As you peruse Forum this month, you may notice a different “flavor.” We (the editorial board) are striving to make Forum just that. (Forum definition: A medium for open discussion or voicing of ideas, such as a newspaper, a radio or television program, or a website.) In 2008 and beyond, we understand that Forum is not a practical vehicle for news, as we have a two-month lead time for our content. (I am typing this on June 5.)

We believe that what makes SGIM great is the depth of thought that we bring to a variety of issues. We hope in Forum to highlight that thought and stimulate you to think about the important issues that we consider each day.

This issue has many highlights. As always, we have President’s Column. Lisa wonderfully explains the discussions that Council had during the summer retreat.

Richard Baron of the ABIM discusses the process and reasoning behind the MOC for comprehensive care, which has since been tabled. Stefan Kertesz and I provide a counterpoint to his comments, and we give Rich the last word.

We have two Morning Report cases—one inpatient and one outpatient. We are trying to use the clinical problem-solving format. Hopefully, you will enjoy the presentations and might even use them in your own clinical teaching sessions.

Finally, we have our first successful “How do you do that?” column. This feature allows many members and programs to participate in describing their answer to a common question. This month’s feature concerns resident quality improvement programs.

We now invite you, the members, to participate in Forum. We welcome succinct Letters to the Editor. We would love to hear your ideas for op-eds or point-counterpoint articles. We encourage you to submit cases for discussion and to volunteer to be a case discussant. Finally, please email us with ideas for future “How do you do that?” discussions.

Please email me with comments, suggestions, and criticisms at rcentor@uab.edu.
A 56-year-old Man with Diabetes Mellitus, Hypertension, and Spinal Stenosis
Dan Federman, MD (presenter), and Craig Keenan, MD (discussant)

**Case:** A 56-year-old man with diabetes mellitus, hypertension, and spinal stenosis came to clinic complaining of several months of unusual sensations in his legs at night that made him want to move his legs. He attributed this to anxiety over his wife's recent struggle with multiple myeloma. He denied change in bowel habits, melena, hematochezia, hematuria, abdominal discomfort, and flank pain. He did not report any change in his vision and no new onset of headaches. He did report significant drop in hemoglobin and hematocrit. His medications included atenolol, metformin, simvastatin, and oxycodone.

**Medical History:**
- Repeated episodes of diaphoresis, diuresis, and increased thirst, attributed to diabetes mellitus.
- Hypertension requiring more than one antihypertensive medication.
- History of back pain.
- History of prostatectomy.
- History of previous myeloma.

**Physical Examination:**
- Well-appearing, obese man with a blood pressure of 126/60 mmHg and a pulse of 90 beats/minute. Other than decreased sensation on the feet and in the hands, his physical examination was unremarkable. Laboratory studies from one month previous showed a hematocrit of 34% (normal 41% to 50%); mean corpuscular volume (MCV) of 6.5%; ferritin of 6 ng/ml (normal 20-300). Ferritin was 6 ng/ml (normal 20-300). This man has iron deficiency anemia.

**Sources of Anemia:**
- Primary: chronic blood loss, dietary iron deficiency
- Secondary: renal disease, gastrointestinal bleeding, ulcerative colitis, Crohn’s disease, congenital disorders

**Lab Tests:**
- CBC with differential, erythrocyte sedimentation rate (ESR), mean corpuscular volume (MCV), mean corpuscular hemoglobin (MCH) and reticulocyte count
- Comprehensive metabolic panel (CMP), sodium, potassium, chloride, bicarbonate, magnesium, calcium, glucose, fasting insulin, lipid panel, liver function tests
- Urinalysis, hemoglobin A1c, thyroid function tests
- TSH
- Ferritin
- Iron, total iron binding capacity

**Diagnosis:**
- Iron deficiency anemia

**Management:**
- Oral iron supplementation
- Dietary changes
- Nutritional counseling

**Case:** Ferritin was 6 ng/ml (normal 20-300).

This man has iron deficiency anemia, and the cause of this need to be determined. A careful history for gastrointestinal symptoms should be done, including diagnostic evaluation targeted at upper or lower symptoms. If the patient is asymptomatic, a colonoscopy should be done. If that does not reveal a clear bleeding source, an upper endoscopy would be indicated. If both are normal, evaluation of the small bowel should follow, usually with capsule endoscopy.
Retreating to Advance: The SGIM Council Retreat 2008

Lisa Rubenstein, MD, MPH

“We will promote our members as state of the art educators, scientists, and practitioners for ensuring care for the complex or disadvantaged, for evaluating and promoting value for the health care dollar, and for improving quality and access.”

In my last column, I promised an update after the Council retreat (on the Web at http://www.sgim.org under Publications then Forum). Looking at the word “retreat,” I’m struck by a contrast. According to the Oxford dictionary, retreat is “the act of retiring, or withdrawing, from what is difficult, dangerous, or disagreeable, or sometimes into privacy from business, public life, or society.” Maybe we should change the name for what Council does. We aimed to advance and to focus particularly on the difficult and the dangerous, which was sometimes disagreeable. We sought to connect SGIM’s business to public life and society at all points.

I admit there were temptations toward withdrawal. General internal medicine once seemed to have a simpler place in the world (not that the medicine itself was ever less than challenging, interesting, and complex). The people on Council, and our non-voting but participatory ex-officio participants, including Core Mission Committee chairs (Research, Education, and Clinical Practice) and the president of the Association of Chiefs of General Internal Medicine (ACGIM), are about as interesting and engaging a group as one could hope for. We could have talked about anything from the current state of jazz to the wisdom of Osler or Donabedian. We did talk about those things from time to time. But most of the time, we aimed to foresee the future and prepare for it.

One of our major planning assumptions in particular made withdrawal untenable. American medical schools will produce few general internists or family physicians these next few years (a great message for those newly going into GIM—you will be one of a very valuable few!). Nurse practitioners, pharmacists, and others are beginning to step into the vacuum with a new emphasis on how to apply their skills in primary care—such as the 50 existing and 200 planned nurse practitioner doctoral programs in nursing schools. Yet we view the role of the general internist as pivotal for advancing the success of health care as a true public good. We decided on advance, not retreat—taking full advantage of the opportunities that will arise while generalism itself appears to be in withdrawal.

