional specialized training at the Maine Medical Center. The relationship between Justinien Hospital and Konbit Sante is clearly unique.

The Haitian earthquake of 2010

Everyone knows of the catastrophic 7.0 M Haitian earthquake of January 12, 2010. The toll in lost dreams and lives has been incalculable. I spent 10 days leading a surgical response team from Konbit Sante and the Maine Medical Center. We decided, as a group, not to go to Port-au-Prince. Many tens of thousands of Haitians left the capital in the days after the earthquake for other cities—Cap-Haitien among them. By helping our Haitian medical colleagues with whom we had developed a 10-year collaborative relationship, the staff at Konbit Sante believed they could best serve Haitians who were in greatest need.

I remember several poignant scenes from those trying days. There was a 12-year-old boy with a big smile but an insensate, useless arm who still haunts me when I reflect on the suffering he and so many people endured. He was days or weeks away from an amputation at the shoulder. The pediatric ward at the Sacred Heart Hospital in Milot, near Cap-Haitien, was filled with children missing parts of arms and legs. It was hard for me to get my brain around the scene. This was what war must be like: indiscriminate, brutal, and without reason. I recall a woman who had lost one arm and severely injured her other arm. We reviewed her X rays and spent some time discussing her case with my friend and Haitian surgeon Jerry Bernard, MD. When we left, the patient said in broken English, “God bless you.” We had done nothing but show her a little compassion.

There were thousands of Haitians who underwent amputations, many in field hospitals in Port-au-Prince immediately after the earthquake, under the most terrible of conditions. How does a country like Haiti begin to rehabilitate an entire segment of its society when the loss of a limb has always been an almost insurmountable obstacle to reintegration into that society? Yes, there are organizations now rising to the challenge to document all of the amputees, fit them with low-cost prostheses, and help them with the challenges of finding their way back into Haitian society. However, the needs of amputees remains but one of many health challenges facing the country. The recent cholera epidemic has been a cruel epilogue to the devastating earthquake. How long this scourge will take more victims largely depends on the Haitian and international resolve to change the endless cycle of extreme poverty and to supply clean water and adequate sanitation.
As we move past the first-year anniversary of the earthquake, my biggest fear is that Haiti will continue to fade from the world’s consciousness, as it has done every time natural or political disaster has occurred. We remain at the very beginning of an arduous road to recovery. What Haiti needs most is a long-term commitment from the international community, including the surgical community, that it will not be forgotten, and a guarantee that the response will be sustained for decades.

**Long-term commitment**

If the international surgical community is to make a difference in Haiti, it will largely depend on how committed physicians are to long-term relationships. Partnering with well-established organizations is critical. These organizations should have Haitians involved at all layers of decision making. Since most American surgeons are not of Haitian origin, we must recognize that we are guests in this country. There is another Haitian saying, “The rock that is in the water can never know the pain of the rock that is in the sun.” We have much to learn from our Haitian surgical colleagues who have labored under the most trying of conditions for so long with little international support—particularly prior to the earthquake.

Reach out a hand in friendship and support, and you will be surprised at the response from the Haitian medical community. Do it as an equal, with humility. After a long career of surgical volunteerism, I remain truly humbled by my Haitian colleagues’ dedication, persistence, and ingenuity in the face of such great adversity. Piti, piti, wazo fe nich li. All I have done is help the bird make its nest.

**References**


**Dr. Broaddus** is director, division of urology, Maine Medical Center, Portland, ME, and the 2010 recipient of the ACS/Pfizer, Inc Volunteerism Award for international outreach.
Shaping surgical workforce policy through evidence-based analyses

by Erin P. Fraher, PhD, MPP; Stephanie T. Poley; George F. Sheldon, MD, FACS; Thomas C. Ricketts, PhD, MPH; and Kristie W. Thompson

Editor’s note: This article is being published jointly in the Bulletin of the American College of Surgeons and the Bulletin of The Royal College of Surgeons of England. With health reform underway in both countries, the issues confronting the surgical workforce in the U.S. are strikingly similar to the challenges facing the surgical workforce in England. This article describes the American College of Surgeons (ACS) Health Policy Research Institute’s (HPRI) role in collecting, analyzing, and disseminating information about the surgical workforce in the U.S., and suggests that the ACS HPRI might serve as a model for the Royal College of Surgeons (RCS) of England to assist the U.K. government in workforce planning.

Decisions about whether to enact policies that change the size, composition, or distribution of the surgical workforce affect a range of stakeholders and can be the source of contentious debate. Unlike in England, the U.S. government has had a very limited role in workforce planning, with decisions about the allocation of training slots and surgical posts generally left to the market. However, the capability of this market-based approach to workforce planning is being reevaluated in light of the current shortage and maldistribution of health professionals—including surgeons—and the rising demand for health care.
services due to insurance expansion, an aging population, and epidemiological trends.

As the RCS of England considers engaging in similar efforts to build a workforce analytic infrastructure, the ACS HPRI’s work may be a useful model. The current challenges facing England are substantial: A need to find £20 billion ($32 billion) in efficiency savings, the restructuring of primary care through general practitioner commissioning, and the reorganization of workforce planning through the creation of a Centre for Workforce Intelligence. Similar challenges face the U.S. Health care reform legislation has put pressure on the surgical profession to demonstrate cost-effectiveness and to define its value in a policy environment where primary care and preventative services have center stage.

Introduction

The ACS established the HPRI in March 2008 at the Cecil G. Sheps Center for Health Services Research at the University of North Carolina (UNC) at Chapel Hill. Founded in 1968, the Sheps Center has long been recognized as one of the leading health services research centers in the U.S. An alliance with the Sheps Center enables the ACS to gain access to a wealth of data and to draw on a large cadre of faculty researchers, experienced data management personnel, project managers, cartographers, economists, policy analysts, and other experts on the health care system.

The goal of the ACS HPRI is to use objective data and state-of-the-art analysis to build the evidence based on issues related to the delivery of surgical services, the surgical workforce, and public policies affecting surgery. This knowledge base is then used to educate the public, federal and state governments, health care consumers, practitioners, and the policy community about the issues affecting surgical patient care. Such a role has never been more important than now, as the ACS seeks to “have a seat at the table” as decisions affecting the surgery profession are made in the rapidly changing health care reform debate.

Budget constraints, increased calls for payment reform, and the emphasis on health care delivery structures, such as accountable care organizations that incentivize providers to lower costs and improve quality, will change the way surgical care is delivered and reimbursed. In addition, the emerging shortage of surgeons combined with the increased demand for services that will result from expanded health insurance coverage creates an urgent need to address surgical workforce supply and distribution.1,2 As the College engages with policymakers in discussions about policy options to address these workforce issues, the work of the ACS HPRI enables the ACS to elevate its profile above that of most professional advocacy groups because its position statements have been informed and supported by objective data and research.

