FROM THE SOCIETY: PART I

Building the Next Generation of the GIM Workforce

Francine Jetton, MA; Ann B. Nattinger, MD, MPH; and Leslie Dunne, MA

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The field of general internal medicine (GIM) is challenged in the current health care system by poor systems of care (such as those requiring an undue emphasis on patient volume), poor reimbursement, and low prestige. These challenges have led trainees to avoid the field. For example, in recent years only 20% of internal medicine residency graduates have entered GIM practice compared to more than 50% a decade ago. These problems have developed, at least partially, due to unsatisfactory work environments and poor reimbursement for cognitive (as opposed to procedural) clinical care provided by general internists. These problems have led to poor primary care outcomes for many patients, high costs, and inequitable access to care.

As health care reform evolves and health systems are redesigned, there is a major opportunity to improve the primary care provided to our adult patients, thus leading to better health outcomes and less wasted care. The biggest opportunity for both improved outcomes and lower costs exists for those adults with chronic illnesses, such as diabetes, hypertension, and heart disease—the patients who are most likely to seek care from a general internist. However, it is critical that the voice of committed physicians be audible to ensure that the redesigned system does not replicate the problems of the current system. This voice must be audible both to policymakers designing systems of care and trainees who are deciding on career pathways.

SGIM has already undertaken multiple initiatives to influence policymakers regarding the redesign of care. For example, the SGIM Health Policy Committee is working on a regular basis to influence health care redesign for internal medicine and more broadly for primary care. In addition, SGIM sponsored a National Commission on Physician Payment Reform, which issued its report and recommendations in 2013. However, the Society believes that it is important to address the issue of trainees selecting GIM career pathways concurrently with efforts to redesign care systems for our patients.

In 2013, SGIM convened a strategic communications working group in order to address the issues of the GIM pipeline in an era of health care redesign. This group, funded by a generous grant from the Hess Foundation, has been working to identify solutions to this workforce issue. Knowing that SGIM alone cannot cover the entire waterfront, the workgroup narrowed the field of outreach to focus on engaging medical students (specifically M1 and M2) to consider career pathways available to continued on page 13
FROM THE EDITOR

New Diabetes Drugs: Ready for Prime Time?
Karen R. Horowitz, MD

Turn on any TV in America between 6 and 8 pm, and you will learn a lot about diabetes. At least you will see a lot about diabetes. There seems to be an abundance of new drugs. Better drugs. Drugs that don’t require injection. Drugs that don’t cause hypoglycemia. Drugs that facilitate weight loss. Drugs to ask your doctor about. New GLP1 analogues, DPP4 inhibitors, and SGLT2 inhibitors seem to be emerging daily, with many more of each of these in various stages of research and development. Two older drugs (cosevelam and bromoactine) were repurposed as diabetes drugs. Newer insulin preparations are on the way. How is a primary care physician to sort the options and find the high value for patients? Does the barrage of new drugs really add value to the armamentarium of diabetes treatments? With the sudden flood of new drugs to the market, it is important that prescribers critically ask, “Where do these new drugs fit in my care of patients?”

As diabetes program chief at the Louis Stokes Cleveland VAMC, clinician-educator in our internal medicine residency program, and former ACCORD (Action to Control Cardiovascular Risk in Diabetes) principal investigator, I am often called upon to bring clarity to the dizzying array of new diabetes drugs on the market today.

GLP1 and DPP4 inhibitors are drugs that leverage the recently discovered incretin hormonal system to lower glucose. They potentiate “first phase” insulin release from the pancreas after a meal, slow gastric motility and absorption of glucose thereby limiting postprandial glucose excursions, increase satiety through central (direct brain effects) and peripheral mechanisms, and decrease insulin resistance in the periphery. Weight loss is potentiated by the GLP1 agents but not by DPP4s. There is evidence that they may preserve beta cell mass as well. A1C lowering in clinical trials has been 0.5% to 0.8% with the earliest of these drugs; however, recent trials of a newer GLP1 analogue taken once weekly demonstrated as much as a 1.5% A1C reduction in those who tolerated it. Side effects including nausea and emesis have led to discontinuation in as many as 30% of patients in some trials. Concerning questions regarding side effects such as pancreatitis, pancreatic cancer, and C-cell carcinoma of the thyroid are still under investigation.

SGLT2 inhibitors are drugs that block the reuptake of filtered glucose in the proximal tubule of the nephron. They potentiate the glycosuria that occurs in hyperglycemia states. By doing so, they are said to potentiate weight loss and lower glucose. A1C lowering is in the range of 0.5%, and side effects include urinary tract and genital (yeast) infections in 10% to 12% of patients with no previous infection (and up to 30% of patients with previous infections) as well as increased urinary frequency, electrolyte imbalances, dehydration, and renal effects. It is hard to understand how these drugs will continue on page 12.
A major benefit of being SGIM president is gaining a broader perspective on our current health care system and having the time to think and ponder our future. Let me clarify: This time is not “protected time.” It is generally time spent in airports waiting for the inevitably delayed flight and then reading on a long flight for distraction from the effects of sitting in a cramped seat. I can be impatient, and like most of us, I am impatient for health system change. One critically important area for SGIM members is workforce policy. Workforce change has been particularly slow, and there seems to be little movement toward a measurable increase in trainees entering our field.

There is, however, another perspective: Changing the now massive health care delivery system while simultaneously caring for patients has been compared to “building an airplane in flight.” Federal policy uses a number of levers to incentivize our system to deliver the value-based care our patients need, yet legislators and policymakers worry that precipitous change could hurt patients (voters) and health care delivery system interests. For general internal medicine (GIM) workforce change, the challenge is multifactorial: reducing the effect of student debt on career choice, changing our graduate medical education (GME) system, achieving better equity in physician payment for cognitive services, and creating a desirable work environment in which to pursue a career. Each needs to be addressed in solving the workforce challenge.

