



Section on Medical Schools

Presentation Summaries

June 12-14, 2009

Joint Educational Program with the AMA Medical Student Section

Mentoring the Next Generation: How to Cultivate an AMA Student Chapter

Moderator

Laura Faye Gephart

Alternate Delegate, AMA Medical Student Section

Loma Linda University School of Medicine

The session began with a review of the AMA Medical Student Section (AMA-MSS) organizational structure. The AMA-MSS is organized by chapters. Each LCME and AOA-accredited medical school with medical student AMA members is considered a chapter. Chapters serve as the primary unit for grassroots activity and AMA member recruitment.

A chapter mentor is an academic physician (preferably an AMA member) who is involved in local and national organized medicine and serves as a contact person for the AMA-MSS chapter at his or her medical school. Chapter mentors provide greater continuity from year to year in the working of the chapter and help ensure general organizational knowledge and institutional memory. Successful chapters usually have a significant, invested local physician presence.

Chapter mentor responsibilities include:

- 1) providing a link to the administration of the medical school;
- 2) directing students to AMA resources, such as educational tools, publications, and the Web site;
- 3) attending meetings of the AMA-MSS Chapter;
- 4) assisting in the planning of Chapter activities;
- 5) assisting in bringing guest lecturers to speak on medical and/or political issues;
- 6) "Hosting" students at local, state and national meetings;
- 7) helping with fundraising efforts;
- 8) assisting students in getting involved with local, state or national lobbying efforts; and
- 9) assisting students and AMA staff in efforts to build or maintain the strength of the AMA-MSS Chapter.

Speaker

Kenneth Simons, MD

Senior Associate Dean for Academic Affairs, Medical College of Wisconsin

Chair-Elect, AMA Section on Medical Schools

As the faculty advisor for the Medical College of Wisconsin's chapter of the AMA Medical Student Section, Dr. Simons meets with chapter members and generally provides advice and guidance.

He volunteered to be the chapter mentor because he thinks participating in organized medicine broadens medical students' horizons. It helps them understand how they fit into the larger world. Since the chapter membership changes yearly, the mentor can help provide some stability. New

members are recruited during orientation for new students. The Medical College of Wisconsin usually recruits about 100 students per class, but last year only 35 students joined from the incoming class. Other organizations also signed up fewer members, for unknown reasons. The school will try to increase the membership rate this academic year.

Speaker

Cheryl Maenpaa

AMA-MSS Chapter Co-President, Medical College of Wisconsin

Not many faculty in the medical school are involved in the AMA, which makes it harder to recruit students to the AMA Medical Student Chapter, said Ms. Maenpaa. She thinks more students would join if there were a lot of AMA members in the faculty. Full-fledged physicians in the middle of their careers have more influence over students than she could ever have as chapter president.

The AMA chapter competes for members with the American Medical Student Association (AMSA). Typically, 80 to 90 percent of students join AMSA and 50 percent join the AMA, with about one-third of students in both organizations. One of AMSA's strongest selling points is a free copy of the *Netter Atlas of Human Anatomy* as a benefit of membership. The book costs about as much as the \$75 fee to join AMSA. The AMA chapter had been giving members Stedman's Medical Dictionary, but last year began giving away anatomy flash cards instead.

What really drives membership, though, is something more intangible -- giving students a chance to make a difference. The AMSA chapter has been running blood drives, volunteering at the local children's hospital, and going into the schools to discuss AIDS. Our AMA chapter has a different approach: giving medical students a connection to organized medicine at the county, state, and national level. Members get free membership to the state and county societies and the student discount for AMA membership.

This year, the chapter sent 33 medical students to the Wisconsin Medical Society's annual meeting. They really got involved in the proceedings. The students discussed beforehand every resolution that would come up, agreed on a unified position, and assigned a member to present the students' position at the meeting. Most of the students said they were surprised at the amount of influence they had in the debate. They hadn't realized how much physicians need a lobbying group. Students don't normally think about those things in medical school. Compared with the state meeting, the student members are less likely to come to the AMA Annual Meeting in Chicago, even though it's just a 1½-hour drive. Everyone except chapter leadership has to pay for accommodations, and students can feel a little intimidated by the size of the meeting.