First, we aim to build, through advocacy and research, on growing public recognition of the effects a lack of generalists will have on the equity, safety, and economy of health care. We will promote our members as state of the art educators, scientists, and practitioners for ensuring care for the complex or disadvantaged, for evaluating and promoting value for the health care dollar, and for improving quality and access.

Second, we aim to foster and expand general internal medicine’s educational emphasis on leadership skills, team work, and development and application of scientific knowledge—features that prepare our members for leadership roles, both inpatient and outpatient, as part of the patient-centered medical home.

Third, we aim to actively collaborate with our generalist colleagues, including family medicine, general pediatrics, and nursing, on defining, researching, teaching, and implementing the patient-centered medical home. We see SGIM’s role as particularly critical for model development in academic institutions or community-based settings with an educational or training focus.

Fourth, we aim to target our materials and programs to the different needs of members and potential members who are: medical students, trainees, academic faculty, community-based faculty, or local GIM heroes of all kinds (such as community-based clinicians with leadership in quality improvement, community organizations or initiatives, or education), in part through enhanced regional activities.

continued on page 12
A 53-year-old man presents with several months history of generalized fatigue, shortness of breath, and a cough intermittently productive of blood-tinged sputum. The patient also reports night sweats, weight loss, chills, orthopnea, paroxysmal nocturnal dyspnea, and bilateral lower extremity edema. He denies fevers, chest or abdominal pain, rash, joint complaints, and known contact with tuberculosis or other illnesses. He has been undergoing an evaluation for microscopic hematuria over the past few months.

The patient is an acupuncturist. He did try self-acupuncture without relief of symptoms. He denies tobacco, alcohol, or other substance use. He lives in a rural setting, was in jail for a short time in his past, and lived in Russia five years ago for five years. His past medical history is significant for bipolar disorder; he takes lithium and denies taking over the past few months.

The patient can quickly resume the recumbent position.

I worry about the self-acupuncture and therefore include HIV and hepatitis in my differential. His jail and Russian experiences raise the possibility of tuberculosis, but as I wrote earlier, the lack of fever argues a bit against that.

If he truly has PND, I must look for significant left ventricular dysfunction. I will be very interested in his labs, especially his hemoglobin, his renal function and liver tests. The physical exam should include a very careful cardiac and pulmonary exam.

On examination, the patient appears mildly dyspneic but is otherwise in no acute distress. His blood pressure is 130/40, heart rate is 104, respiratory rate is 16, and temperature is 97.2. Oxygen saturation is 94% on room air. Conjunctivae are pink without lesions; funduscopic examination is unremarkable. The patient is noted to have poor dentition; there are no oral lesions. No lymphadenopathy is noted. Cardiac exam is notable for tachycardia with a regular rhythm, a soft S1 with a low-pitched 3/6 early diastolic murmur at the left lower sternal border without radiation. The murmur increases with handgrip. No rub or opening snap is heard. An S3 is noted as well as a laterally displaced PMI. JVD is noted to the angle of the jaw. Examination of the lungs is clear to auscultation bilaterally. Abdominal examination is notable for hepatomegaly with an estimated liver span of 14 cm. 3+ pitting edema is noted in both lower extremities. Multiple acupuncture needles are imbedded in the patient’s skin in both his cervical and thoracic spine and upper extremities. No other skin lesions or rash are noted.

Several physical findings help our analysis. I will focus primarily on the cardiac exam. I am confused by the description of a low-pitched early diastolic murmur. Aortic insufficiency murmurs appear early in diastole but are usually high pitched blowing murmurs. Mitral stenosis murmurs are mid to late diastolic and have a characteristic rumbling sound. The S3, if correctly heard, gives strong evidence for systolic dysfunction. The JVD and peripheral edema give evidence for right heart compromise. The hepatomegaly could be consistent with right heart failure. The clear lung fields are confusing given his history.

He does have a wide pulse pressure, which would provide evidence in favor of aortic insufficiency. I now wonder about IE (infective endocarditis). I also wonder whether living in Russia is a risk factor for rheumatic fever and mitral stenosis.

Laboratories revealed a sodium of 126; potassium, 3.3; chloride, 92; bicarbonate, 26; BUN, 12; creatinine, 0.60; glucose, 150; WBC, 12.4 (91% neutrophils, toxic granulation seen on smear); Hgb, 11.8; and platelet count, 264,000. Urinalysis revealed 30 mg protein and large blood with 137 RBC and 7 WBC per HPF.

The decreased serum sodium is ominous and suggests either a significant pulmonary disease, which physical examination missed, or severe CHF. Hyponatremia in CHF is a very poor prognostic sign. The slightly increased WBC makes me continue to consider infection. The hematuria will require further evaluation.

I am most interested in a CXR and an echocardiogram. A BNP will probably be elevated, but I would obtain it. CXR revealed cardiomegaly, pulmonary vascular prominence, patchy perihilar airspace disease, and a left pleural effusion. EKG revealed sinus tachycardia, LVH. The patient was started on antibiotics, and cultures were drawn. The patient was also given furosemide with significant improvement in symptoms. At 24 hours of admission, the laboratory called to report 2/4 blood culture specimens positive for gram positive cocci and gram positive rods in
The Future of Medicine Part III
Richard Baron, MD

Dr. Baron is chair of the ABIM Committee on Comprehensive Care Internal Medicine.

The future of internal medicine is at a crossroads. There are declining numbers of office-practice internists and an ever-increasing aging population with chronic illness who will desperately need general internists to take care of them. Both the payment community and the physician community are struggling to find an appropriate response. The payers say they are looking for ways to identify and reward new models of primary care, while many in the general internist community say we are already providing that care and being under-compensated for doing it.

It was in this setting that the ABIM charged a committee, which I chaired, to consider options for strengthening the practice of ambulatory GIM.