In late September I had the privilege of representing SGIM with Mark Schwartz (chair of the SGIM Health Policy Committee) at a Capitol Hill Briefing convened by SGIM to reissue the 2013 Report of the National Commission on Physician Payment Reform. The bipartisan commission, chaired by Steve Schroeder, MD, and Senator Bill Frist, first issued the report in 2013. In the interim, Congress introduced bipartisan legislation to repeal the sustainable growth rate (SGR) once and for all. The bill, the SGR Repeal and Medicare Provider Payment Modernization Act, embodies many of the recommendations outlined in the National Commission Report and holds the promise of moving physician payment policy away from fee-for-service and toward value-based physician payment. In a meeting room crowded with more than 40 legislative aides, we presented on a panel with Reid Blackwelder, MD, president of the American Academy of Family Physicians, and Steve Weinberger, MD, CEO of the American College of Physicians, in an unusual show of physician agreement on payment policy. The bill would repeal the SGR, begin to eliminate flaws in fee-for-service payment methodology, and move health care incentives toward value-based care and physician pay equity. Many insiders believe that the “lame duck” session following the November election will be a rare opportunity to pass physician payment reform. It is critical that SGIM members contact their congressional members to advocate for passage of this important bill.

The legislation could be another nudge by federal policymakers to realign the physician workforce with the needs of patients. The Physician Payment Reform briefing came on the heels of the Institute of Medicine report recommending steps to transform GME funding over 10 years by increasing hospital transparency for GME expenditures and gradually reallocating GME funds to build a system that trains the workforce needed in the future. Legislative assistants we spoke to felt the GME issue could be considered in the 114th Congress that convenes in January 2015. Another workforce change lever came in the Accountable Care Act (ACA): expanding the National Health Service Corp (NHSC) scholarship and loan re-payment programs to reduce medical student educational debt. The NHSC, along with state programs, could reduce medical school debt for students considering GIM careers. The NHSC continued on page 14.
NEW PERSPECTIVES

Coming Home to Visit
Paul Chelminski, MD, and Duncan Vincent, MD

Dr. Chelminski is a general ambulatory internist at the University of North Carolina at Chapel Hill, associate professor of medicine, and associate residency program director. Dr. Duncan Vincent is a third-year resident in internal medicine at the University of North Carolina at Chapel Hill. He will be the ambulatory chief resident in 2015-2016.

Snow disrupts life in North Carolina the way that a bath inconveniences and provokes a house cat. It brings a mix of the ridiculous, the catastrophic, and the miraculous—and that's why snow is so much more enjoyable in the South. Because of its relative novelty, we have not developed the routines that allow us to handle snow efficiently or without histrionics. In February 2014, central North Carolina was surprised by five inches of snow with a simultaneous freeze-over of the roads. More than 1,000 people—visitors, doctors, staff, and ambulatory patients—spent an unexpected night at the hospital. The roads were littered with abandoned cars pointing bizarrely in all directions—all because the coefficient of rolling friction had been suspended for an afternoon. For two days, ambulatory and elective services were canceled.

On the second day of the catastrophe, my afternoon clinic was canceled. I did, however, have three home visits scheduled for the morning. The roads were still frozen, but the day promised warmer temperatures that would unfreeze them. I have a four-wheel drive pickup truck. Although there was institutional dispensation to take the day off, I saw no reason for the visits not to proceed. I first drove to a local apartment complex and picked up the resident assigned to work with me. There, people were finally digging out their cars only to discover that unplowed parking lots, lack of clearance, and the ongoing lack of friction on paved surfaces were continuing to make driving very difficult.

We soon headed 20 miles into a rural North Carolina county. Once we left the interstate, the road was really lousy, and for the first time in our four-year relationship, I felt that my pickup truck was not, after all, the manly indulgence for which it was intended. Our first visit was at the house of a 93-year-old woman who had recently been hospitalized with both pneumonia and a urinary tract infection. She had had respiratory failure and was barely spared endotracheal mechanical ventilation by a bipap apparatus. This patient was neither one of my continuity patients nor one of the resident’s. She was another resident physician’s patient, and we were seeing her as a part of a broader initiative in our clinic to reduce hospital readmissions.

The patient was surprised to see us. Patients are surprised to learn that anyone still does home visits. A home visit combined with a snowstorm in North Carolina was even more disorienting. (Just consider the independent probabilities!) That is, two unnatural phenomena were occurring simultaneously. The patient lived alone in a “double-wide” modular home, but she was surrounded by relatives spanning five generations.

Whenever I do home visits, I avoid discussion of medical issues for at least several minutes after entering the house. After all, it’s my patient’s home—not an exam room, an operating room, or an infusion center. I start with the social history and try to talk about something that has personal meaning. The easiest way to figure this out, especially in patients you have not seen before, is to look at the walls and surfaces and ask about what they have mounted on them. Decorations and keepsakes are a good place to start a conversation on the safe assumption that people usually showcase the things in their lives that remind them of joy, love, and achievement. Often, these are family pictures, but other items on display have included trophy fish (bass in North Carolina), trophy animals shot in Africa, and in one case a bronze sculpture that a resident estimated was worth as much as all of her medical school loans.

On this day, I was drawn to a fading black-and-white picture on the wall. It was the picture of an African-American man in the fields wearing a semi-sleeveless white work shirt, and on his head was a classy fedora relegated to sun protection. He was vigorous and had a bright, proud smile. He was probably in his early to mid 40s when the picture was taken. His arms told the story of his life. They were long and muscular. These were the honest arms of a laborer.

I asked the patient if this was her husband. She said it was. When was it taken?

The mid 1950s. I knew that the patient was a widow. I asked when her husband had died. A few years after the picture, she replied. What did he die of? A stroke. Life was hard for farmers in the central piedmont of North Carolina, I concluded. The plausible sequence of events was clear: poverty, untreated hypertension, no health care, cardiovascular disease, premature death. I then asked about her children. She had had six. I asked her how many were still alive. Just one, she responded. I thought that my inquiry about the social circumstances of her life was possibly counter-therapeutic. To avoid potentially inflicting more emotional harm, I signaled to the resident that it was time to start the medical portion of the visit. Life was hard for poor families in North Carolina in the last century, I reminded myself again.

We started with the neurologic exam. I asked the patient to bring us her medications. She rose easily from a couch, walked across her cluttered living room, down a hall, and returned with about eight bottles, which she laid out on a table. We continued on top of page 14...
Have you ever thought that you might create a great book—if only you had the time to write it? Are you an expert in your field with valuable insights to disseminate? Consider collaborating to write or edit a book.

The following are lessons learned from my experience editing Building Partnerships in the Americas: A Guide for Global Health Workers, published in 2013.