On campus, the chapter holds events such as a fair for residency programs to meet third-year students. In November, a 12-hour dance marathon is held. During the breaks, guest speakers discussed health policy issues, such as BadgerCare, the state insurance program for children. The AMA donated \$500 and the Chapter received in-kind donations for food, water, and the venue. The \$3,000 raised through ticket sales for the event was donated to a free clinic for the underserved that is run by students at the medical school.

To attract more members, it's very important for chapters to help students find causes they can believe in and then help them further that cause, step-by-step, over a year or two. There needs to be some excitement created.

Other speakers were:

*Tripti Kataria, MD, MPH, Clinical Assistant Professor of Anesthesiology, Northwestern University
Feinberg School of Medicine*

*William McDade, MD, PhD, Associate Dean for Multicultural Affairs, University of Chicago Pritzker
School of Medicine*

Joint Educational Program with the AMA Council on Medical Education

Resident Duty Hours: Where Are We? Where Do We Want To Be?

This five-member panel discussion demonstrated that there is plenty to debate in the standards for residents' duty hours, set by the Accreditation Council for Graduate Medical Education (ACGME). The session took place just weeks before the sixth anniversary of the standards' implementation, on July 1, 2003. The limits brought sweeping changes in the way residents work, introducing, among other things, 1) an 80-hour work-week, averaged over four weeks, and 2) a maximum shift duration of 30 hours, consisting of a 24-hour limit on continuous duty and up to six added hours for continuity of care and didactics.

The panelists were well qualified to debate the issue, each having participated in key scientific research on duty hours. One key issue they discussed was whether the limits compromise residents' obligations to their patients. Were the standards creating a "shift-work" mentality, eroding medical professionalism? And since the limits require more handoffs of patients, more systematic, structured handoffs are needed to help avert misunderstandings that can cause medical errors. Panel members also assessed recommendations by the Institute of Medicine in a December 2008 report¹ requested by Congress. Among other things, that report calls for reducing the maximum shift to 16 hours, unless the resident takes a five-hour break for a nap, in which case a 30-hour limit would apply.

The very day that the panel met, the ACGME was concluding its own fact-finding process for possible changes in its standards at its Duty Hours Congress, a closed meeting just a few blocks away. The accreditation group would not say when it would report its findings or, if changes were recommended, when they would be implemented.

With no public access to the ACGME Congress, the CME/SMS session, with its distinguished panel, was one of the richest open forums on duty hours to take place this year. Unfortunately, the discussion was not recorded. The following material is based on notes and contributions made by two panelists afterwards, and it is supplemented by findings of research studies on this issue that each panelist participated in.

Speaker

Darcy Reed, MD, MPH

*Associate Director of Student Assessment and Program Evaluation, Department of Internal Medicine,
Mayo Medical School*

Many studies have examined the impact of duty hour reductions on residents' education, but findings have been mixed. In general, it seems that residents' opportunity to provide care for patients and to perform most procedures has been preserved at most programs. In national surveys, medical school faculty have expressed concerns that duty hour restrictions have impaired time for teaching, continuity of care, development of relationships with residents and students, and their own satisfaction with their roles as teachers.

¹ Resident Duty Hours: Enhancing Sleep, Supervision, and Safety, Institute of Medicine, Dec. 2, 2008, <http://www.iom.edu/CMS/3809/48553/60449.aspx>

Dr. Reed led a study published in the July 23, 2007 *Archives of Internal Medicine*² asking internal medicine teaching physicians about effects of the restrictions. Some results:

- Residents' continuity of care declined (87 percent agreed)
- Fewer opportunities for didactic teaching (69 percent agreed)
- Residents less able to put patients needs above their own interests (57 percent agreed)
- Faculty's overall satisfaction with teaching residents has declined (57 percent agreed)
- Attendings spending more time on direct patient care (47 percent agreed)
- Mentoring relationships with residents had been impaired (40 percent agreed)

Speaker

Ajit Sachdeva, MD

Director of the Division of Education, American College of Surgeons; Member of the Board of Directors, Accreditation Council for Graduate Medical Education

There is no easy way to replace residents who have to work shorter hours. Physician assistants and nurse practitioners could take over residents' work, but there are not enough of them to fill the void, and who is going to pay them? When residents have to drop work and hand over their patients to comply with the limits, the profession needs to do a better job with handoffs. To minimize mistakes, handoffs need to be face-to-face.