Our work was informed by the earlier efforts of SGIM in June 2006; SGIM recognized that the current model of health care organization and reimbursement was not supporting delivery of coordinated care and issued a Proposal for Coordinated Care, titled “Redesigning the Practice Model for GIM.” SGIM noted that “a well-organized team of capable health care providers, coordinated by a knowledgeable and well trained general internist is optimally suited to providing Coordinated Care.” They also argued that the “critical components of health care delivery such as clinical support, organization, information management and access” needed to be addressed.

In our committee discussions, we quickly left behind the framework of practice familiar to most internists (ambulatory only, hospital only, or both), choosing to think about the patient in a patient-centered way and to elucidate, as best we could, the knowledge, skills, and attitudes requisite to being a successful physician who would meet these needs.

The attributes we articulated for the Comprehensive Care Internist arose from discussions at a series of roundtables and led to the Committee’s initial recommendation for a separate recognition of internists who might choose to pursue an opportunity to demonstrate that they hold these competencies. When the ABIM directors received this report, they understood its controversial and potentially divisive nature and sought public comment. In November 2007, ABIM sent the recommendations out to a broad group of stakeholders. SGIM and nearly 300 other organizations and individual physicians responded.

Those who responded expressed general agreement that the comprehensive care competencies outlined in the report—particularly the abilities to manage teams, information, resources, and population-level data—are vitally important in an increasingly complex and fragmented delivery system. But there was a strong negative reaction to the idea of public acknowledgement of physicians who demonstrate these competencies.

The contradictions inherent in some of the responses are telling. Many physicians feared that they would somehow be disenfranchised by a higher bar they could not possibly meet without payment reform and more resources. Others said they were already practicing this kind of medicine and they didn’t need a separate credential, just higher payment. Some feared such a credential would further fragment internal medicine by creating hierarchies while others felt that important skills they possessed were undervalued by existing hierarchies that reward procedural skills above GIM practice. Finally, there were concerns expressed that ABIM shouldn’t develop a credential before it had robust tools to measure the skills it purported to recognize.

ABIM took the feedback very seriously. The vitriol with which the idea of a new credential was met, and the fact that we did not have the tools necessary to measure the competencies we outlined, gave us pause in instituting a new credential. Still, there was agreement that patients were having trouble finding physicians who could meet their complex health care needs. Developing tools to assess whether physicians have the knowledge and skills necessary to provide this kind of comprehensive care would be an important contribution toward focusing training and professional self-development on these skills.

In February 2008, based on committee recommendations and stakeholder feedback, the ABIM Board of Directors committed to developing the tools necessary to rigorously and robustly assess the competencies for comprehensive care internal medicine. We also charged staff with developing partnerships with other organizations with the explicit goal of establishing those tools in the domains of practice and education.

We tabled a decision about creating a new credential, noting “the experience we gain by developing these tools, working with other partners, and continuing dialog with other internal medicine organizations, colleagues and other stakeholders will inform a future decision as to how best to acknowledge physicians who demonstrate these competencies—possibly by creating a separate voluntary certification pathway in Maintenance of Certification, a free-standing module within MOC, or by gradually diffusing these competencies throughout MOC, or some combination thereof.” (The specific competencies and the Board’s decision are available in fuller detail at CCIMReport.org).

Given the transparency of our process, I was surprised and disappointed by the series of articles in the April SGIM Forum discussing the committee’s work. SGIM leadership knew all about these developments continued on page 13
We appreciate Dr. Baron’s description of the efforts to strengthen ambulatory general internal medicine, including the ABIM’s deliberations regarding recognition for comprehensive care through the recertification process. Many internists, including SGIM members, have expressed frustration regarding the state of clinical general internal medicine. Many clinicians adapt to the current payment system by maximizing visits and churning patients, thereby detracting from the ideal of comprehensive, integrated, and coordinated patient care. Some have started retainer practices, an escape hatch that may allow physicians to provide comprehensive care, albeit for fewer patients.

Teachers of generalist physicians should promote comprehensive care throughout training. But which levers in the health care system are most likely to sustain that ideal in daily practice? Would novel payment systems, new health care delivery organizations, reworked training programs, or special recognition for a small subset of physicians have the most useful impact?

Specialty recognition by the ABIM and other specialty bodies is useful as a mechanism to channel patients to the right doctor, particularly when the need is specialized. Rheumatologists should not place coronary stents. Some 90-year-old patients do best under a geriatrician’s care.

But where the objective is to promote comprehensiveness in primary care, certification of a “special competence” continues to strike us as a distraction—and an unhelpful one. While the ABIM tabled such recognition out of concern that they lacked adequate tools to measure it, we think the problem is more fundamental.

First, to the extent that physicians can practice in ways that are more or less comprehensive, it would be wise to encourage that among all physicians. When a doctor picks up the phone and coordinates, or takes an exhaustive history, he or she exemplifies an ideal we should measure and encourage, much as we encourage thorough physical examination and careful listening. But we see little added value in distinct board recognition for any of these aspects of care. It would send a strange signal about the listening skills of noncertified physicians, would it not, if only a few paying diplomates were ABIM-credentialed to do it? Board recognition for comprehensive care internal medicine could invite other unintended consequences as well. Would health systems require it? Would cash-strapped primary care providers feel pressured to recertify early in order to secure this credential?

Even more fundamentally, however, comprehensiveness is comparable to the ideal of health care safety. While individuals can help make it happen, it is a property of individuals in an organizational context. It doesn’t matter how many certificates we bestow on professionals; care will be more comprehensive when health systems arrive at delivery and payment models that support comprehensiveness. We acknowledge that we are not sure what the ideal model would be, perhaps a variation of the patient-centered medical home. We understand the desire of the ABIM to help address this problem. In the future, we suggest that they consider the unintended consequences of specific maintenance of certification prior to proposing such dramatic changes.
How do you start a residents’ quality improvement program?
Craig R. Keenan, MD

In this feature, we solicit practical solutions to common problems that vex general internal medicine. This month’s question has to do with resident education in quality improvement, and we received responses from eight training programs.