The ACS HPRI’s goals can generally be categorized into five key areas:

- Assembling data and generating the basic descriptive analyses needed to understand the surgical workforce
- Conducting policy analysis and research on issues related to access to care, cost, and quality
- Engaging in longer-term research that builds the science of surgical workforce planning
- Providing rapid response answers to the College, the public, the profession, and other stakeholders
- Providing training for medical students, residents, and public health students in surgical health services research

Assembling good data

Some of ACS HPRI’s most important accomplishments include building the data system required to conduct robust workforce analyses. This has been accomplished by assembling data on the number of surgeons in the current workforce and numbers in the educational pipeline from partners such as the American Medical Association (AMA) and the Association of American Medical Colleges (AAMC). In an effort to move beyond simply counting surgeons, ACS HPRI staff has merged these provider files with data on the utilization of surgical services collected from the Agency for Healthcare Research and Quality’s Healthcare Cost and Utilization Project, Medicare utilization data, and the ACS National Trauma Data Bank®.
Provider- and activity-level data are combined with geographic-level data on population, socioeconomic factors, and other characteristics to enable comparisons across different geographies. Finally, data on institutions that provide surgical care are also incorporated into the data system from the Centers for Medicare and Medicaid Services’ Provider of Service files.

These data are then used in descriptive analyses and cartographic products that are designed to engage the surgical profession and policymakers in discussions about the adequacy of the current and future workforce to meet demand. A series of briefs produced by the ACS HPRI describe longitudinal trends in the surgical workforce by specialty, location, and provider characteristics. The first brief, titled “Longitudinal trends in the U.S. surgical workforce, 1981–2006,” shows that the U.S. surgical workforce increased by 53 percent between 1981 and 2006, fueled predominantly by growth in surgical subspecialists. Only 4 percent (1,881) of the 46,451 net gain in surgeons between 1981 and 2006 was made up of general surgeons, and an additional 7.2 percent (3,349) were in specialties requiring prior certification in general surgery. (These surgeons are included with general surgeons in the general surgery “composite” classification in Figure 1, this page.)

Other briefs highlight workforce shortages and maldistribution problems among general and pediatric surgeons despite an overall increase in the supply of surgeons per population in recent years. For example, in 2009, 38 percent (1,183) of the 3,107 U.S. counties inhabited by 15 million Americans lacked a general surgeon (see Figure 2, page 40). Analyses suggest future exacerbation of supply problems given the age structure of the surgical workforce as the number of new surgeons entering the workforce may not be sufficient to replace surgeons nearing retirement. The situation is particularly problematic in some specialties; 39 percent of thoracic surgeons and urologic surgeons are over the age of 55.

Other sources describing the composition of the surgical workforce include two chartbooks produced in collaboration with the AAMC and several cartographic products including an online interactive atlas of the surgical workforce, described in greater detail later in this article.

A key strength of the ACS HPRI is the depth of data management and analytical expertise, which allow data from a variety of sources to be concatenated or merged. For example, provider-level data from the AMA Physician Masterfile have been combined at the individual surgeon level to track the migration patterns of surgeons and describe trends in their geographic diffusion throughout their career trajectory. Additionally, analysts have been able to merge provider files with discharge data to analyze variation in scope and volume of practice among general surgeons in rural and urban areas. The effect of gender and birth generation on hours worked has also been investigated using longitudinal files.

The ACS HPRI has also conducted surveys when existing secondary data sets did not provide needed information on the surgical workforce. One such survey collected information from the 246 U.S. general surgery residency training programs regarding their current program characteristics of and capacity to expand training.

Cost of surgical care

Initial work of the ACS HPRI has focused on workforce analyses because this is an area of established expertise for Sheps Center staff. However, the ACS HPRI has begun to develop
a research portfolio examining costs of surgical care. One study examines regional variation in health care spending using Medicare data compiled at the hospital service area, and reveals that the presence of surgeons is actually associated with lower costs, on average.\textsuperscript{11} Other studies include an analysis of the cost-effectiveness of early surgical intervention for gallbladder disease examining claims data, an examination of the costs associated with repeat imaging in trauma transfers, and a population-based assessment of breast magnetic resonance imaging utilization in newly diagnosed cases or incident cases.\textsuperscript{12-14}

Enhancing surgical workforce planning

ACS HPRI analyses have also improved the analytical techniques commonly applied to workforce planning. For example, because the U.S. has much less experience with national health workforce planning than England, the ACS HPRI contracted with the National Health Ser-
vice (NHS) Workforce Review Team to develop a supply model forecasting the overall surgical workforce in the U.S. from 2007 to 2025. The model allows users to forecast future supplies of surgeons by head count and full-time equivalent by age, gender, race, geographic location, and specialty. It is primarily intended to be an open source tool for policy analysis, allowing users to generate and compare “what if” scenarios regarding changes in graduate medical education and other policy levers at the state, national, or regional level.15

Several ACS HPRI studies illuminate trends in the utilization of surgical services and the organization of the surgical workforce that have implications for workforce planning. An unpublished study of pediatric surgical care in North Carolina identifies a gradual but considerable shift in the location of pediatric surgical care from community hospitals to larger facilities.16 These findings suggest the need to evaluate the size of pediatric surgery fellowship training programs, as the future workload may strain the existing workforce. Similarly, studies of oncology care for prostate, pancreatic, and esophageal cancer show recent centralization of services despite increasing demand for services; the number of facilities providing oncology services has declined, and the oncology workforce is growing at a lower rate than demand for services.17-19

A long-standing issue for workforce planners is determining what defines a “shortage.” In the U.S., the federal government designates primary care health professional shortage areas (HP-SAs) based primarily on a ratio of primary care physicians-to-population. Physicians who practice in HP-SAs are eligible for federal resources such as loan repayment and scholarships through the National Health Service Corps, bonus payments, and other programs. As well, international medical graduates practicing in HP-SAs qualify for visa waivers.

Primary care physicians working in HP-SAs receive an additional 10 percent payment for selected primary care services provided to Medicare beneficiaries. Research is under way at the ACS HPRI to characterize areas of surgical underservice in the U.S. so that general surgeons practicing in areas where there is low access to surgical care can receive a similar bonus. The Affordable Care Act made it possible for general surgeons to receive a 10 percent bonus for care for Medicare patients in primary care HP-SAs where few general surgeons are located. ACS HPRI staff have been asked by members of Congress to develop an index of “surgical underservice” that will characterize access to surgical services throughout the U.S., and will be used to identify areas eligible for bonus payments.

Rapid response

The combination of a strong data inventory with a staff possessing broad research and analytical skills enables the ACS HPRI to act as a resource for policymakers who want quick turnaround analyses on a variety of surgical policy issues. For example, the recent legislation described earlier in this article that authorized bonus payments for surgeons practicing in rural areas required an estimate of the potential number of providers who would be eligible for the payment and an estimate of the budget effect of implementing the bonus payment. ACS HPRI staff analyzed recent physician data to respond to this query and reported to congressional offices within a matter of days.