A study led by Dr. Sachdeva in the December 2007 issue of *Academic Medicine*³ made the following points:

- Many surgery programs have been underreporting or not complying with the hour limits.
- It has been easier to comply with the 80-hour limit than with the 24-hour limit for each shift, even with the six-hour extension.
- Residents face an ethical dilemma when reporting violations, because disclosures might result in an adverse action or loss of accreditation, threatening their careers.
- Implementation has involved substantial costs for extra measures, such as night float, more cross-coverage, and recruitment of non-physicians, as well as cutbacks, such as eliminating services and withdrawing residents.

Speaker

John Potts, MD

Assistant Dean for Graduate Medical Education and Professor of Surgery, University of Texas Medical School at Houston

Dr. Potts remarked that he has less of a problem with the 80-hour weekly limit, even though it was chosen arbitrarily and was not based on scientific studies, than with the 24-hour limit on shifts. However, the profession cannot go to a limit of 60 hours a week. The profession cannot compress what residents have to learn into 60 hours. The 24-hour limit puts residents in a compromised ethical position. They want to comply with the requirements, but they don't want to appear inefficient. They

² Effect of Residency Duty-Hour Limits: Views of Key Clinical Faculty, Darcy A. Reed; Rachel B. Levine; Redonda G. Miller; Bimal H. Ashar; Eric B. Bass; Tasha N. Rice; Joseph Cofrancesco Jr, *Arch Intern Med.* 2007;167:1487-1492.

³ National efforts to reform residency education in surgery, Sachdeva AK, Bell RH, Britt LD et al. *Academic Medicine.* 2007;82:1200-10

have professional responsibilities to the patient, but they also have to comply with external and arbitrary rules. The profession is in essence forcing them to lie.

A study that Dr. Potts co-authored in the December 2006 issue of *Academic Medicine*⁴ asked residents in six internal medicine and general surgery programs for their opinions on the effects of the new standards. They indicated that:

- Residents had somewhat fewer opportunities for formal education, bedside learning and procedures.
- Teaching hospitals have fewer resident hours to care for the same number of patients.
- While fatigue-related errors decreased slightly, errors related to continuity of care increased significantly.
- Attending physicians have fewer opportunities to mentor residents.
- Residents, particularly surgical trainees, reported improvements in quality of life.
- Residents reported sleeping an average of 45 hours per week, slightly more than the 42-hour minimum needed to avoid chronic sleep deprivation, but 27 percent said they slept less than the minimum.
- There was no consensus that graduates would be less well trained.

Speaker

Kathlyn Fletcher, MD, MA

Assistant Professor of Medicine, Zablocki Veterans Affairs Medical Center - Milwaukee

The limits on residents' hours have changed the professions notion of professionalism. Now the resident has to pay attention to the rules, not just the care provided.

Dr. Fletcher led a study of patients' attitudes toward the hour limits in the May 2008 *Journal of General Internal Medicine*,⁵ finding that:

- Most patients were not concerned about fatigue or discontinuity of care of residents treating them.
- 50 percent of patients believed that resident work hours should be limited, but only 29 percent believed that the residents caring for them worked too many hours.
- 87 percent of patients were not worried or only a little worried about patient handoffs.

Speaker

Vineet Arora, MD, MA

Associate Program Director, Internal Medicine Residency, University of Chicago Pritzker School of Medicine

The appropriate amount of supervision is actually an evolving area that has been getting more attention recently. In fact, lack of supervision was a major concern of the Bell Commission report, which investigated the death of Libby Zion in New York Hospital 25 years ago and led to the first

⁴ Internal Medicine and General Surgery Residents' Attitudes about the ACGME Duty Hours Regulations: A Multicenter Study, Myers, Jennifer S. MD; Bellini, Lisa M. MD; Morris, Jon B. MD; Graham, Debra MD; Katz, Joel MD; Potts, John R. MD; Weiner, Charles MD; Volpp, Kevin G. MD, PhD, *Academic Medicine*: December 2006 - Volume 81 - Issue 12 - pp 1052-1058

⁵ Balancing Continuity of Care with Residents' Limited Work Hours: Defining the Implications, Fletcher, Kathlyn E. MD, MA; Saint, Sanjay MD, MPH; Mangrulkar, Rajesh S. MD, *Academic Medicine*, Jan 2005 - Volume 80

limits on residents' duty hours, in New York State. More research is needed on the role of supervision in resident errors.