The Mount Sinai Medical Center
Navneet Kathuria, MD, MPH

Quality, patient safety, and pay for performance are on the agenda of patients and payers. Delivering on the expectations is a challenge, as is educating the next generation of physicians in this rapidly changing landscape. This vignette describes the approach we have taken in the Department of Medicine at The Mount Sinai School of Medicine. The initial step was acknowledging the importance of quality and patient safety, which resulted in the creation of a new position of Vice Chair for Quality in the Department of Medicine. This put quality on an equal par with research and education at the senior level. Certain words and phrases carry their own baggage, and “quality” is a highly charged word that often turns physicians off. Thus, we called our new quality program Advancing Clinical Excellence in Medicine (ACEM), and it has representation from faculty physicians, nurses, and residents.

To engage residents in quality and patient safety, we have used several methods, including a monthly case-based Grand Rounds devoted to quality and patient safety, a monthly near miss/medical error conference in place of the traditional M&M conference, and classroom lectures. One of the major highlights of the ACEM group has been awarding ACEM grants to residents, fellows, and medical students to fund research on patient safety and quality. We are in our third year and have funded 19 projects. Interested learners submit a formal proposal including a research question, methodology, an analytical plan, and a budget. Each learner is mentored by a faculty member. The projects range from improving communications to minimizing diagnostic and therapeutic errors. Several projects have been presented at national meetings, and one has been submitted for publication. Each year, the quality of proposals submitted continues to impress us.

A critical aspect of our efforts has been to align our quality and patient safety activities with the mission of the department, which is the pursuit of excellence in research, education, clinical care, and professionalism. The success of these efforts is highlighted by the launch of the web-based near-miss/medical error site for the housestaff. This is an anonymous board, which had as its impetus the support of the medical housestaff. Quality and patient safety are a team effort, and all systems need to be integrated. This is what we continue to strive for.

University of Colorado Internal Medicine Residency Program
Karen M. Chacko, MD

At the University of Colorado Denver, we have found use of the ABIM Practice Improvement Modules (PIMs) to be practical, easy, and effective. When starting a PIM, let the residents in on the ground floor, explaining that the QI project is considered to be part of their clinic duties and how they will be evaluated (attendance, participation, motivation to change, etc.).

After performing your initial data collection, have your residents make a list of all potential projects they can identify. It is instructive to ask the residents to stratify projects by using the matrix depicted below:

<table>
<thead>
<tr>
<th>Low Effort</th>
<th>High Effort</th>
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<tbody>
<tr>
<td>Low Yield</td>
<td>OK projects</td>
</tr>
<tr>
<td>High Yield</td>
<td>Best Projects</td>
</tr>
</tbody>
</table>

If the residents can come to consensus on identification of a high-yield, low-effort project, you have a winner. In order to be certain that the project is high yield and low effort, you must consider it in the context of the clinic microsystem. Residents are largely unaware of the microsystem around them as they do not spend enough time in clinic to be familiar with many aspects of the practice. This microsystem is, by definition, different for every practice site and defines the effort necessary for any given project.

Assemble an implementation team that includes residents as well as other stakeholders. Set clear time points for start, mid-way, and completion of the project as well as measurement data. Whenever possible, collect data so that it is individualized to the provider since this has more impact than group data in spurring behavioral change. Present the data at a scheduled conference, and tailor the session to highlight your successes. Evaluate the residents based on the assessment plan laid out at the beginning—their willingness to participate, learn, and change in order to benefit their patients rather than on their individual data. Having made it clear from the outset that the idea is to complete a project, not necessarily demonstrate a patient outcome on the first go-round, congratulate all on a successful QI project!

University of Chicago
Julie Oyler, MD

The ABIM PIMs provide an accessible, web-based, evidence-based, affordable program that busy faculty can institute quickly to teach quality improvement in internal medicine residency programs. Since July 2006, the residents at the University of Chicago have been completing the Clinical Preventative Services PIM during
their two PGY2 month-long ambulatory rotations. We integrated eight 1.5 hour sessions into the already existing ambulatory curriculum. The first session is used to introduce the PIM, which includes five chart reviews per resident, a system survey, and patient surveys. The second session is a brief overview of QI principles. During the third session, residents complete the PIM system survey along with clinic administrators. Residents hand out patient surveys during their continuity clinics and complete five chart reviews in a prospective sequential sample. Residents estimate that this takes about one hour outside of the required lecture time. The PIM then tabulates the information and instructs residents to reflect on data and develop a plan for improvement. This is done with faculty supervision during the fourth session.

The next four 1.5-hour sessions are used to develop resident-led group QI projects in their continuity clinics. Faculty give brief introductions on developing aim statements, process mapping, and using Plan-Do-Study-Act (PDSA) cycles. However, the bulk of the time is spent developing, measuring, and implementing group QI projects. So far, seven resident teams have developed projects ranging from improving tobacco cessation counseling to strengthening patient resources in the clinic. The cost required to use the PIM includes a $100 base fee and $25 per resident. The QI projects help engage residents with clinic staff, empower them to make changes in their continuity clinic, and equip them with quality improvement knowledge that they find useful for their diverse future careers.

References
1. www.abim.org/residency/residency/aspx

University of Colorado Denver
Erin A. Egan, MD, JD; Ethan Cumbler, MD; and Jeffrey Glasheen, MD

The University of Colorado has implemented a comprehensive QI program for all residents in the Internal Medicine Hospitalist Training Track. There are several essential steps to developing a program that allows residents to collect and analyze quality data, design and implement an intervention, and monitor outcomes. Key elements include infrastructure, resident buy-in, development of skilled mentors, and use of project management strategies to ensure completion of successful projects.

The first step is to inculcate the necessary knowledge, skills, and vernacular for QI. We developed a didactic curriculum that emphasizes understanding the safety and quality literature, familiarity with QI tools such as process mapping, root cause analysis (RCA), and the tenets of rapid cycle improvement. We used a hands-on approach involving a modified M+M conference to demonstrate an adapted RCA. This fosters the development of practical skills essential to effective QI.

To ensure the practical application of this experience we use high-impact cases from the residents’ experience for the RCA process, thereby linking improvements to tangible cost savings or improved safety and quality of care. Support by the leadership should include the opportunity for residents to present project results directly to the faculty, the executive suite, and at society conferences.

It is essential to cultivate a core group of advisers through a mentor orientation program to ensure they understand and can implement the core features of the program. Additionally, all mentors are involved in the didactic and process sessions to role model and facilitate the development of QI skills.