Inception. It starts with an idea. For this book, I was approached by the editor in chief of the Dartmouth College Press to edit a collection of essays for health professionals and students seeking to engage in health-related work in Central America, Mexico, and the Caribbean. The idea does not have to arise from an editor, however—SGIM members have written and edited books with numerous publishers, and Springer brings representatives to the national SGIM meeting every year. The book should fill an existing gap or niche. Ask yourself what is already published on this topic and what your work will contribute to the literature. What insights or experience do you bring to the endeavor? From my experience leading groups of college and medical students to Nicaragua, I was aware that cultural and ethical preparation is essential and that there was no book available to meet the needs of potential volunteers to Latin America.

Feasibility. As a clinician-educator, I had some experience writing articles and textbook chapters but had never seriously thought about editing a book. I needed to consider carefully the focus, energy, and time required to achieve what I promised to deliver. Having multiple contributors distributes the workload and enriches the content by including diverse perspectives. It also requires that the editor, who is responsible for delivering the final product, trust the authors to complete their work on time. I had to recruit and obtain commitments from a diverse and busy group of chapter authors. This anthology was a true collaborative effort between me and 16 others in the field—a form of “building partnerships” similar to the book itself. The contributors were recruited through personal contacts and list-serves, including two colleagues from the Society.

Proposal and contract. Once a robust team of authors is assembled, the author develops a book proposal (akin to a grant proposal), which outlines the content and themes for the book. The Press offered me a book contract based on the proposal. Contracts vary. Payment to the editor or author may be in the form of a lump sum or a portion of the royalties. Although the publisher ultimately owns the work, the contract may allow for personal academic use of the book. Many academic institutions require permission to do “outside” work—your department or division chief can assist you in understanding the rules that apply to your home institution.

Writing and editing. The editor is responsible for managing the project, although sometimes the publisher will assist in this. I developed the chapter template and timeline for completion and sent it to each chapter author. One of the real joys of this project was the close collaboration with physicians with diverse experiences building programs in Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Haiti, and the Dominican Republic. The essayists also include a dentist, an anthropologist, and a sociologist as well as physicians from the countries described. It was a challenge to ask the chapter authors to write more or less “on spec” and on time, but they were uniformly responsive. I edited early drafts of chapters and returned them to the authors for revisions. In addition to my role as editor, I co-authored a chapter on Nicaragua. I was also responsible for the anthology’s introduction, which served to tie the chapters together into a unified and coherent book. Once completed, the publisher sent the manuscript for peer review to a physician, an anthropologist, and a health educator who offered constructive criticism. Integration of these suggestions led to another round of revisions. The editor in chief and production department at the University Press of New England (the publisher for Dartmouth College Press) played a key role in ensuring basic uniformity in writing and design across the chapters. I developed a great appreciation for how the publisher transformed a raw manuscript into a compelling book.

Publication. Book publishing can take over a year. This book started with an idea in 2010, required two years of manuscript preparation, began production in spring 2012, and was published a year later. Depending on the publisher, there may be a print run, print-on-demand, and an e-book. My publisher is now creating an e-book.
The Society of General Internal Medicine (SGIM) welcomes the release of the Institute of Medicine (IOM)’s long-anticipated report on how to reform graduate medical education (GME) funding. We applaud the recommendations and look forward to working with other professional groups and education leaders in implementing them. We believe, however, that full GME reform will involve more changes, including recommendations recently made by SGIM.

The IOM report was requested by a bipartisan group of senators concerned that the GME system is “failing to match medical training with our medical needs on a national level.” They called for a redesign of health care workforce education and training so as to improve access to and delivery of services. That seems simple, but getting there requires overcoming multiple challenges. The fundamental dilemma confronting policymakers? Meeting the health care needs of the US population—including 32 million Americans newly eligible for coverage through the Affordable Care Act—under a constrained federal budget.

The United States GME system is the envy of the world. GME has grown to a multi-billion dollar enterprise, supported in large part by Medicare, which provides nearly $10 billion of the $15 billion the federal government spends annually on preparing new physicians to become high-quality clinicians.

SGIM believes that the current GME system is not well aligned with the nation’s health care needs. Most important, GME is failing far short of restoring a robust, sustainable primary care infrastructure—the cornerstone of any high-performing health care delivery system. If recent trends continue, only 20.9% of last year’s graduating medical students will practice primary care after completing residency training. Thus, the gap between generalist supply and demand will continue to widen.

SGIM agrees with IOM’s overall goals and recommendations for improving GME, particularly as they relate to the shortage of primary care physicians and efforts to improve the transparency and accountability of the system. IOM’s report, however, should not be considered the final word on this topic. Instead, it creates the opportunity for broader collaboration among stakeholder organizations as well as federal policymakers and Congress and serves as an important stepping-stone for addressing other facets of GME that fall outside the scope of IOM’s report.

In “Addressing the Nation’s Physician Workforce Needs,” published earlier this year in JGIM (PMID: 24733299), a panel of SGIM experts set out six recommendations that reflect our organizational goals to prepare a physician workforce capable of providing high-quality, high-value, population-based and patient-centered health care that is aligned with the changing needs of our nation’s health care delivery system. Those recommendations are:

1. Congress should fully fund the National Health Care Workforce Commission. Decisions affecting the allocation of GME positions must be based on data from unbiased sources that assess current and accurately predict future health care needs.

2. All entities that pay for medical care should contribute to GME funding, and funding levels should reflect the true cost of training a physician workforce aligned with national needs. Since all who receive and pay for medical care share the benefits of a well-trained physician workforce, all payers—not only the Centers for Medicare and Medicaid Services—should contribute to the cost of medical training.

3. In an era of scarce resources, GME dollars must be allocated transparently and exclusively for resident training and related costs. The Health and Human Services secretary should immediately take steps to require institutions to report their GME costs and the total amount of direct and indirect funds received, including the number of residents and fellows supported with GME funds by specialty and training location.

4. GME-funded training programs must demonstrate that their graduates have the competencies required to provide optimal, cost-effective care, including training in evidence-based medicine, team-based care, and care coordination.

5. The GME system should provide incentives to align the practice patterns of graduates with national and regional workforce needs. Health care systems built on a robust primary care workforce produce better outcomes at lower costs than systems without a primary care base. Direct accountability by GME institutions—linking the receipt of GME dollars with workforce outcomes—is an important step to restoring a robust and sustainable primary care base.