Similarly, cartographic products have been produced for ACS Fellows and staff. For example, in response to a request from A. Brent Eastman, MD, FACS, former Chair of the ACS Board of Regents, for information regarding the relationship between surgeon supply and mortality, ACS HPRI staff produced a map (see Figure 3, page 42) displaying the number of surgeons and per capita unintentional death rates by county in the U.S.20 The ACS HPRI has also provided similar products to the College’s Division of Advocacy and Health Policy to illustrate the distribution of surgeons in the U.S.; a collection of 118 maps was compiled and distributed to policymakers and ACS staff in just more than one week.

Surgical health services research training

One key function of the ACS HPRI, and an important benefit of being based at a university, is the development of the research and policy
analysis skills of surgical trainees and faculty. Four surgical fellows are enrolled in formal health services research (HSR) training programs, and they are able to draw on the data, analytical expertise, and faculty mentors of the ACS HPRI. Numerous residents and faculty from the department of surgery at UNC Chapel Hill and other universities collaborate with ACS HPRI staff on a variety of surgical research projects. But the flow of learning is not just from HSR to surgery, as students and faculty from other departments (for example, masters and doctoral students from the department of health policy and management) benefit from the clinical knowledge and practice experiences of surgeons. In this way, the ACS HPRI embodies a collaborative learning structure that marries clinical knowledge with health services research expertise to yield evidence-based policy recommendations on surgical workforce issues.

Dissemination

Recognizing that research and data are only of value if they get into the hands of decision makers in a timely and appropriate format, the ACS HPRI has developed a multi-prong dissemination strategy designed to reach a broad spectrum of
stakeholders, including ACS Fellows and staff, practicing surgeons, policymakers, legislators, academicians, medical educators, and others. Study findings are frequently presented and tailored to the specific audience. For example, while the academic audience is very interested in the methods and limitations of the analyses, the clinical audience tends to focus on implications for future education and practice of surgeons. Policymakers appreciate short, easy-to-digest policy briefs that engage them on issues that are on their immediate agenda. Maps illustrating surgical workforce issues are helpful visual aids to allow them to gauge how well constituents in their location fare relative to other geographic areas. (See table, this page.)

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<tr>
<th>Product/publication</th>
<th>Description/use</th>
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<tr>
<td><em>Atlas of Surgical Workforce</em></td>
<td>Provides a picture of the supply and geographic distribution of physicians and institutions providing surgical services in an effort to help practitioners, policymakers, and patients anticipate current and future distribution and identify places with limited access to surgical services.</td>
<td>Policymakers and researchers</td>
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<td><em>Surgical Workforce Projection Model</em></td>
<td>Allows users to forecast future supplies of surgeons by head count and full-time equivalent by age, gender, race, geographic location and specialty.</td>
<td>Clinicians, policymakers, and researchers</td>
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<td><em>Fact sheets</em></td>
<td>Short, easy-to-digest policy briefs with individual messages meant to engage policymakers on issues that are on their immediate agenda.</td>
<td>Policymakers and legislators</td>
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<td>1. Independent Practice Becoming Increasingly Rare among Surgeons</td>
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<td>2. The Aging Surgeon Population</td>
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<td>3. Charity Care Among Surgeons</td>
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<td>4. Pediatric Surgeons: Subspecialists Increasing Faster than Generalists</td>
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<td>5. Surgical Deserts in the U.S.: Places Without Surgeons</td>
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<td>6. Longitudinal Trends in the U.S. Surgical Workforce</td>
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<td><em>Mapping the Supply of Surgeons in the U.S., 2009</em></td>
<td>Static collection of national, regional, and state-level maps of the total and general surgeon workforce relative to population density. These maps provide the ratio of providers to population at the county-level for the purpose of assessing the geographic distribution of surgeons in the U.S.</td>
<td>Researchers, clinicians, policymakers, and legislators</td>
</tr>
<tr>
<td><em>The Surgical Workforce in the United States: Profile and Recent Trends</em></td>
<td>Provides detailed descriptive statistics about active physicians and physicians in training in 12 major surgical specialties. Data include comparisons of a given surgical specialty to other surgical specialties, as well as to all surgeons and all physicians.</td>
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Challenges and future directions

Over the past three years, a considerable amount of resources have gone into assembling, cleaning, housing, and merging data sets. These functions have been essential to building the analytic capability of the ACS HPRI, but they are expensive, time-consuming, and raise important data confidentiality concerns that have required the development of rigorous data use agreements.

The issue of resources is an important one. Without sufficient and long-term resources (funding for several years at a time), it is impossible to assemble the data and staff needed to undertake the types of analyses described in this article. Situating the ACS HPRI within an organization with a ready supply of data and analysts skilled in managing and analyzing those data has been financially advantageous for the ACS. The ACS has benefited from the fact that the salaries for the vast majority of staff who work on ACS projects are also supported by other funded projects and thus the College’s resources can be targeted to purchase only the amount of time needed by the various HPRI projects. In this way, the ACS has access to a wider array of skill sets and expertise than it would if it had to hire in-house staff.

For any organization embarking on a new service line, it makes sense to build on what one knows and already does well. For the ACS HPRI, this meant building on the Sheps Center’s well-established data analysis, management, and cartographic expertise and the workforce expertise. Subcontracts with the AAMC and the NHS Workforce Review Team were an effective way for ACS HPRI to gather outside data and expertise. Now that the ACS HPRI has solidified its organizational structure and established itself, it is time to build relationships with other organizations that will enable the organization to link surgical workforce supply/skill mix configuration with cost, quality, and access measures. In the coming months, the ACS HPRI will be building collaborations with the ACS National Surgical Quality Improvement Program (NSQIP®), which is engaged in developing and implementing measures to evaluate the quality of surgical care. The ACS HPRI will also be building on and enhancing our existing collaborations with the Cancer and Trauma Programs of the ACS and the policy work conducted by the College’s Washington, DC, Office.

Conclusion

Although the U.K. and U.S. health care systems are very different, they face similar workforce challenges. Fiscal pressures have increased the focus in both systems on productivity, cost containment, new models of care, increased roles for primary care doctors in redesigning care, and renewed attention on inter-professional practice models. Both systems have new national health workforce centers, and increased funding has been directed toward data collection and analysis. In terms of medical training, both systems have experienced recent increases in medical school graduates, a lack of interest in general practice/primary care careers, an increasing number of women in the medical workforce, and a decrease in hours worked. However, despite these similarities, there are important differences in the organization and funding of health care in the U.S. and U.K. that generate differences in how the two systems approach workforce planning. Thus, the ACS HPRI model would need to be adapted to fit the workforce planning context in England.

These are both exciting and challenging times for surgical workforce planning in the U.S. and U.K. The increased attention being paid to workforce planning in both countries and the historically strong relationship between the American College of Surgeons and the Royal College of Surgeons of England create the potential for future collaborations on surgical workforce planning and policy issues. ACS HPRI staff welcome the opportunity to share their knowledge and learn from RCS of England workforce efforts in the coming months and years.