The IOM report recommends enhanced on-site supervision of residents by an attending physician on nights and weekends. Unfortunately, the mere presence of a supervisor does not dictate the quality of that supervisor, and this would be a costly recommendation. Many hospitals have hired hospitalists or night-duty doctors for this purpose. Moreover, attendings still need to be trained to understand their active role in supervision. One cannot assume that an attending on site is carrying out active supervision.

It has been said that concerns about handoffs should not impede further duty hour restrictions; in any event, we need to improve how handoffs are carried out. Unfortunately, it is not yet known whether better handoffs lead to improved patient care. Models for proper handoffs, passed down from resident to resident, that could be formalized into best practices and disseminated widely. Residents need to recognize handoffs as an opportunity to engage in a dialogue about patients and learn about their needs.

Taking a nap can rejuvenate the tired resident. While the profession can't force residents to take a nap, it can mandate breaks in which they have the opportunity to do so. Studies show that duty hour limits are not enough to promote sleep, rest or even attendance at educational conferences.

Another major problem with duty hour limits is increasing work intensity. As hours get shorter, residents are forced to do the same amount of work in less time. Service demands crowd out education. Merely reducing the number of work hours without considering the workload could worsen residents' conditions and contribute to medical errors.

Residents often do not get enough sleep when they are not in the hospital because they have a lot of other obligations competing for their time. A resident who works 80 hours a week and gets the recommended seven to nine hours of sleep each night would only have three to five hours a day to commute to and from work, take care of personal hygiene and errands, eat, socialize and spend time with family. Clearly, most people working this much have to trade sleep for these activities.

Dr. Arora coauthored a piece in the November 2006 *Joint Commission Journal on Quality and Patient Safety*⁶, recommending that handoffs could be improved by conversing face to face, meeting in a quiet room, reading back the relayed information, and providing some written information. She also led a 2006 study in the *Annals of Internal Medicine*⁷, finding that night-call coverage that allows even modest increases in sleep can reduce fatigue in residents. The authors suggested that residents in long shifts could refresh themselves with a nap.

Interprofessional Collaboration in Health Care: Implications for Medical Schools and GME

Speaker

Jay A. Perman, MD

Dean, College of Medicine, and Vice President for Clinical Affairs, University of Kentucky

Why should medical educators be concerned about interprofessional practice? For some years, the Institute of Medicine has been calling for interdisciplinary teams as part of its vision of patient-centered health care. Interprofessional collaboration using nurse practitioners, physician assistants,

⁶ Arora and Johnson, *Joint Commission Journal on Quality and Patient Safety* Nov 2006 2006;32(11):646-655

⁷ Arora et al, *The Effects of On-Duty Napping on Intern Sleep Time and Fatigue*, *Annals of Internal Medicine* June 6 2006, Vol 144 Issue 11, pp 792-798

and other professionals introduces efficiencies and helps counteract growing physician shortages. Interprofessional collaboration also improves patient outcomes, but there have not been enough studies on this to show evidence yet. If physicians are to truly collaborate with other professionals, they must start doing it at the beginning of the educational continuum, when they are medical students.

The University of Kentucky (UK) College of Medicine has shown its commitment to this approach by creating a Center for Interprofessional Health Care Education, Research and Practice. All of the center's components are right on campus. The schools of dentistry, health sciences, medicine, nursing, pharmacy, and public health are involved. The university also trains psychologists and social workers, and the Business School also teaches people to work in teams.

A number of collaborative arrangements are taking shape at UK. Teams of students from different schools already work together with patient simulators. This fall, students chosen by the deans of each health science college will participate in a seminar tackling a health care problem, starting with childhood obesity. Next, interprofessional student teams will be created for rotations in the University of Kentucky Area Health Education Center (AHEC). Research will be conducted to determine whether interprofessional teams show better outcomes for patients. It is hoped that a methodology that can serve as a model for "teaching team" will be created.

One of UK's models for interprofessional education is the Deans Clinic, which is already in operation. As dean of the medical school, Dr. Perman runs the clinic along with Ms. Elsie Stines, the pediatric nurse practitioner. The clinic focuses on Dr. Perman's specialty, pediatric gastroenterology, but the priority is teaching learners the concepts of interprofessional practice and how to leverage these communications so that they get the most out of each other's discipline.