6. Funding should be available to foster innovation. The federal government should support and test innovative education and training models that allow GME to more readily adapt to practice in the 21st century.

Dr. Baron is a member of the SGIM Health Policy-Education Subcommittee.
Midwest SGIM 2014 Meeting: A Collaborative Success!
Andem Ekpenyong, MD; Andrea Sikon, MD; and Michele Fang, MD

Dr. Ekpenyong is the past-president of the Midwest region and associate professor at Rush University Medical Center; Dr. Sikon is president of the Midwest region, chair of the department of medicine, and associate professor at the Cleveland Clinic; and Dr. Fang is president-elect of the Midwest region and clinical associate professor at the University of Iowa.

The 2014 Midwest SGIM meeting was held at the Navy Pier in Chicago September 4-5, 2014. Our meeting theme was “Collaborating to Improve Outcomes in Health, Medical Education and Research.” With this theme we sought to highlight the fact that we as general internists are extremely valuable team members and leaders in many aspects of patient care, research, and medical education. As patient care, teaching environments, and research become more complex, we embrace the opportunity to work alongside colleagues both within and outside our field to serve our patients and trainees while advancing medical knowledge. We were excited to see our membership’s response to our call for work highlighting the richness of such collaborative efforts. We received 107 more submissions for this meeting than last year, and of the 221 who attended the meeting, 33 were new attendees.

We invited three plenary speakers to address at least one component of the collaboration theme. Each was asked to describe his/her work and also the process of developing a project in a collaborative way. The speakers were asked to address the following questions: 1) How did the project get started? 2) Who were the participants? 3) How have you kept the effort going? 4) What have the outcomes of the collaboration been relative to patient outcomes, personal career advancement, publications, and presentations? 5) How has this collaborative moved the field forward? and 6) What advice would you give to junior faculty on initiating a project or senior faculty serving as mentors?

Monica Peek, MD (University of Chicago), discussed the process of working side by side with community leaders, local nonprofit organizations, dieticians, chefs, non-physician care managers, and others to teach diabetic patients that a healthy lifestyle involves more than just checking their glucose levels. Patients were taught to perform activities necessary to maintain good health such as making healthy food choices, shopping at a farmer’s market, and cooking meals. Dr. Peek noted the value of partnering with community groups to help one another meet their needs rather than simply bringing programs and ideas to them.

Ashish Didwana, MD, from Northwestern Feinberg School of Medicine in Chicago discussed a collaborative educational program focused on promoting professionalism via a video-based educational workshop for housestaff and hospitalists. He described the process of developing these videos in collaboration with scriptwriters, actors, and medical educators. The videos were then used to promote discussion and reflection on the meaning of professionalism. A formal evaluation process demonstrated the positive impact on learners and will inform future directions for this project.

Karen Horowitz, MD, of Case Western Reserve University School of Medicine discussed her involvement in the ACCORD trial. In particular, she offered advice about how to be an active member of a large multicenter research team and the importance of speaking up and making a contribution to whatever endeavor one is working on. She emphasized that collaboration is a strategy that can be learned and applied to any professional endeavor. As general internists, we have our own unique perspective on patient care and have much to offer in an environment of specialists and non-clinician-researchers.

The Thursday plenary session was devoted to outstanding trainee submissions. Santiago Romero Brufau, MD, presented “Are the Most Widely Used Early Warning Scores Ready for Automation?”; Sudhi Tyagi, MD, presented “Eosinophilic Granulomatosis with Polyangitis (Churg Strauss Disease)”; and fourth-year medical student, Cassandra Fritz, presented “Intermediate Outcome Evaluation of an Innovative Pipeline Curriculum.”

To promote collaboration and networking, we offered group-mentoring sessions for both junior faculty and trainees over lunch on each day of the meeting. This activity was organized by our at-large council member Wei Wei Lee, MD (University of Chicago). In each session, a panel of senior faculty with a vast range of expertise answered career questions from participants.

Meeting highlights included updates from national SGIM by SGIM president-elect Marshall Chin, MD (University of Chicago); a health policy update presented by Health Policy Committee member and national SGIM award winner (2009) Mark Liebow, MD (Mayo Clinic); and a highly interactive and informative update in general internal medicine presented by Amber Pincavage, MD, and Diane Altkorn, MD, from the University of Chicago.

Workshops that emphasized the theme of collaboration included “Simulation for Multidisciplinary Team Training to Promote Teamwork and Communication and Enhance Patient Safety,” coordinated by Krista M. Johnson (University of Iowa), and “A continued on page 15
FROM THE SOCIETY: PART II

SGIM Research on Careers (ROC) Interest Group: Origins, Evolution, and Future Work
Sara Poplau, BA; Mark Linzer, MD; Linda Bair Manwell, MS; and Martha Gerrity, MD

Ms. Poplau is a senior research project manager at Minneapolis Medical Research Foundation, Minneapolis, MN; Dr. Linzer is a professor of medicine at the University of Minnesota and the Division Director of General Internal Medicine, Hennepin County Medical Center, Minneapolis MN; Ms. Manwell is the Research Administrator for the Division of General Internal Medicine at the University of Wisconsin–Madison School of Medicine & Public Health; and Dr. Gerrity is professor of medicine at Portland Veterans Affairs Medical Center and the OHSU Center for Evidence-based Policy.

In 1988, at the request of their chair at Duke University, Mark Schwartz and Mark Linzer sat down to plan a study to investigate a decline in interest in careers in internal medicine. Thus was born the SGIM Career Choice Task Force. The study showed that the inpatient training environment was no longer producing interest in internal medicine careers. Several years later, SGIM President Mark Linzer asked the Career Choice Task Force to focus on physician job satisfaction. This led to the formation of the SGIM Career Satisfaction Study Group or CSSG. In 1995, the CSSG was funded by the Robert Wood Johnson Foundation to perform the Physician Worklife Study. Elnora Rhodes was the project manager, and several investigators, including Martha Gerrity, Dawn Dewitt, Bob Konrad, and Eric Williams, among many others, joined the study group. The study produced job satisfaction measures and a better understanding of predictors of physician satisfaction, stress, and burnout.