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Dr. Fraher is director, North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, University of North Carolina (UNC), Chapel Hill, and holds joint faculty appointments in UNC-Chapel Hill’s departments of surgery and family medicine. She is Associate Director of the ACS HPRI.

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Dr. Ricketts is professor of health policy and management and social medicine, University of North Carolina Schools of Global Public Health and Medicine, Chapel Hill. He is Managing Director of the ACS HPRI.

Ms. Thompson is a research associate at the Cecil G. Sheps Center for Health Services Research, University of North Carolina, Chapel Hill, and Project Manager for the ACS HPRI.
State STATs

Protecting student athletes from traumatic brain injuries

by Alexis Macias

From 2005 to 2008, an estimated 400,000 high school athletes sustained concussions while participating in five major men’s sports and four major women’s sports, according to the National Football League’s Youth Concussion Education, Awareness and Advocacy educational campaign handbook obtained by the author through personal correspondence. Concussions can occur in athletes of any age and in any sport or recreational activity. Each year, U.S. emergency departments treat an estimated 135,000 sports-related and recreation-related traumatic brain injuries, including concussions, among individuals ages five to 18.* In an effort to protect young athletes from the dangers of high-contact sports, many states have introduced and enacted laws to prevent traumatic brain injuries in youth athletes.

Zackery Lystedt’s story

Zackery Lystedt was 13 years old and playing middle school football when he suffered a severe injury that would keep him off the playing field for the remainder of his life. During one of Zackery’s games, his head hit the ground hard. He made it to the sideline and sat out of the game for about 15 minutes before returning to the field to play. Toward the end of the game, Zackery was hit again, which resulted in a brain hemorrhage, and, consequently, the removal of both sides of his cranium. In the four years since suffering this paralyzing injury, Zackery and his parents have worked tirelessly to protect other young student athletes from a similar fate. In 2009, the Washington state legislature passed the Zackery Lystedt Law (H.B. 1824), which addresses the growing number of concussions among student athletes. H.B. 1824 comprises the following three components, which experts say are essential to protecting youth athletes:

• Calls upon schools to inform and educate youth athletes, their parents, and guardians and requires them to sign a concussion information form
• Mandates the removal of a youth athlete who appears to have suffered a concussion from play or practice
• Requires a youth athlete to be cleared by a licensed health care professional trained in the evaluation and management of concussions before returning to play or practice

States following Washington’s lead

As of November 2010, seven more states had adopted laws containing the three key provisions of the Zackery Lystedt law. Those states are Connecticut, Massachusetts, New Mexico, Oklahoma, Oregon, Rhode Island, and Virginia.

Between January 1 and February 25, 37 student athlete concussion bills were introduced in 23 state legislatures. New York alone has introduced seven bills related to student athletes receiving appropriate care after suffering from a concussion. The senate in both Colorado and New Hampshire passed their respective versions of the bill as of February 28. Further updates are available on the College’s Web Portal at http://www.efacs.org.

The model bill language does not require a specific medical specialist to participate in every evaluation. Rather, the language in the Washington statute requiring an athlete to be cleared by a licensed medical professional trained in the evaluation and management of concussions before returning to play or practice permits a wide range of individuals to determine a youth athlete’s suitability for returning to play. For example, in Washington State, the Washington

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Interscholastic Activities Association decided that qualified medical professionals included the following: medical doctors, doctors of osteopathy, nurse practitioners, athletic trainers, and physician assistants. The American College of Surgeons (ACS) and a number of medical specialty organizations have expressed concern that individuals permitted to provide clearance must receive the proper training and education in diagnosing concussions and traumatic brain injuries. They also emphasized that health care practitioners who are involved in the diagnosis and treatment of these injuries should stay within their profession’s scope of practice.

The ACS is preparing a statement that will address the risk of concussions in student athletes. The College will also continue to track the numerous pieces of legislation that have been introduced in regard to these issues. To read more about athletes suffering from concussions, see the “NTDB® data points” column in the April 2011 issue of the Bulletin written by Richard Fantus, MD, FACS.†

Surgeons with questions about student athlete concussion legislation may contact the author, Alexis Macias, at amacias@facs.org.


Ms. Macias is Regional State Affairs Associate, Division of Advocacy and Health Policy, Chicago, IL.
Dr. Detmer named Medical Director, Division of Advocacy and Health Policy

Don E. Detmer, MD, FACS, was appointed the first Medical Director of the Division of Advocacy and Health Policy at the American College of Surgeons (ACS) on March 25.

A vascular surgeon from Charlottesville, VA, Dr. Detmer most recently served as senior advisor for the American Medical Informatics Association (AMIA). He was president and chief executive officer of AMIA from 2004 to 2009, and in 2010 received the organization’s prestigious Morris F. Collen Award as a “visionary physician for his work in biomedical and health informatics.” Dr. Detmer is professor emeritus and professor of medical education at the University of Virginia, Charlottesville, and visiting professor at the Centre for Health Informatics and Multiprofessional Education (CHIME) at University College London, London, U.K.

The ACS Division of Advocacy and Health Policy is responsible for monitoring and analyzing socioeconomic, legislative, and regulatory issues affecting the field of surgery; participating in health policy development; and preparing responses to Congress and federal agencies. Through its Washington, DC, Office, the division maintains liaison between the ACS and Congress and federal agencies, and the offices of other surgical and medical associations regarding health policy matters of importance to surgeons and their patients.

In announcing Dr. Detmer’s appointment, David B. Hoyt, MD, FACS, Executive Director of the ACS, said, “Dr. Detmer’s credentials represent a unique blend of surgical training and practice, health policy leadership, and biomedical informatics expertise. In addition to his significant health policy background, he brings a wealth of visionary experience in medical informatics and participation in the activities of the Institute of Medicine (IOM) to our organization. We all look forward to working with him in advancing those areas of health policy that affect surgeons and their patients in a rapidly changing health care environment.”

A native of Great Bend, KS, Dr. Detmer earned his medical degree from the University of Kansas (1965) and a master of arts degree from Cambridge University, U.K. (2002). He trained as a surgical resident at Johns Hopkins Hospital, Baltimore, MD, and Duke University Medical Center, Durham, NC (1965–1967). Dr. Detmer’s military service was as a clinical associate in the surgery branch of the National Heart Institute, National Institutes of Health, Bethesda, MD (1967–1969), followed by service as a surgeon in the U.S. Public Health Service. Dr. Detmer displayed a strong interest in health policy issues early in his multifaceted career, and he initially served as the inaugural health policy fellow at the IOM, Washington, DC (1972–1973), where he fostered the development of the Robert Wood Johnson Health Policy Fellows Program. He was later elected to IOM membership in 1991.