Successful projects should be narrow in scope, have attainable goals, and employ the SMART principles. Despite the appeal of analyzing large and complex quality processes, residents typically do not have the time or the resources to attack overly complex problems. Projects are most successful when the resident/mentor dyads are given defined tasks within partially developed projects rather than developing new projects de novo. Finally, the knowledge and skills of the programmatic leadership need to evolve and undergo continuous process improvement.

Creating a QI training program for residents underscores the vital role of QI in modern health care. This program has become self-perpetuating as faculty members become interested in using this resource to develop their own interest areas.

References

Case Western Reserve University
Brook Watts, MD, MS; Mamtta Singh, MD, MS; Sarah Augustine, MD; and Renee Lawrence, PhD

In our enthusiasm for experiential learning to teach QI, we may be putting “the cart before the horse.” Our early experience suggests that without adequate background, residents simply equate QI projects with more “checkboxes.” Our experiences were substantiated by a recent article that referred to residents as “quality improvement’s skeptical footsoldiers” (SGIM Forum, November 2007). In response, we have developed a two-tiered curriculum to address misconceptions about QI by providing background to the discipline and also to introduce necessary QI tools.

Prior to the first session, we provide the residents with literature on topics such as “grading doctors” and
pay-for-performance programs in order to prompt reflection on the importance of quality improvement. At the end of this session, residents are provided with established QI tools to measure aspects of quality of care for common conditions in the outpatient clinics. Residents review designated patients and reflect on the care provided. During the second session, we discuss both the residents’ findings and their proposed solutions to address identified quality issues.

The tools and application component of our QI curriculum introduces the fundamental instruments of QI (e.g. PDSA cycle, fishbone diagram) and demonstrates application of these instruments to focused projects. We have found the more meaningful projects to be team projects with a clinical focus (e.g. improving efficiency on rounds, refining the handoff process, or reducing the number of preventable pages). The faculty helps residents to identify projects that are relevant, reasonable, reportable, and rapid (the “4-Rs”) and that have a direct impact on their own clinical practice.

In summary, we believe this two-tiered curriculum facilitates resident understanding of the origins of “ checkboxes” and establishes a foundation for the future incorporation of QI principles into clinical practice, thus proving the relevance of QI programs to our skeptical foot soldiers.

University of Pennsylvania School of Medicine
Jeffrey R. Jaeger, MD, FACP

Our QI program started in 2001, when one resident did a chart audit for a single health care quality measure. The resident liked the project—it was easy, and it had the potential to improve care. I was asked to scale this up into something for the whole program. This “personal QI project” is now half of our QI curriculum and is a standard part of the ambulatory rotation in the spring of the intern year. Each intern picks one aspect of care that he or she would like to improve and audits his or her patients’ charts. Each intern prepares a presentation and presents to colleagues. The best projects are presented at Grand Rounds the next fall.

The other half of our QI curriculum is a chart audit that every resident performs on his or her outpatient charts, measuring 20 metrics of health care quality. With help from Penn’s IT group, we created a web-based tool to facilitate the residents’ collection, reporting, compilation, and reflection on the data. It is easy and fun to use and has had excellent uptake by the residents.

In 2003, Penn was accepted as a site for a web-based Systems-based Practice/Problem-based Learning and Improvement called ACT (“Achieving Competence Today”). As the faculty for this program, I was exposed to terminology and principles of QI and interacted with faculty at other institutions who were at various stages of their own search for ways to satisfy the ACGME mandates regarding these competencies.

We’d like to acknowledge several keys to our success:

1. I have had salary/time support to design and supervise these projects.
2. We try to minimize the busywork and paper-pushing aspect of QI.
3. The residents collect the data themselves from their own chart documentation, which has led to trust in the quality of the data as well as better documentation down the road.
4. We focus on outpatients, where residents have a greater sense of ownership of the patients.
5. Through repetition, QI has become an expected and accepted part of the program.
6. We focus on education regarding QI rather than using these projects to explicitly change outcomes or processes of care delivery. Where this has happened, we have recognized it, but this has not been the goal of the curriculum.

Brody School of Medicine at East Carolina University
Bruce E. Johnson, MD; Suzanne Kraemer, MD; Raeesa Mirza, MD; and Chris Porterfield, MD

When developing a QI program, you need an appropriate mix of need, luck, and leadership.

Need

Our QI program grows out of the need to comply with the ACGME competency in systems-based practice.

Luck

Our residency has several pieces of luck that are instrumental in our success:

• First, our local Area Health Education Center (AHEC) received a grant from the ABMS and RWJ Foundation, Improving Performance in Practice (IPIP), to pilot QI projects in physician practices—with the local stipulation that resident clinics be included. The IPIP-recommended scheme, Plan-Do-Study-Act, has been around for some time. The easily taught PDSA technique suggests small interventions, quick data collection, and rapid feedback.
• Second, we found time. Prior to the IPIP/QI project, we had case-based learning in the half-hour preceding clinic every other week. We quickly claimed the alternate weeks for IPIP/QI, in effect not adding to the busy resident’s schedule. All instruction and tasks are designed to be completed in the allotted half hour. By placing the project in teaching time, we emphasize that QI skills can be transferred to any post-residency practice.
• Third, we are small—relatively few residents at each clinic session, relatively few faculty (for faculty development), only one clinic practice site, and only small interventions at any one time. (The latter is one of the insights of the PDSA format.)
• Finally, we have assistance with data. This allows...
the study portion of the PDSA format to proceed without arduous data collection. With an appropriate EMR, this step could be even more simplified.

Leadership
The Medicine and Med/Peds residency directors, the department chair, and the heads of both GME and AHEC endorse and support the project. Even more significant is that we have two “resident champions” who embrace the project, meet regularly with the project director for planning and writing, and are peer role models for implementation. The presence of resident champions ensures that this QI program is not considered by residents as an add-on but a commitment of their own creation.

Wayne State University
Wilhelmine Wiese-Rometsch, MD, and Isitri Modak, MD

At Wayne State University, interns participate in a month-long rotation where they learn about QI, design and submit a QI project to the institutional review board (IRB), collect data, and present findings and recommendations for improvement.