In 2001, the CSSG was funded by the Agency for Healthcare Research and Quality (AHRQ) to assess the impact of work conditions on physicians and their patients. This study, titled MEMO (Minimizing Error Maximizing Outcome), brought in new investigators including Linda Baier Manwell, Anita Varkey, Said Ibrahim, Joseph Rabatin, Perry An, and many others. MEMO demonstrated relationships between work conditions and clinician outcomes and between work conditions and patient outcomes. MEMO also showed how work conditions predisposed to health disparities. While the MEMO study was in progress, the CSSG decided a name change was in order, given the expanded focus on careers. The Research on Careers (ROC) Interest Group became our name and mission.

For 10 consecutive years, investigators from the MEMO study, the Physician Worklife Study, and the current Healthy Work Place (HWP) study have been honored to host the ROC Interest Group at SGIM’s annual meetings. Over the years we have had the pleasure of getting to know new colleagues and watch their careers develop. This year honored us with another exciting meeting. While the group was small, the conversation was rich and rewarding. We had the opportunity to share the results of the HWP study, a recently concluded randomized control trial of worklife interventions. We also shared the excitement of a new AHRQ-funded study, MS squared (Minimizing Stress, Maximizing Success of the Electronic Medical Record), which will be conducted with colleagues at Stanford, Colorado (Centura Health), and the University of New Mexico. We were also delighted to hear about work currently being performed by ROC group colleagues, including women’s health education programs for VA physicians and nurses.

These conversations highlight the ways in which our work informs and overlaps with the work of others, and they could not happen in a more perfect environment for collaboration and collegiality than our national conference. Our area of research focus for almost 20 years has been provider satisfaction, stress, and burnout, and the meetings are a chance to reconnect with colleagues and share findings. These interest group meetings are a chance to share our work and passion and look for ways to work together.

Our future work will focus on challenges posed by the electronic medical record and on workflow redesign to improve the attractiveness of primary care careers. We are also excited to share the results of our new proposed partnerships with the Association of Chiefs and Leaders of General Internal Medicine and the American College of Physicians regarding physician worklife. For next year’s interest group meeting, bring your passion and interest in improving careers in general internal medicine. If you’ve always wanted to be in a ROC group, please join us!

References
4. Williams ES, Konrad TR, Scheckler WE, Pathman DE, continued on page 15
The Unknown Unknowns
Avital Y. O’Glasser, MD, FACP

Dr. O’Glasser is assistant professor of medicine in the Division of Hospital Medicine and assistant medical director of the Pre-Operative Medicine Clinic at Oregon Health & Sciences University in Portland, OR.

“...There are known knowns; there are things we know that we know. There are known unknowns; that is to say, there are things that we now know we don’t know. But there are also unknown unknowns—there are things we do not know we don’t know.”

—Donald Rumsfeld, United States Secretary of Defense, February 12, 2002

These astute words were delivered during a news briefing with regard to the absence of evidence going into the Iraq wars. Nearly 12 years later, I listened to an infectious disease specialist reiterate these words regarding our struggles with super-bugs and antibacterial resistance—and nearly 12 years and thirty seconds later, I realized how perfectly these words captured the essence of my clinical practice.

I started practicing peri-operative medicine serendipitously almost five years ago. A clinical opportunity presented itself. The solo hospitalist in our Pre-Operative Medicine Clinic (PMC) needed a back up and a colleague. I threw myself in, hopped along for the ride, and hoped for the best.

I was hooked. The hospital had transitioned from an anesthesiologist-led to a hospitalist-led perioperative clinic just a few years prior. Here it was—internal medicine in its purest form! Every organ system to be considered, with the cardiac system on its golden pedestal. Here was the Revised Cardiac Risk Index and the 2007 American College of Cardiology/American Heart Association algorithm nobly helping us ford the great river of “pre-op clearance.” Here was the pulmonary system on its ever-so-slightly-shorter silver pedestal, buttressed by the Arozullah Respiratory Failure Index. But there was so much more! Here was diabetes, chronic liver disease, substance abuse, and poorly controlled skin and dental infections. Here was chronic anticoagulation, bleeding diatheses, chronic kidney disease, immunosuppressants, and chronic steroid therapy masking underlying secondary adrenal insufficiency. And then there is rheumatology and rheumatoid arthritis, with the risk of cervical spine instability and subluxation with intubation.

Here was systems-based practice and multidisciplinary care. Patient education. Communication skills. Good old-fashioned bread-and-butter history-taking and physical diagnosis skills combined with sophisticated testing modalities. I was board-certified in internal medicine but learning tomes about anesthesiology and surgery by the day.

It was invigorating to meet patients at such an excitedly vulnerable and vulnerably exciting juncture in their lives. I have been able to look a patient in the eye and say, “Your last A1C was 6.4, which is excellent in general and certainly reassuring going into a major surgery.” To another I have said, “I hear your concerns that your father died of a post-op MI, but you’ve never smoked, you exercise regularly without concerning symptoms, and your EKG is normal. I don’t have any indications to perform a stress test.” But I am also comfortable saying, “I know that your aortic valve area is 0.6 cm² and you’ve been feeling more short of breath climbing stairs lately. I know that surgery will be very risky for you, and it is something that I need to advise against.”

The known unknowns.

I like to think that I am a cost-conscious, less-is-more physician. I like the known unknowns. They make it easier to decide to test and justify my recommendations to delay or cancel surgery.

But even the known unknowns can be stress-inducing and grueling. The frantic 11th hour search for the long-forgotten coronary angiogram. Where was it done? Why? What clinical concerns might have prompted a catheterization, let alone non-invasive cardiac testing? What did it show? What do you mean, “It was fine”? Do you mean fine as in “diffuse multivessel disease not amenable to revascularization” or fine as in “normal coronaries”? Both results seem to get transmitted down to patients the same way. These are the times I just don’t know—but at least I know it.

And then there is the giant gray zone. The things that make me wrangle, hem-and-haw, and teeter back... continued on page 15
The patient is a 28-year-old woman with past medical history of AIDS and pancytopenia who is directly admitted due to elevated liver function tests. She feels well except for chronic low back pain. She denies fever, chills, shortness of breath, abdominal pain, nausea, vomiting, diarrhea, and weight loss. The patient has not been compliant with her medications.