Following his IOM fellowship, Dr. Detmer embarked upon a multidisciplinary academic career: first at the University of Wisconsin-Madison, where he served a joint appointment in preventive medicine and sur-

Dr. Detmer’s academic surgical career includes several notable highlights. At the University of Wisconsin, he developed a master’s degree program for clinician-executives, which was the first administrative medicine program in the U.S. He also developed a groundbreaking system for detecting and requiring completion of medical charts that were overdue with regard to documentation, and he served as team physician to the Wisconsin Badgers. With a grant from the National Library of Medicine, he collaborated with Homer Warner, MD, to install the University of Utah’s Health Evaluation through Logical Processing hospital information system, which enables clinicians to implement medical decision making in real time for patient care.

The University of Virginia opened a new hospital during his tenure and Dr. Detmer administered not only its development and opening, but he also introduced a computer-based physician-order entry system at the facility. Clinically, he maintained an energetic 26-year career as a vascular surgeon (1972–1988), specializing in the diagnosis and treatment of chronic compartment syndrome.

Nationally renown for his influential work with the IOM, Dr. Detmer chaired the landmark 1991 IOM CPR Report, which analyzed the use of computer-based patient records in tandem with emerging technologies, and set forth a long-range vision for their use as a means to improve the quality of patient care. One of the recommendations of the report later led to the development of the Computer-based Patient Record Institute (CPRI) to study the nation’s infrastructure and provide recommendations on improving it in order to move toward widespread utilization of computer-based patient records.

In 1991, he began an 11-year term on the IOM’s Board on Health Care Services, including eight years as its chair. He chaired the IOM Group to Improve the Medical Record (1989–1991), chaired the IOM Board on Health Care Services (1994–2002), and co-chaired the IOM Committee on Physician Supply (1995). He served on the IOM committees that studied and issued the reports To Err Is Human: Building a Safe Health Care System (2000) and Crossing the Quality Chasm: A New Healthcare System for the Next Century.
(2001). In 2009, Dr. Detmer received the IOM’s Walsh McDermott Award for service to the Institute. Furthermore, from 1989 to 1991, he served as chair of the board of regents of the National Library of Medicine, and he chaired the National Committee on Vital and Health Statistics for the U.S. Department of Health and Human Services from 1996 to 1999.

Dr. Detmer became a Fellow of the American College of Surgeons in 1982, and he served on the ACS Committee on Allied Health Professionals (1988–1994) as a member, Vice-Chair, and Chair. In addition, he served as a member of the ACS International Relations Committee (1995–2002), and the ACS Committee on Informatics (2004–2010).

From Surgery News: Preoperative smoking cessation not harmful

Patients who quit smoking shortly before undergoing a surgical procedure are not at increased risk of postoperative complications, compared with those who continue to smoke, according to new data reported by staff of Surgery News, the official newspaper of the American College of Surgeons.

“Until some new evidence of harm emerges, firm advice to stop smoking and an offer of smoking cessation treatment to those who need it can be provided to presurgical patients at any time,” said Katie Myers, MSc, C.Psychol, of Queen Mary, University of London, U.K., and her associates, according to a report published online in the Archives of Internal Medicine. The researchers based their conclusion on the results of a meta-analysis of nine studies that allowed comparisons of postoperative complications in patients who stopped smoking eight weeks or less before undergoing an operation (recent quitters) with postoperative complications of patients who continued to smoke.

It is estimated that worldwide, more than 70 million adult smokers undergo major surgical procedures every year. “The appropriate advice regarding the optimal timing of smoking cessation for patients seen close to their scheduled surgery awaits further research,” cautioned Clara K. Chow, PhD, and P. J. Devereaux, MD, in an accompanying editorial.

To learn more about the findings, go to http://www.facs.org/surgerynews/update/index.html to start receiving this authoritative—and free—resource.

Start receiving all the latest information from Surgery News

The American College of Surgeons has announced the launch of Surgery News UPDATE, a monthly e-newsletter created in partnership with Elsevier Global Medical News.

As an offshoot of the College’s official newspaper Surgery News, the electronic update newsletter will help keep you on top of emerging surgical trends, results of breaking clinical trials, and important developments in the various fields of surgery. Professional medical journalists attend clinical meetings and review the literature in order to keep you current in your specialty.

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“Outstanding as usual!”
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“Very informative – I always go back to my practice and improve on what we have done.”
Hope Day, Business Office Manager, Utah County Surgical Associates, Provo, Utah

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Carolyn Messere, MD, Integrative Surgery PA, Miami Beach, Florida

“I attend this course annually and I always learn something new to bring back to my office and physicians.”
Mary Ann Cross, General Manager, California Bariatric & General Surgery Associates, Arcadia, California

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The American College of Surgeons Faculty Research Fellowships for 2011 were awarded by the Board of Regents in February. These two-year fellowships are offered to surgeons entering academic careers in surgery or a surgical specialty, and carry awards of $40,000 per year from July 1, 2011, through June 30, 2013.

Faculty Research Fellowships are sponsored by the Scholarship Endowment Fund of the College. The Franklin H. Martin, MD, FACS, Faculty Research Fellowship of the American College of Surgeons honors the founder of the College. The C. James Carrico, MD, FACS, Faculty Research Fellowship for the Study of Trauma and Critical Care honors the late Dr. Carrico. The Louis Argenta, MD, FACS, Faculty Research Fellowship is presented by Kinetic Concepts, Inc. to support research in wound healing in honor of Dr. Argenta, who is a plastic surgeon; the fellowship is one year in length.

The recipients of these fellowships are as follows:

- Franklin H. Martin, MD, FACS, Faculty Research Fellow: Nancy L. Cho, MD, instructor of surgery, Brigham and Women’s Hospital, Boston, MA. Research project: Targeting mesenchymal stem cells in desmoid tumorigenesis.
- C. James Carrico, MD, FACS, Faculty Research Fellow: Shaun M. Kunisaki, MD, assistant professor of surgery, University of Michigan, Ann Arbor, MI. Research project: Neural progenitors derived from induced pluripotent stem cells for the treatment of spinal cord injuries.
- Louis Argenta, MD, FACS, Faculty Research Fellow: Timothy W. King, MD, PhD, assistant professor of surgery, University of Wisconsin, Madison, WI. Research project: Cutaneous wound healing improvement using notch 1 mediating compounds.

The Scholarship Endowment Fund was established to provide income to fund scholarships and fellowships awarded by the Board of Regents. Direct contributions to support the Scholarship Endowment Fund are welcome. Fellows wishing to make tax-deductible gifts to fund these vital programs are encouraged to contact the ACS Foundation at 312-202-5338.
Now, it’s even easier to stay abreast of the current literature and to look up answers to clinical questions with ease using this completely Web-based version of *Selected Readings in General Surgery* (SRGS). What’s more, the CME program is included in the price of a subscription and can be used to earn 80 AMA PRA Category 1 Credits™ per subscription year, or 10 AMA PRA Category 1 Credits™ per issue.