Interns participate in workshops using the PDSA problem-solving cycle. In week one, interns participate in a session about QI techniques and generate ideas for improvement in ambulatory practice, inpatient settings, and medical education. Groups are formed according to areas of interest. Additional workshops include understanding the IRB process, data collection, and presentation techniques. Groups meet with a mentor weekly to review the relevant literature and discuss their progress. By the end of the second week, proposals are submitted to the IRB. Projects receive exempted approval since these are retrospective chart reviews. During the remaining weeks, teams collect and analyze data. On the last day of the rotation, teams present preliminary findings and recommendations in a PowerPoint presentation followed by a feedback session.

Thirty-two groups have completed this rotation resulting in 15 presentations—12 at the local/regional level and three at national meetings. Two were published in peer-reviewed journals. The rotation has been rated highly by all participants.

In a structured rotation, interns learn to design a QI project with IRB approval, collect and present data, and develop strategies for improving health care. These projects not only help meet the scholarly requirements for trainees but have resulted in meaningful changes to the practice of medicine and resident education at our institution.

Summary Points
These eight programs have implemented QI in their programs in very diverse ways, depending on resources and program size. Other residency programs can certainly “steal” some great ideas from these brief descriptions. If you look at these in aggregate, there are some key components that seem to be related to successful QI educational programs:

• Good QI projects require time and effort from faculty champions, which requires departmental leadership support. Align the QI efforts with the mission of the Department to help garner this support.
• Involve resident champions as leaders of QI programs to help validate the programs, rather than having them seem like an add-on.
• Use small-scale PDSA projects, which work well for most.
• Make residents collect data on their own patients and processes; intimately involve them and clinic staff in the development and subsequent implementation of the intervention for improvement.
• The ABIM PIMs are a good resource, as they provide structure and online data collection and processing that many programs otherwise lack.
• Have the residents present their projects to peers and/or departmental faculty to demonstrate their successes and again further validate the projects.
Fifth, we aim to expand the role of our international members (and US-based members with international interests), initially by systematically learning about their needs and preferences.

Sixth, we aim to further develop our “products” (JGIM, Forum, annual and regional meetings, educational tools, website, interest groups, and contracts and grants of all kinds) with the above priorities in mind.

We are a nimble Society, in part because we are not beholden to industry, with our major funding source being our membership dues. Our reliance on volunteers means our members have very direct effects on what we do. Our strong relationships with academic medicine afford us unique leadership opportunities. And our members’ diverse approaches to promoting the unifying values of ethical and equitable health care give us access to the passion required to reach our goals.

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chains. A transthoracic echocardiogram revealed a 1.7 by 0.8 cm mass on the patient’s aortic valve, severe aortic valve insufficiency, a dilated left ventricle with left ventricular hypertrophy and an estimated LVEF of 40%, moderate mitral valve regurgitation, mild tricuspid valve regurgitation, and an elevated pulmonary artery pressure of 60 mmHg.

The positive echocardiogram supports our concern about IE. I would expect a streptococcal species in this patient, although given his use of acupuncture I would think that many organisms could grow. Guessing the organism is a fun game, but I would provide broad coverage until the cultures provided the appropriate identification and sensitivities.

The blood cultures ultimately grew out Streptococcus mutans in all four blood culture bottles. Due to an acute decline in clinical status, the patient underwent aortic valve replacement and was treated with six weeks of antibiotics. Streptococcus mutans was cultured from the explanted valve, which showed extensive vegetation involving all three leaflets of the aortic valve.

In retrospect, I wonder if other observers could better define the diastolic murmur. True diastolic murmurs are said to always be pathologic. The description of the murmur is not classic, but then too often in 2008 we do not perform careful cardiac auscultation.

I suspect that the hematuria did arise from the endocarditis. We forget that IE does present as an insidious disease.

I would like to make one last teaching point. When I see a patient with new CHF (or hear a presentation in morning report), I point out the five valuable considerations that the echocardiogram addresses: systolic function, regional wall motion abnormalities, valvular abnormalities, occult pericardial effusion, and in some patients pulmonary hypertension. While we could suspect the diagnosis from the physical examination, we clearly benefited in this patient from the echocardiogram results.

Streptococcus mutans is a member of the viridans group of streptococci. It is a pleomorphic organism associated with dental caries and plaque in the human mouth. It can variably appear as rod-shaped organisms of as classic “coci in chains” on standard blood culture and, thus, is sometimes dismissed as a diptheroid. If there is a high index of suspicion for the organism, the laboratory should be contacted to culture the organism on a neutral or alkaline culture medium.

Acupuncture is a widely used modality in the United States. The 2002 National Health Interview Survey reported that an estimated 8.2 million US adults had used acupuncture at some time. There is little data regarding the potential association of acupuncture with endocarditis. A review of the literature reveals case reports and series that suggest that acupuncture may be associated with cases of endocarditis. The most commonly reported causative organism in case series is Staphylococcus aureus, although other agents have been reported. Risk factors for endocarditis with acupuncture therapy may include indwelling needles, known valvular disease, and site of acupuncture (ears).
OUTPATIENT MORNING REPORT
case continued from page 2

Case: Colonoscopy, upper endoscopy, and capsule endoscopy at an outside facility did not reveal any bleeding source.

Iron deficiency without an obvious cause on direct visualization raises an interesting differential, including a remote bleeding episode (e.g., major surgery) or blood donation that led to deficiency but that was never fully repleted, gastrointestinal malabsorption of iron (usually due to celiac sprue), arteriovenous malformations (which can be missed on endoscopy) alone or in conjunction with hereditary hemorrhagic telangiectasia, intravascular hemolysis with blood loss through the urine (e.g., paroxysmal nocturnal hemoglobinuria), and pulmonary hemorrhage with hemosiderosis.

Since celiac disease can have minimal or no symptoms (as in this patient) and is relatively common, it is reasonable to send off serum tests for diagnosis. Often, a small bowel biopsy is also done at the time of upper endoscopy, but we do not have any report of this being done.

Case: Anti-gliadin antibodies were within normal limits for IgA but slightly elevated for IgG at 27 units (normal 0-19).