The differential diagnosis for asymptomatic abnormal liver function tests in an immunocompromised patient is broad. It is important to clarify whether the problem is transaminitis (elevated AST and ALT), a biliary tract problem (with elevated bilirubin and/or elevated alkaline phosphatase), or a problem with the synthetic function (as evidenced by high INR and/or low albumin). Given her history of being immunocompromised with AIDS (which is a T cell abnormality), she is at risk for both opportunistic infections and traditional infections such as cholecystitis. The degree of immunocompromise would be reflected by her CD4 count. Back pain, though chronic and very common, may also be an important sign as osteomyelitis, and epidural abscess may be in the differential diagnosis.

The patient has AIDS, which was diagnosed in November 2002. Antiretrovirals were started in September 2013. Her course was complicated by pneumocystis jiroveci pneumonia and herpes simplex virus (HSV) esophagitis in November 2012, candida esophagitis in February 2013, and mycobacterium avium complex (MAC) infection in March 2013.

This history of multiple opportunistic infections, especially with the patient’s noncompliance, makes me worry about a patient who is severely immunocompromised and therefore at risk for opportunistic infections such as pneumocystis, candida, HSV, and MAC. However, the patient is relatively asymptomatic—she has no shortness of breath to point to pneumocystis and no esophagitis making candida and HSV less likely. MAC is still a possibility, and knowing the CD4 count will be important as MAC is less likely if the CD4 count is greater than 50.

The physical exam is notable for a temperature of 98.3°F, blood pressure 93/62, heart rate 118, respiratory rate 18, and oxygen saturation 100% on room air. The patient in general appears comfortable and has a normal head, ear, nose, throat, neck, lung, abdomen, and neurological exam. She is noted to be tachycardic with a regular rhythm without murmur; her skin exam shows multiple tattoos.

Although the patient appears comfortable, her tachycardia and hypotension make me worry about a systemic inflammatory response syndrome secondary to infection. There is no obvious pulmonary abnormality or abdominal finding (though she had elevated LFTs). Additional lab values including CBC with differential, creatinine, blood cultures, urine culture, and CD4 count should be obtained next. It may be necessary to start IV fluids and antibiotics and review the LFTs that are abnormal.

Lab values are notable for a white blood cell count of 0.5, hemoglobin 9.8, hematocrit 31, and platelet count of 98. CD4 count is 4 with a viral load of 3,140,886. BMP is normal. Other findings include: AST 873, ALT 183, alkaline phosphatase 823, total bilirubin 0.6, albumin 3.2, total protein 7.4, and calcium 8.5.

These values confirm that the patient is severely immunocompromised—especially with CD4 count of 4. Her liver function tests are significant for fairly preserved synthetic function but abnormal transaminases. It will be important to check for hepatitis A, B, and C; Epstein Barr virus; blastomycosis; histoplasmosis; RPR; and cryptosporidium given her immunocompromised state. Also, I would consider ordering a CT of the abdomen to look for focal liver abscesses.

All laboratories are negative except for blood cultures that are positive for acid fast bacilli (AFB). CT of the abdomen shows no focal hepatic lesions, patent hepatic and portal veins, and normal pancreas. Given the positive AFB, a chest x-ray is done that shows only small lung volumes. A liver biopsy is done that shows granulomatous hepatitis with acid fast bacilli, and a bone marrow biopsy shows hypocellular bone marrow with non-necrotizing granulomatous inflammation with acid fast positive organisms.

The most common symptoms of disseminated MAC are fevers, night sweats, abdominal pain, diarrhea, and bone marrow suppression. Although MAC organisms are ubiquitous in the environment, MAC can be life threatening when infection is caused by M. avium or M. intracellulare. This patient is at high risk for this because she has had past MAC and her CD4 count is less than 50.

The patient is treated with azithromycin, rifabutin, and amikacin. She remains asymptomatic over her hospital course, and her transaminitis improves with initiation of therapy. AST decreases to 424 and ALT to 81.

For disseminated MAC, at least two drugs are required to decrease the risk of resistance and improve the clearance of MAC. First-line agents are clarithromycin or azithromycin. Second-line agents are ethambutol +/- rifabutin. There is improved survival with rifabutin; however,

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ever, there are many side effects and drug interactions. Third-line agents are amikacin or streptomycin. These are used when a patient has advanced immunosuppression and high mycobacterial loads or in the absence of effective HAART. Treatment should last at least 12 months.

Take Home Points
1. Disseminated MAC (DMAC) in HIV patients typically occurs after CD4 drops to less than 50 cells/mm³.
   • DMAC usually involves the GI or respiratory tract.
   • Bone marrow involvement is rare.
   • Most common symptoms are non-specific.
2. First-line Treatment
   • Clarithromycin/azithromycin and ethambutol (+/- rifabutin)
   • Third line agents if needed (amikacin, streptomycin)

Suggested Reading
improve the lives of patients who already are experiencing these symptoms as part of their diabetes.

Cosevelam (a bile acid sequestrant) and bromocriptine (a dopamine agonist) received FDA approval for diabetes treatment in 2009. While they remain on the list of “diabetes therapies,” their limited effect on A1C (approximately 0.5%), poorly understood mechanism of action, and side effects (e.g. nausea for both as well as fatigue, vomiting, headache, and dizziness for bromocriptine) raise many questions for those who set the standards for approval of diabetes drugs. What is a diabetes drug? Should there be a minimal requirement for A1C lowering before drugs are FDA approved? How do we define effectiveness? Is “any” glucose lowering enough? Who should be judging this and advocating for patients on these issues?

To be sure, we have learned much about diabetes physiology from the development of these new drugs. Their proponents offer great hope for beta cell preservation, weight loss (or the avoidance of weight gain), decreased hypoglycemia, and possible improved cardiovascular outcomes. But amidst all of these promises, what is truly known about improving clinical outcomes for patients with diabetes? The proven targets still are A (A1C reduction, aspirin), B (blood pressure control), and C (cholesterol lowering)—plus smoking cessation, which still eclipses all other interventions in terms of attenuating the cardiovascular risk in patients with diabetes. Since 2008, the FDA has required cardiovascular outcome studies of all new diabetes drugs prior to approval. What have these shown? No demonstrable effect on cardiovascular outcomes to date. It seems they “just” lower glucose in those who take them—and not by much. The average A1C lowering with each of these agents is 0.5% to 0.8%. Compare that to metformin (1% to 2%) secretagogues (1% to 1.5%), TZDs (1%), and insulin (the sky’s the limit!). What does that mean for the patient whose A1C is greater than 9%? The Endo Society and the AACE guidelines recommend “initial triple therapy.” Now compare costs: up to $10 per month for generics versus an average of $300 per month for each newer agent. Can we afford this? Should we afford this?