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- Recommended Reading: Up to 20 articles cited in the review are annotated by Editor-in-Chief Lewis Flint, MD, FACS. Each citation is linked to its abstract and full text, where available.
- What You Should Know: A collection of 10 expert commentaries by practicing surgeons on articles published within the previous six months (not related to the current issue topic). Each citation is linked to the article’s abstract and full text, where available.
- The Knowledgeable Surgeon: Bernard M. Jaffe, MD, FACS, professor of surgery, Tulane University School of Medicine, New Orleans, provides a lighthearted look at the issues swirling around health care.
- A CME program that is one of the best of its kind. Easy to use, the online test is linked to an online transcript where you can track your CME credits and download certificates. Participation in the SRGS CME program can be used to fulfill the American Board of Surgery’s Maintenance of Certification Part 2 requirements that focus on lifelong learning and self-assessment.

Two versions of this completely Web-based education program are available:

- SRGS Connect Premium includes the traditional full-text reprints that are the mainstay of *Selected Readings in General Surgery*.
- SRGS Connect Practicing Surgeon does not include full-text reprints and is available at a reduced price.

SRGS Connect is published by the American College of Surgeons, Division of Education. To learn more, visit [http://www.facs.org/srgs/](http://www.facs.org/srgs/), e-mail srgsconnect@facs.org, or call 800-631-0033.
2011 Oweida scholar selected

Afaq Z. Khan, MBBS, MD, FRCS(Edin), FRCSI, of Hays, KS, was recently selected to receive the 2011 Nizar N. Oweida, MD, FACS, Scholarship of the American College of Surgeons. Dr. Khan is from a family of physicians, originating from a small town in the foothills of the Himalayas. He engaged in medical training in a variety of locations, including Pakistan, the U.K., and Ireland. Currently residing in the U.S., Dr. Khan says he is replicating the achievements of his grandfather, a country doctor, in a contemporary American milieu.

The Oweida Scholarship was established in 1998 in memory of Dr. Oweida, a general surgeon from a small town in western Pennsylvania. The $5,000 award subsidizes attendance at the annual Clinical Congress, including postgraduate course fees.

The purpose of the Oweida Scholarship is to help young surgeons practicing in rural communities attend the Clinical Congress and benefit from the educational experiences it provides. It is awarded each year by the Executive Committee of the Board of Governors.

The requirements are posted on the College website at http://www.facs.org/memberservices/oweida.html. The application deadline for the 2012 Oweida Scholarship is December 1, 2011.

2011 Claude H. Organ, Jr., MD, FACS, Traveling Fellowship available

The family and friends of the late Claude H. Organ, Jr., MD, FACS, have established an endowment through the American College of Surgeons (ACS) Foundation to provide funding for an annual fellowship to be awarded to an outstanding young surgeon from the Society of Black Academic Surgeons, the Association of Women Surgeons, or the Surgical Section of the National Medical Association. The fellowship, in the amount of $5,000, enables a U.S. or Canadian Fellow or Associate Fellow under age 45 who is a member of one of the above societies to attend an educational meeting or make an extended visit to an institution of his or her choice, tailored to his or her research interests.

Past awardees have used their fellowships to develop their careers in creative ways. Patricia Turner, MD, FACS (2008), performed collaborative research on patient history and surgical outcomes with the anesthesia outcome research group at Cleveland Clinic. Bridget Fahy, MD, FACS (2009), joined the American Academy of Hospice and Palliative Medical Clinical Scholars. The most recent fellow, Melina Kibbe, MD, FACS (2010), is taking the Executive Leadership in Academic Management for Women program.

The full requirements for the Claude H. Organ, Jr., Traveling Fellowship are posted at http://www.facs.org/memberservices/research.html. The deadline for receipt of all application materials is July 1, 2011, with decisions to be made by September 1, 2011. Questions and applications should be submitted to the attention of the ACS Scholarships Administrator, at kearly@facs.org.
The International Relations Committee and the American College of Surgeons (ACS) Foundation have announced that the family of Abdol H. Islami, MD, FACS, and Mae Joan Islami, RN, will fund a second annual International Guest Scholarship in 2011. The Dr. Abdol H. Islami and Mrs. Joan Islami International Guest Scholar Awards recognize the ACS mission of promoting educational opportunities for surgeons practicing outside the U.S. and Canada. The additional award is the result of generous gifts from the Islami family and favorable investment performance of the endowed fund.

The first selection process for the newly named Islami Scholar awards will occur with the current International Guest Scholar nomination process and culminate with the announcement of two Islami Scholars at the 2011 ACS Clinical Congress in October, in San Francisco, CA. The Chair of the International Relations Committee, Fabrizio Michelassi, MD, FACS, and the ACS Foundation are grateful for the Islami family’s continuing support of the International Guest Scholar Program. For more information, contact Kate Early, at kearly@facs.org.

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Please be sure to visit www.facs.org in the coming months for more details regarding the educational program, registration, housing, and transportation.
Preoperative systemic therapy is often considered in order to reduce the scope and morbidity of surgical resection for cancer treatment. Reducing the size of the primary tumor with preoperative chemotherapy is well accepted as a method for increasing breast conserving surgery (BCS) rates in patients who would otherwise require a mastectomy. Several studies have shown that preoperative chemotherapy can reduce the size of the primary tumor in patients with locally advanced breast cancer, thus allowing many of these patients to avoid a mastectomy and undergo BCS.1,2

Two early preoperative chemotherapy studies in patients with operable breast cancer showed BCS rates of 68 percent and 85 percent. While preoperative chemotherapy has been widely used for this purpose, the option of endocrine therapy in the preoperative setting has not yet been widely adopted and is under active investigation. The rationale for preoperative endocrine therapy is (1) endocrine therapy in the adjuvant setting is more effective than chemotherapy,4 and (2) targeting women with ER+ breast cancer with endocrine therapy can provide information which may identify those who may not respond to treatment and may need chemotherapy.

Aromatase inhibitors have been shown to be more effective than tamoxifen for postmenopausal women with ER+ breast cancer.5 The American College of Surgeons Oncology Group (ACOSOG) Z1031 trial is a randomized phase II study comparing three aromatase inhibitors in the preoperative setting in postmenopausal women with clinical stage II/III ER+ breast cancer. A secondary

### ACOSOG news

#### Measuring the impact of Z1031 on clinical practice

*by David M. Ota, MD, FACS; Heidi Nelson, MD, FACS; Matthew Ellis, MB, BS, PhD, FACS, FACP; and Kelly Hunt, MD, FACS*

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<th>Ten highest enrolling sites and investigators</th>
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<td>8. Columbus CCOP</td>
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endpoint is to evaluate clinical response to preoperative aromatase inhibitors and to determine if this approach can increase BCS rates in women with large and locally advanced breast cancer. The initial results on clinical response and BCS rates were recently reported at the 2010 meeting of the American Society of Clinical Oncology and have been published in the *Journal of Clinical Oncology*.6

Eligibility criteria for Z1031 included T2–T4c; any N, M0 palpable breast cancer by clinical staging; postmenopausal status with an ER+ tumor; and an Allred score of 6, 7, or 8.5 Exclusion criteria were inflammatory breast cancer, previous incisional biopsy, and refusal of surgery after neoadjuvant therapy.