The Dean's Clinic brings together first-year medical students who are getting their longitudinal clinical experience over the full year; third-year medical students in their pediatric ambulatory experience; pediatric residents; students from the other colleges, such as physician assistants and nutritionists; and undergraduate students interested in entering health care careers.

It's important that the dean is part of the experience. The most senior leader possible needs to move this issue so that others will join in. In other words, the boss needs to "walk the talk." It was also important to make sure that Ms. Stines, as the nurse practitioner, became an integral part of the enterprise. Though she is a faculty member in the UK College of Nursing, her primary appointment is as an instructor in the College of Medicine. That makes an important statement.

In the Dean's Clinic, Ms. Stines and Dr. Perman work both collaboratively and separately. The clinic starts largely with new patients, who provide rich educational opportunities for students and residents. The Dean's Clinic is able to have sufficient patient volume because they share each other's patients. Eventually, everyone gets to know all the patients. In pediatrics, where an integral part of care involves dealing with the patient's family, Dr. Perman and Ms. Stines present themselves to the family as a team.

Generally, Ms. Stines handles the follow-up visit and discharge on her own, opening slots for more new patients in the Dean's Clinic. But when the need arises to continue working with the family as a team, Dr. Perman and Ms. Stines also do follow-ups in the Dean's Clinic. And occasionally, when the patient roster is full, even new patients will start with Ms. Stines and enter the Dean's Clinic for follow-ups if the patient needs their partnership of care. And while nursing and medical students usually work in the Dean's Clinic with new patients, they often join Ms. Stines in her follow-up clinic. That means that a good deal of the teaching is done by Ms. Stines, the non-physician in the practice, and done well.

This collaboration leverages each individual's separate skills, helping them to be more efficient and useful. Families have much greater access to care because there are two collaborators. Referring

physicians have greater access to the caregiver. Many of them contact Ms. Stines rather than Dr. Perman, because she can provide more time for them and give them more education on common pediatric gastrointestinal problems. She imparts the combined knowledge of both individuals. This collaboration also leverages research. For example, Dr. Perman and Ms. Stines are conducting an NIH-funded study on childhood obesity, which emerged out of the conditions they confronted in the clinic.

To collaborate effectively, each party needs to recognize the expertise that the other brings to the table. Both Ms. Stines and Dr. Perman have skills in patient evaluation and management. Dr. Perman brings some insight into the mechanisms of disease and treatment and keeps up with the scientific literature. Meanwhile, Ms. Stines is better trained to educate and counsel patients. Since she has more availability than Dr. Perman, she has the follow-up responsibilities. She is also valuable when gender sensitivity is needed. A female adolescent patient will probably prefer talking with her.

This collaborative arrangement doubles the number of patients that can be seen at a pediatric subspecialty practice, without adding extra support personnel. This positive impact on volume is particularly important in subspecialties with workforce shortages like Dr. Perman's. Many believe that having students around to teach slows down efficiency. But in the Dean's Clinic, they are not seeing fewer patients than in a non-teaching setting. They are teaching how to practice efficiently.

Unfortunately, there are many barriers to implementing this model. Students seem to get it, but not so with many of the faculty. Some faculty members at UK have commented that they are skeptical of this model. Another barrier is a lack of knowledge on how nurse practitioners are educated, which affects the physician's expectations about what they can do. A third barrier is the terminology used. To most of physicians the nurse practitioner is a "mid-level provider" or a "physician extender." These terms don't drive the idea of partnership.

The profession needs to provide education and training in interprofessional collaboration because it doesn't just happen. It is hoped that more medical educators will teach this model. It doesn't take extra time in the curriculum because it can be incorporated into clerkships and training programs, as done in the Dean's Clinic.

Speaker

Elsie Stines, MS, CRNP

Instructor, Department of Pediatrics, and Director, Collaborative Programs, University of Kentucky College of Medicine

Physicians and other health professionals need to learn how to work with each other. In the medical system we have today, this does not come naturally. One barrier is that physicians do not understand the education that a nurse practitioner has. Nurse practitioners study for three years, taking courses in pharmacology, physiology, and pathophysiology, followed by clinical rotations.