How can primary care physicians navigate the complexity of diabetes care in this era of uncertainty? Here are some suggestions:

1. Understand the controversies over the newer diabetes drugs. Understand the uncertainties. Learn about newer drugs as they emerge, and develop your own list of priorities. Ask probing questions, and define for yourself and your patient how you assign value to these newer agents. Is the highest priority to avoid hypoglycemia, limit financial burden, or lower A1C? Do you believe in the theoretical benefits of the newer agents?

2. Understand clinical guidelines, research, and position papers as they emerge, and ask yourself if they are applicable to the patient you are seeing.

3. Set individualized glucose targets for your patient, and liberalize your glycemic targets when they exhibit hypoglycemia or experience advanced complications of diabetes.

4. Include diabetes education and dietary management as part of your care plan. These are effective tools to prevent hypoglycemia and promote lifestyle change.

5. Don’t give up on home glucose testing. Taking secretagogues or insulin without testing is like driving with a blindfold on. Most importantly, take the time to review the glucose logs or meter downloads with patients to reinforce health behaviors and inform your treatment decisions.

6. Educate your patients on goals of treatment (ABCs), and set individualized goals.

7. Change your targets for treatment when the evidence suggests new strategies are better or old strategies are not effective.

Lastly, as advocates for our patients, we need to understand the potential clinical value these drugs add before we decide. Comparative effectiveness trials are needed to inform this discussion.

The Glycemia Reduction Approaches in Diabetes: A Comparative Effectiveness (GRADE) Trial is sponsored by the National Institute for Diabetes and Digestive and Kidney Disease and is now enrolling patients at more than 40 sites in the United States. The 6,000 participants with recent onset diabetes (i.e. duration less than five years), age over 30 at diagnosis, and baseline hemoglobin A1C of 6.8% to 8.5% will be randomly assigned to the sulfonylurea glimepiride, the DPP-4 inhibitor sitagliptin, the GLP-1 agonist lixisenatide, or the basal insulin glargine when metformin monotherapy fails to maintain A1C less than 7%. Patients will be followed for up to seven years and will benefit from close monitoring and free diabetes medications during the course of the study. Aside from glucose management in the trial, all other medical care will continue to be managed by the patient’s primary care physician. To learn more about the GRADE Trial or to refer patients, see https://grade.bsc.gwu.edu.

As primary care physicians, we are uniquely situated to identify patients early in the course of their diabetes who are eligible for clinical trials. We are aware of the high burden diabetes places on our patients and the need for comparative effectiveness trials to inform our recommendations to patients. We should continue to learn about new therapies as they emerge and ask appropriate questions in order to guide our patients toward value-based decisions regarding diabetes management. We should demand
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them in GIM. Why should medical students choose a career in GIM? And how can that career become a pathway to “making a difference”? This pilot program, slated to be launched at the 2015 annual meeting in Toronto, will consist of a six- to 12-month plan-do-study-act model. While this is a nationwide campaign in scope, the pilot phase of this initiative in terms of primary engagement—visible speakers and one-on-one interaction—will occur at five to 10 institutions where champions will bring the program forward. Secondary engagement (i.e. video, social media) will be nationwide in scope. In this effort, SGIM has teamed with Fenton Communications, a social change communications agency. Public relations, advertising, social media, video, design, research, and everything in between will be used to build a campaign that creates lasting change—like a re-invigorated primary care workforce!

Over the next six months SGIM and Fenton will be compiling qualitative research through focus groups, one-on-one interviews, and message development sessions to help us crystalize our messages and outreach to medical students. We’ll encourage early medical students to explore the possibilities of a career in GIM. Based on our initial success, we hope to broaden the program to other institutions over the next one to two years.

How can you help? Watch the SGIM website, Forum, and eNews for more information as the campaign progresses through the spring. Follow SGIM on social media channels (on Twitter @SocietyGIM and on Facebook at Society of General Internal Medicine). Look for our video debut and other materials at the 2015 annual meeting in Toronto. Volunteer to be a champion at your institution once the campaign launches, or simply talk to your students—and remind them how rewarding a career in GIM can be and how many career options are open to medical students just starting out.

Why did you become a primary care physician? Why did you join SGIM? What makes you love your job? We are the best proponents of our field—let’s help others learn how they can make a difference.

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improvements in the drug approval system that set minimal expectations for the value added by emerging therapies prior to their adoption.

References
expansion under the ACA will expire next year and require reauthorization during the next Congress. Finally, programs to transform practice, such as the Comprehensive Primary Care initiative and Accountable Care Organization pilots, are well underway to evaluate methods of transforming patient-centered medical home practice and bundled and global payment methods in anticipation of future ACA policies that require physicians to participate in alternative payment systems.

In aggregate, federal policy levers have or could address medical student debt, GME reform, and the financial barriers to practicing primary care and lead to changes in the practice environment that improve quality of care, reduce health care costs, and create a desirable practice environment for GIM. To keep these policy nudges leveraging workforce change, we in SGIM need to advocate for them!

Although federal policy is the greatest driver of workforce change, the largest beneficiary will be our patients and their families. In 2012, households accounted for the largest single share of health care spending (28%), followed by the federal government (26%), private businesses (21%), and state and local governments (18%). It is stunning that on average, 20% of median household income is now spent on health care, and the care is barely mediocre.

John Goodson recently said that we—congress, the administration, and organized medicine—have a fiduciary responsibility to create a system of care that meets the needs of our patients and an economic imperative to bend the cost curve. We also need to be careful not to precipitate untoward consequences that could hurt patients in the process. We have moved more slowly than we want, partly because “we are building an airplane in flight.” So as I sat at Reagan National Airport waiting on the delayed flight that would bring me home, I became a bit more patient and grateful that at least the mechanics for my plane would fix the problems on the ground.