There are several serologic tests for celiac disease, the most common of which are IgA anti-transglutaminase (IgA tTG), anti-gliadin (IgA AGA), and anti-endomysial antibodies (IgA EMA). The best tests, due to their high sensitivity and specificity, are IgA tTG (sensitivity 90% to 98%, specificity 95% to 97%) and IgA EMA (sensitivity 85% to 98%, specificity 97% to 100%). IgA tTG is readily available and less costly than EMA testing, so it is usually the first test ordered. IgA AGA is no longer routinely recommended due to poorer performance. Patients with IgA deficiency can have false-negative IgA tests, so testing a serum IgA level should be considered when the tests are negative in patients with high clinical suspicion.

More recently HLA-DQ2 heterodimers (which are related to susceptibility to celiac disease) have been developed. More than 99% of patients with celiac disease have HLA DQ2 and/or DQ8. Thus, celiac disease is highly unlikely in patients without these haplotypes and can essentially be ruled out. This patient should get IgA tTG and EMA checked to further assess for celiac disease, as the AGA alone is not adequate.

Case: Review of the outside records found that a small bowel biopsy was indeed done and was normal. IgA anti-EMA and tTG antibodies were negative. Upon further questioning, the patient admitted to donating blood whenever he could to try to help people with hematologic diseases, like his wife.

A careful history is always an important part of finding the cause of iron deficiency, as illustrated by this case. Between 200 and 250 mg of iron is lost with each unit of blood donation. The average person has a total iron content of 3,000 to 4,000 mg. In men, only 10 mg/kg (about 700 mg) is in iron stores, and the rest is in use. Thus, each donation can remove up to one third of the total storage iron, which must be repleted by the diet. Women have about half the iron storage of men. Thus, persons who donate blood frequently are at risk of developing iron deficiency.

This patient was treated with iron, and his RLS symptoms dramatically improved. He did not require further therapy.

Key Points:

- Restless legs syndrome (RLS) is a common condition with a characteristic history.
- RLS is most commonly idiopathic but can be secondary to other conditions, including occult or overt iron deficiency.
- Celiac sprue is an important cause of iron deficiency and can be asymptomatic.
- The best serologic tests for celiac sprue are IgA anti-tissue transglutaminase and IgA anti-endomysial antibodies.
- Blood donation can lead to iron deficiency.

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in February. Wouldn’t it have been useful for your readers to have this information so they could better understand where the proposal was?

The current practice of GIM is both a market failure and a design failure: It is not attracting new graduates because it cannot command enough resources, and it cannot attract those resources because it is not, as currently designed, well-suited to meet the patient needs confronting it. Addressing this problem is going to require both a re-designed payment system and a re-designed general internist.

SGIM and ABIM may not control the payment system, but we can certainly change the training and self-assessment systems to produce physicians who have the skills they need to be successful in a future that is clearly different than the one for which we are preparing them now.

SGIM and ABIM share a desire for a better system of coordinated care, more appropriate training to prepare internists of the future to create and function in that system, and greater recognition of the value of high-functioning general internists bring to improving the quality of our health care system. With so much common ground, and so much at stake for patients and the delivery system, we hope the future will see us working together to achieve important goals for our patients and for internal medicine.
Positions Available and Announcements are $50 per 50 words for SGIM members and $100 per 50 words for nonmembers. These fees cover one month’s appearance in the Forum and appearance on the SGIM Web-site at http://www.sgim.org. Send your ad, along with the name of the SGIM member sponsor, to ForumAds@sgim.org. It is as-sumed that all ads are placed by equal opportunity employers.

Assistant/Associate Professor.
Harvard Medical School and Harvard Pilgrim Health Care’s Department of Ambulatory Care and Prevention seeks faculty member to join Drug Policy Research Group. S/he will conduct independent and collaborative research on drug policy, cost containment, access to medicines, insurance coverage, and medication prescribing aimed at improving health care and policy. S/he will also participate in teaching or advising fellows and graduate students. Candidates should have PhD in health policy, health services research, economics, a related field, or an MD with similar experience, a record of publications, and experience and interest in one or more of the following: health and pharmaceutical policy; behavior change; population health; process and performance improvement; quality and cost-effectiveness of care; preventive health services; disease management; health disparities. Experience obtaining extramural funding highly desirable. Send CV and statement of research interests to: Stephen Soumerai, ScD, Dept. of Ambulatory Care and Prevention; 133 Brookline Ave., 6th floor, Boston, MA 02215, stephen_soumerai@hms.harvard.edu. Harvard Medical School and Harvard Pilgrim Health Care are EOE Employers.

Faculty Position: Medicine—Associate Program Director
The Associate Program Director (APD) for Ambulatory Education at Brigham and Women’s Hospital Internal Medicine Residency Training Program is a core faculty teaching position who will work directly with the DGM Primary Care Program Director (PD) to oversee the outpatient component of residency training, including long-term educational planning. The main responsi-bilities include assisting in all aspects of the development and maintenance of the outpatient core curriculum and clinical experiences for BWH medical residents, including coordination across general medicine and the subspecialties, and across the major ambulatory training sites. The APD will be actively involved in the identification, recruitment and maintenance of offsite ambulatory training sites for all medicine residents and assist in enhancing faculty development for those locations. The APD will identify and implement innovative methods to enhance and monitor learning. The APD will help establish methods for competency-based evaluation of the resi-dents and the residency program’s outpatient experiences. The APD will assist the PD in the preparatory work required to maintain accreditation, and will served on a limited number of committees that interface with the ambulatory medicine and subspecialty clinics. The APD will serve as an attending physician on the General Medical Service (GMS). Additional leadership roles will include participation in Resident Morning Report, Ambulatory Conferences and Clinical Grand Rounds Case of the Month. Selection will be based upon the physician’s leadership experience and individual career goals. Relevant aspects of performance include communication skills, professionalism, leadership, administrative skills, problem-solving, teaching, team-building, enthusiasm, integrity, fairness, and willingness to work with others toward resolution of conflicts. The APD must maintain ABIM certification and will be chosen regardless of gender, race, ethnicity, disability or sexual orientation. Please send CV/resume to LKRUSE@partners.org or via fax at 617-264-6346.