Z1031 opened in 2006, and completed accrual with 377 patients in 2009. Patients received 16 weeks of one of three aromatase inhibitors and then were scheduled for surgery. There was a 68 percent complete (no palpable disease) or partial response (50 percent reduction in tumor diameter by caliper measurement), and only 6 percent of patients had progression of disease. There were 152 patients who were deemed by the surgeon to require mastectomy prior to the aromatase inhibitor therapy. The conversion from mastectomy to lumpectomy was 51 percent in these patients. The pathologic tumor size in the resected specimen was T1 (<2 cm) in 38 percent of the patients who completed planned surgery.

The use of endocrine therapy in the preoperative setting resulted in 51 percent of patients who would have required mastectomy to achieve tumor downstaging enough to allow for BCS. The overall BCS rate in Z1031 was 68 percent, which compares favorably with the BCS rates of preoperative chemotherapy trials.1,2 Limiting eligibility to patients with tumors who have high expression levels of ER likely impacted the BCS rate. Toxicity was low and the treatment was well-tolerated by the study subjects. ACOSOG Z1031 is one of the first U.S.-based randomized preoperative endocrine therapy trials. The ten highest accruing sites and investigators are listed in the table on page 57.

At the 2010 American College
of Surgeons Clinical Congress in Washington, DC, the impact of preoperative endocrine therapy on surgical outcomes in the Z1031 trial were presented. Prior to the discussion of Z1031 results, the almost 400 session attendees were presented with a case of palpable T3N0M0 ER+/PR+/HER2neu negative breast cancer in a postmenopausal 54-year-old female interested in BCS, followed by several options for sequencing of local and systemic therapies. An audience response polling system was used to create interactivity between the presenter and audience. The audience participants selected an answer they believed to be the best choice. The audience response software collected the results, and the aggregate data were graphically displayed within the presentation for immediate viewing by the audience.

The management of this patient could be answered with the following responses: (1) surgical treatment first, (2) preoperative therapy with an aromatase inhibitor, or (3) preoperative chemotherapy. The initial audience responses are shown in Figure 1, page 58. After presenting the Z1031 surgical results, the same case and question were presented to the audience, and the aggregate data are shown in Figure 2, page 58. The choice of preoperative aromatase inhibitor increased from 27 percent before the presentation to 80 percent afterwards. These results are an example of the potential change in clinical practice after the results of a prospective trial are presented.

The Z1031 trial is likely to lead to new and improved treatment strategies for postmenopausal clinical stage II/III ER+ breast cancer patients. These results demonstrate that surgeons play a vital role in the conduct of prospective clinical trials and, armed with the results, can offer additional treatment options to their patients. The results of Z1031 demonstrate that aromatase inhibitors are effective in converting 51 percent of mastectomy candidates with strongly ER+ breast cancers to BCS. These results offer a new treatment paradigm for women with ER+ and have the potential to change the practice of breast cancer care.

Acknowledgement

We thank all of the investigators and their research teams, and in particular, the patients with breast cancer and their caregivers who participated in the Z1031 study.

References


Dr. Ota, of Durham, NC, and Dr. Nelson, of Rochester, MN, are ACOSOG Co-Chairs.

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A look at The Joint Commission

TST offers safety solutions

The Centers for Disease Control and Prevention (CDC) estimates there are approximately 1.7 million new cases of healthcare-associated infections (HAIs) that are acquired by patients during their stay in hospitals every year; of these, approximately 99,000 result in death.1 Over the years, health care professionals, safety organizations, and government agencies have developed numerous strategies and guidelines to battle HAIs, but there have been many obstacles in the systematic implementation and adoption of these strategies.

Chief among these solutions is a lack of compliance with proven evidence-based practices. For example, studies have found that hand hygiene—a basic, low-cost, and low-technology infection prevention and control strategy—is ignored by half of health care workers.2 It has been estimated that at least one-third of HAIs could be eradicated simply by following current hand hygiene guidelines and recommendations.3

Surgeons can participate in organization-wide efforts to prevent hand hygiene-related HAIs through the Targeted Solutions Tool™ (TST), which encapsulates the work of the Joint Commission Center for Transforming Healthcare. (For more information on TST, see the December 2010 issue of the Bulletin.)4 The center is offering accredited hospitals and other organizations access to the foundation and framework for a hand hygiene improvement method that, if implemented well, will improve an organization’s hand hygiene compliance and contribute substantially to its efforts to reduce the frequency of HAIs. The TST is an application that guides health care organizations through a step-by-step process to accurately measure organization performance, identify barriers to excellent performance, and provide proven solutions that are customized to address the identified barriers.

Hospitals using the TST engage in a six-step process:

• **Step 1: Getting started.** This first step includes determining who will be on the team. The hand hygiene team should include a strong physician champion and a project leader to facilitate meetings and help gain buy-in from stakeholders.

• **Step 2: Training observers.** Organizations train hand hygiene data collectors, or “observers,” and just-in-time coaches. Data collectors use the TST to collect data and document contributing factors and compliance. Organizations do not need statistical data analysis capabilities or any specialized performance improvement expertise to use the TST. The tool is designed to be clearly understood and used by an organization’s current staff so that no special training is required.

• **Step 3: Measuring compliance.** The project team collects and enters data (which are confidential and are not shared with The Joint Commission) through the Web-based application that is part of the TST.

• **Step 4: Determining factors.** The project team uses tools such as compliance charts, analysis charts, and a means chart.

• **Step 5: Implementing solutions.** Organizations analyze the data from charts to identify the top three contributing factors for hand washing failures. For each contributing factor, the TST provides a set of implementation guidelines.

• **Step 6: Sustaining the gains.** As issues such as wrong site surgery, surgical site infections, hand-off communications, and other safety challenges are addressed through the center, the solutions developed through the projects will be incorporated into the TST. For more information and other projects related to the Center for Transforming Healthcare, visit [http://www.centerfortransforminghealthcare.org](http://www.centerfortransforminghealthcare.org).

References

Referring patients to hospitals that have the largest volume of surgical procedures does not necessarily lead to improved outcomes for the overall population, according to the results of a new study published in the February issue of the *Journal of the American College of Surgeons (JACS)*.

The findings of studies that suggest the higher the volume of specialty surgical procedures performed at any given hospital, the better that hospital’s outcomes will be, has resulted in calls for volume-based referrals. Most notably leading that call has been the Leapfrog Group’s Evidence-Based Hospital Referral (EBHR) program, which launched a decade ago.

Researchers hypothesized that volume-based referrals would “regionalize” patients to hospitals meeting an EBHR volume metric and that, as a result, overall patient outcomes for these procedures would improve on a statewide basis. However, according to a new study in Washington State, the impact on patient outcomes across the state was negligible when a greater proportion of pancreatic and esophageal resections were performed at higher volume hospitals that met a given EBHR volume metric.