References

asked her how she felt. Fine, she said. She was no longer using the oxygen she came home with, and my pulse oximeter confirmed that she no longer needed it. Her vitals and exam were otherwise normal. She was attending to all of her activities of daily living. She had family checking in on her. Meanwhile, the resident was astonished. As it happens, she had cared for the patient during her recent hospitalization, and this was not the dependent and enfeebled person she remembered. In the hospital, she had even questioned the utility of such aggressive supportive care in a 93-year-old woman. As it turned out, her illness and hospitalization had only temporarily suppressed a vitality that her caregivers did not imagine existed. Our visit was over, we thought.

As we walked out of the house and prepared to leave, a sedan pulled sloppily into the snowy driveway. A tall, professional-looking man emerged. He started by apologizing for what was a very unsatisfactory rental car. He identified himself as the patient’s son, which meant her last surviving child. He was a colonel in the military and had come from Texas to check on his mother after the snowstorm. We introduced ourselves as physicians caring for his mother, and we offered to return to the house to discuss recent medical events.

Nothing had prepared us for the nature of their reunion as we all entered the house together. This woman, in her nineties, positively levitated off of her couch. Her glee was intense and incandescent. She was sparkling, effervescent. She literally seemed seventy years younger at that moment. An exchange of affectionate taunts and false insults ensued between mother and son. She was flirting with her child. She was proud. We were witnessing something miraculous, but we were intruders. We efficiently explained recent medical events and left. The snow was melting rapidly, and the drive to the next visit was uneventful.

I tell learners and colleagues that home visits are done for the convenience of the patient. This may seem obvious and mundane to the point of irrelevance—except when you consider how many ways our fragmented and self-absorbed health care system inconveniences patients and their families. Until this visit, I also asserted that home visits teach us to respect our patients in a way that is not possible within medical space. After this visit, I realized that home visits can do something more profound. Not only can they reinforce our respect for patients, but they can also teach us to admire them—their autonomy, their resilience, their joy, their pride. The act of admiring patients catalyzes altruism, displacing our attention from ourselves and our practice environments to the patient and her environment. They are a respite and sanctuary from the kind of utilitarian care that limits our view of the patient to the immediate and finite. In the end, the humanity we share is infinite.
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It is tempting to argue that more GME funding is the answer, but more money would not overcome the maldistribution of physicians by specialty or geography. More money would neither sufficiently prepare graduates to provide cost-effective, evidence-based care nor provide them with meaningful experiences in patient safety, quality improvement, chronic disease management, care of the elderly, and coordination of complex care in inter-professional teams.

Aligning GME with the nation’s health care needs will not be an easy task. It will require broad changes at multiple levels spread over several years. SGIM will continue to engage policymakers, teachers of medicine, patients, and colleagues in an effort to strengthen our system of GME. Too much is at stake to miss the opportunity to reform GME.

Editor’s Note: The above is an abridged version of SGIM’s public response to the IOM report.

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Cord of Three is Not Easily Broken: How Collaboration Between Internal Medicine, Pediatrics and Family Medicine and Also Medicine, Nursing and Pharmacy is Transforming Primary Care Teaching at the University of Minnesota,” coordinated by Heather A. Thompson Buur (University of Minnesota). The three main areas of this project include a novel curriculum, use of a direct observational tool, and major residency clinic redesign.

Our regional meeting was in itself a huge collaborative effort. Members of the leadership board and SGIM staff had frequent conference calls to finalize meeting dates, venue, theme, and content and assemble the planning committee. Members from the entire region contributed by serving as committee chairs, institutional champions, reviewers, moderators, poster judges, mentors, and meeting participants. The success of our meeting is a direct result of the expertise, enthusiasm, and support of our members. We sincerely hope that the meeting served their needs.

We look forward to welcoming new and returning members at our 2015 meeting. It has been a privilege to serve on the Midwest leadership board.

Thank you, Midwest SGIM members, for another great meeting!

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and forth for hours over whether or not further testing will change management. The times when the level of evidence is C and the strength of the recommendation is a class IIb. The times when the elegantly crafted and oft recited guidelines say it “might be considered” or “it is reasonable” or “it is probably recommended.” Thanks, that was helpful.

Those of us in pre-operative medicine shudder whenever we hear the term “clearance.” No patient is ever cleared for surgery. To use the term implies that risk is reduced to zero, is cleared away, and removed entirely. Risk is never eliminated. How far is it reduced even when we can state that a patient is optimized or stable? But how far can it be reduced when we do not even know what baseline pathophysiology we are up against?

I think of the seemingly healthy 50-year-old patient awaiting a 10-hour long complex spine surgery who tells me she has a history of a murmur, frequent palpitations with a prior event monitor revealing a large burden of PVCs, and an EKG with diffuse T wave inversions. I have no idea what degree of potential structural heart disease I’m up against. Turns out her ECHO and stress are completely normal. I think of the elderly woman with stage IV chronic kidney disease and poorly controlled hypertension—and the potential for her hemodynamic instability during continued on page 16
surgery to push her more quickly toward dialysis. I wish for that crystal ball, but it does not exist.

*The unknown unknowns.*

They make my job harder, my clinic days more harried, and my life generally more stressful. The rush to test or the insistence that surgery be postponed or canceled—sometimes even when the testing ends up being negative or normal. The dreaded weapons of mass destruction (or in this case obstructive coronary disease) did not exist, thankfully. But how much uncertainty did I throw into the mix? How much fear about significant underlying pathology did I generate in a patient prior to getting the test results back? Did I violate patient trust, violate *primum non nocere*, in my search to decrease uncertainty?

But the unknown unknowns are also what make my job a fulfilling and exciting career. They are also what make me a more consummate physician, a more invested clinician. These are the things that have fueled me to be a better patient educator and patient advocate. They have mandated that I be better at interdisciplinary care. I have learned an approach to clinical medicine that I never expected. I’m on a first name basis with surgeons and anesthesiologists with whom I would not have collaborated otherwise.

Where risk persists, we must rally as a patient care team. When we have to manage a large burden of unknown risk, we cannot practice medicine in isolation. I’d like to think that being a peri-operative specialist has taught me to be a better non-partisan clinician. I have learned to reach across the aisle and make co-management decisions with my colleagues in anesthesiology and multiple surgical subspecialties.

How much risk can we live with? How much unknown can we handle? I don’t know, but I also know that practicing medicine without the unknown unknowns would be a lot less interesting.