Clinician Investigator
Division Of General Internal Medicine
Department Of Medicine
University Of California, San Francisco
The Department of Medicine is recruiting for Clinician Investigators in the Divisions of General Internal Medicine at Parnassus/Mt. Zion, San Francisco General Hospital, and the Veterans Administration Medical Center who will combine research with patient care and other academic responsibilities. Candidates with experience and career interest in health services and clinical epidemiology research with diverse patient populations are encouraged to apply. We are interested in establishing a research program focused on the patient population we serve. Candidates must have a demonstrated skill in research methodology evidenced by completion of a general internal medicine fellowship or equivalent and a track record of publications. Please send a cover letter and CV to:
Eliseo J. Pérez-Stable, MD
University of California, San Francisco
Department of Medicine
400 Parnassus Ave., Suite A-405
San Francisco, CA 94143-0320
UCSF seeks candidates whose experience, teaching, research, or community service has prepared them to contribute to our commitment to diversity and excellence. The University is an Equal Opportunity/Affirmative Action Employer. All qualified applicants are encouraged to apply, including minorities and women.

Hospitalist
The Academic Hospital Medicine Section of the Division of General Internal Medicine at the University of Pittsburgh Medical Center is seeking additional hospitalists to join the currently vibrant group of 20 hospitalists.

Academic Hospitalists—In addition to clinical and teaching responsibilities, opportunities exist to participate in numerous collaborative research and/or quality improvement projects and curriculum development. Candidates with teaching and research background, fellowships and/or quality improvement experience are preferred for the academic positions. An academic appointment commensurate with training and experience is offered.

Clinical hospitalists provide high quality care to inpatients referred to UPVC main academic hospital. Hospitalists rotate through the medical consult and procedure service and are encouraged to actively participate in patient safety and process improvement initiatives.

Positions for nocturnists are available at competitive schedule and salaries. Send letter of interest and CV to Wishwa Kapoor, MD, 200 Lothrop Street, 933 West MUH, Pittsburgh, PA 15213 (fax 412 692-4925) or e-mail Nosokoka@upmc.edu. The Department of Pittsbugh is an Affirmative Action, Equal Opportunity Employer.

Clinician-Educator
Division of General Internal Medicine & Geriatrics
Department of Medicine
Oregon Health & Science University
Portland, OR
The Division of General Internal Medicine & Geriatrics, Department of Medicine at the Oregon Health & Science University in Portland, OR seeks qualified candidates for a Clinician-Educator position with expertise in and demonstrated passion for the practice of primary care internal medicine. The successful candidate will have experience delivering patient care in the ambulatory and hospital-based settings, and a willingness to commit long term to the practice of medicine in an academic setting. The successful candidate will have an appointment in the Division of Medicine at the rank commensurate with experience and credentials. Candidates at any rank will be considered. Further, the Department of Medicine will invest in the successful candidate’s continual professional development as a skilled clinician, clinical teacher, and successful academician.

The specific elements of the position description include 6 half-days per week of clinical practice as a primary care provider in the Faculty Practice, 1 half-day of direct supervision of residents in their continuity practices, and 1 half-day teaching in the Principles of Clinical Medicine course for either first or second year medical students. Participation as ward attending 4-6 weeks per year on the University Hospital teaching services is available and negotiable. In addition, the successful candidate will have 2 half-days per week, on average, for other teaching activities, practice administration, and professional development. The Division fully supports part-time faculty and will consider applicants interested in 60-100% employment.

The Division of General Medicine & Geriatrics is actively building an integrated team practice model for delivering high quality medical care and service to the patients we serve. The successful candidate must have demonstrated ability to work as a team member of health care providers and collaborate to achieve clinical care goals. Our practice includes care of the under-insured and our
mission includes outreach to the community. Our practice also includes innovative models for delivering structured care to populations of patients with chronic conditions. Candidates with an interest in and experience with population-based disease management and chronic care models of health care delivery will receive priority consideration.

Faculty in the Division of General Internal Medicine & Geriatrics participate actively in teaching medical students, residents, fellows, and other opportunities. Opportunities for teaching abound and participation is encouraged and valued.

Interested candidates should send a cover letter and CV to:
Pam Eckerson, Division Manager
ecerson@ohsu.edu

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**Postdoctoral Research Fellowships in Cardiovascular Disease Prevention**

The Stanford Prevention Research Center, an interdisciplinary research program on the prevention of chronic disease, is seeking applicants for postdoctoral research fellowships for 2009-2010. Fellows gain direct research experience in cardiovascular disease prevention, community and health psychology, behavioral medicine, intervention methods, clinical epidemiology, research design, and biostatistics. Concurrent enrollment in a masters degree program in clinical research methods is possible. We particularly encourage applicants with interests in exercise, nutrition, the effects of the built environment on health, technology, and behavior change, social and cultural determinants of health, child and adolescent health promotion, successful aging, and women's health. Stanford University is committed to increasing representation of women and minorities in its fellowship programs and particularly encourages applications from such candidates. Only U.S. citizens and permanent residents are eligible for this fellowship. Appointments are from 2 to 3 years. Applications are due by 01 December 2008. Information and application procedures are on our website:

http://prevention.stanford.edu, or contact:

Susan Ayres, SPRC, Stanford University School of Medicine, susan.ayres@stanford.edu

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**Katz Cardiomedical Centers**

Katz Cardiomedical Centers is currently recruiting physicians who are Board Certified in Internal Medicine and/or Cardiology, who are licensed to practice medicine in both New Jersey and New York State. We are a multi-specialty group practice that includes Internal Medicine, Cardiology, Pulmonology, Gastroenterology, Sleep Medicine, and Podiatry. Candidates must be completely fluent in Spanish/English, have a strong commitment to patient focused care, and a willingness to collaborate with other physicians, staff, and referring physicians to expand this growing private practice with five locations in Northern NJ and New York City.

Interested applicants should send a letter of interest and CV to: Guildren Torres, Practice Administrator by email at gtorres@cardio-med.net or by fax (201) 617-8977.