“This statewide analysis suggests Leapfrog Group’s EBHR initiative has not had the intended impact of lowering the rate of adverse outcomes for all surgical patients having higher risk surgical procedures. Although there are many potential reasons for this finding, it may be the result of higher-risk surgical patients not seeking care at higher volume centers,” said Nader N. Massarweh, MD, MPH, a surgical resident at the University of Washington School of Medicine in Seattle, WA, and the study’s lead author.

Comparing results before and after 2001 (2004 for pancreatic resection), the proportion of patients treated at hospitals meeting the EBHR volume metric for a given procedure increased for pancreatic (59.4 percent versus 75.7 percent, p < 0.001) and esophageal resection (41.5 percent versus 59.2 percent, p < 0.001), but was similar for abdominal aortic aneurysm repair (16.3 percent versus 17.6 percent, p = 0.13). In general, rates of adverse events were lower at hospitals meeting an EBHR volume metric. However, across Washington State and at non-EBHR centers, rates of mortality, readmission, and complications generally did not improve in the seven years following the introduction of the EBHR initiative.

The implications of the Leapfrog Group’s EBHR program for the health care system include the following: limiting patient flow and critically important revenue at smaller hospitals; decreasing surgeon competence and availability for emergency care at lower volume hospitals; providing fewer opportunities for surgical residency training at lower volume centers; and biasing patients toward higher volume centers for procedures not related to the EBHR initiative.

The consequences of referring patients to high-volume surgical centers are still being understood, but it appears as though doing so may not result in improved outcomes in the population as a whole.
The National Ultrasound Faculty of the American College of Surgeons has developed “Ultrasound for Surgeons: The Basic Course, 2nd Edition” on CD-ROM for surgeons, surgical residents, and anyone interested in ultrasound imaging.

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Physiognomy—the study of the correspondence of psychological characteristics to facial features—dates all the way back to Aristotle. He devoted six chapters of one of his treatises on the topic of physical appearances that he thought were characteristic of genius and stupidity, strength and weakness, as well as many other traits. The famed Greek philosopher then examined character traits that he thought were derived from various physical features. For example, noses: swinish, sharp-tipped noses belong, he thought, to those individuals who could be described as irascible, those easily provoked, like dogs. Individuals with thick bulbous ends belonged to persons who Aristotle considered to be insensitive, while rounded, obtuse, large noses belonged to individuals considered to be magnanimous, and so on.

Physiognomy is mentioned throughout history. Latin scholars refer to its practice, while numerous allusions occur in the works of Christian scholars. During medieval times, the focus of physiognomy (with links to astrology) was on predicting the future. With the development of a better understanding of anatomy during the 17th century, scientific interest in this field decreased significantly. By the 18th and 19th century, physiognomy was relegated to a means of detecting criminal tendencies, but was then later discarded. By the 20th century, physiognomy was generally regarded as a historical subject (http://www.britannica.com/EBchecked/topic/458823/physiognomy).

Facial expression and appearance have, as its underpinning, the skeleton of the midface. Injuries to these structures often result in disfigurement and an alteration of an individual’s appearance. Fractures of the maxilla are not a new occurrence. The first clinical examination of a maxillary fracture occurred in the Smith Papyrus, dating back to 2500 BC. In 1822, Charles Frederick William Reiche provided the first detailed treatise on maxillary fractures. In 1867, David Cheever wrote about the use of chisels to completely mobilize the maxilla. Then, in 1901, around the time of the disappearance of the study of physiognomy, a French army surgeon named René Le Fort, MD, published his landmark work on his experiments utilizing a combination of 32 cadavers, including

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NTDB® data points

**Face the facts**

*by Richard J. Fantus, MD, FACS; and David H. Hanson, MD, DDS*

<table>
<thead>
<tr>
<th>Hospital discharge status</th>
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<tbody>
<tr>
<td>Home</td>
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<tr>
<td>Acute care/rehab</td>
</tr>
<tr>
<td>Nursing home</td>
</tr>
<tr>
<td>Death</td>
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69.4% 10.5% 13.6% 6.4%
intact and decapitated corpses. He exposed the cadaver heads to various blunt forces, then removed the soft tissue and examined the bones. Dr. Le Fort surmised that fractures occurred through three weak lines in the facial skeleton. The first line is through the bones protecting the cranial cavity, the second line circumscribes the midface, and a third line that cuts across the face. Utilizing these three lines, he devised the three levels of Le Fort fractures: I, II, and III.

In order to examine the occurrence of Le Fort fractures in the National Trauma Data Bank research dataset 2009, admissions records were searched utilizing the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) diagnosis code 802.4, closed fracture of malar and maxillary bones, or 802.5, open fracture of malar and maxillary bones. A total of 23,552 incidents included the subset Le Fort fractures; 21,523 records had discharge status recorded, including 14,941 discharged to home, 2,929 to acute care/rehab, and 2,267 sent to nursing homes; 1,386 died (see figure, page 63). These patients were 77 percent male, on average 43.1 years of age, had an average length of stay of 8.5 days, and an average injury severity score (ISS) of 17.8. Based upon the ISS score, these patients sustained more than isolated facial fractures with a resulting higher mortality.

Complex midface fractures often require the skill set of a specialist who is well-versed in the operative management of these challenging cases. There are maxillofacial surgeons, otolaryngologists, and plastic surgeons who have had the advanced training and experience to perform the necessary reconstruction to what otherwise could be devastating injuries. Let us face the facts that beauty is only skin deep, and it is, in fact, the underlying skeleton of the midface that forms the face’s foundation. Thankfully, we have these specialists to assist us in restoring the “foundation” of physiognomy.

Throughout the year, we will be highlighting these data through brief reports that will be found monthly in the Bulletin. The NTDB Annual Report 2010 is available on the American College of Surgeons’ website as a PDF file and a PowerPoint presentation at http://www.ntdb.org. In addition, information is available on our website regarding how to obtain NTDB data for more detailed study. If you are interested in submitting your trauma center’s data, contact Melanie L. Neal, Manager, NTDB at mneal@facs.org.

Acknowledgment

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Dr. Hanson is a clinical assistant professor of surgery, Northwestern University Medical School, Chicago, IL, and at the University of Illinois College of Dentistry. He is a member of the oral/maxillofacial trauma team at Advocate Illinois Masonic Medical Center, Chicago, IL.

Trauma meetings calendar

The following continuing medical education courses in trauma are cosponsored by the American College of Surgeons Committee on Trauma and Regional Committees:

• **Point/Counterpoint**, June 13–15, 2011, National Harbor, MD.
• **Advances in Trauma**, December 9–10, 2011, Kansas City, MO.

Complete course information can be viewed online (as it becomes available) through the American College of Surgeons’ website at [http://www.facs.org/trauma/cme/traumtgs.html](http://www.facs.org/trauma/cme/traumtgs.html), or contact the Trauma Office at 312-202-5342.