Nurse practitioners are equally estranged from physicians. Working under seasoned nurse practitioners in my clinical rotations, Ms. Stines said that she began to understand how little they have to do with physicians, even though they're required under law to have a collaborative relationship with a physician. For example, a nurse practitioner mentoring Ms. Stines who specialized in pediatrics was collaborating with a dermatologist. That's not a great fit, but she said she didn't really need a physician's supervision and never contacted him. Ms. Stines remarked that she had another rotation in a managed care organization where she never saw any interaction between the nurse practitioner and the attending physicians. Then, in her first job after graduation, she worked with pediatrics patients in a family medicine practice. When she had a question about a patient and asked one of the physicians, she came away feeling stupid, that she should already have known the answer. It turned out that these doctors were concerned that if they gave Ms. Stines the wrong guidance, their license would be on the line. Actually, Ms. Stines has her own license, but the physicians didn't realize that. It was very frustrating.

Ms. Stines worked with Dr. Perman for seven years as a floor nurse before she went for her advanced degree. Since then, he had been made director of a pediatric gastroenterology rotation for medical students and residents in Maryland and he needed someone to fill in for his nurse practitioner for 12 weeks while she was on maternity leave. Ms. Stines agreed to fill in, and it changed her life.

Ms. Stines said she was amazed by how much everyone on the rotation worked as a team. She met regularly with the medical students and went together to see patients. She presented the history and physical results to them, and Dr. Perman and sometimes the residents joined them. When Dr. Perman and Ms. Stines discussed her plan of care with the family, he introduced her as a colleague. Sometimes he proposed other treatment options to the family, but he never suggested that Ms. Stines didn't know what she was doing. And sometimes she suggested another approach, but Dr. Perman never viewed that as a putdown.

Ms. Stines remarked that she practiced independently and interdependently. She worked with social workers, dieticians, and a clinical psychologist, and each of them could fully use the separate and shared skill sets. When Dr. Perman was appointed dean at the University of Kentucky, Ms. Stines joined him in the Dean's Clinic.

For a collaborative practice to work, it's important to have similar practice styles, a shared vision and personal chemistry with each other. Here are some specific points:

- **Communicating with patients** - When Ms. Stines introduces herself, patients' families sometimes demand to see the physician. But usually, by the end of the visit, they are comfortable. She tells them that she is going to take the history and physical exam and develop a treatment plan, then talk to Dr. Perman to refine that plan together.
- **Collaborative attitude** - Competition slows things down and collaboration speeds them up. A team that collaborates can deal with challenges like family resistance to a nurse practitioner. Usually, families quickly see the advantages, such as not having to repeat what they said to the other caregiver. Dr. Perman and Ms. Stines discuss the case together before seeing the patient.
- **Open communication** - When dealing with a complicated patient, Ms. Stines asks Dr. Perman for help. Sometimes he even breaks off a meeting to come and examine the patient with Ms. Stines. She provides him with the history and physical and informs him of her treatment plan. He provides guidance. If the challenges look like they'll continue, the family is seen with both Dr. Perman and Ms. Stines.
- **Reciprocal relationship** - Dr. Perman is very comfortable asking Ms. Stines if she would do anything different. That does not upset the families. They know that Dr. Perman and Ms. Stines have a strong working relationship. And when this type of interaction is in front of medical students, they seem a little awestruck.
- **Flexible pace** - When dealing with a complicated patient, Dr. Perman gives Ms. Stines extra time to provide more education to the family, which reduces the chance of misunderstanding. If the practitioner is in a hurry, patients can end up taking the prescribed medications the wrong way.
- **Understanding roles** - Having medical students exposed to nurse practitioners means they can truly understand the nurse practitioner's role and scope of practice for the rest of their career. Nurse practitioners also have to understand physicians better. Incorporating graduate nursing students into the Dean's Clinic is a high priority for the future.

Speaker

Perry A. Pugno, MD, MPH, FAAFP, FACPE

Director of Medical Education, American Academy of Family Physicians

Interprofessional collaboration is not a new concept. In the early 1970s, people talked about creating “career ladders”: people could start as health professionals at any level and, at different points along the ladder, climb to a more advanced level.

Dr. Pugno has been involved in interprofessional collaboration for his entire career. He was one of the first students to enter the University of California-Davis School of Medicine, which stressed collaboration from the start. When he was a young doctor in the National Health Service Corps, close collaboration with a physician assistant made it possible to cover a huge service area across the Mojave Desert. More recently, directing his last family medical residency program before joining the American Academy of Family Physicians, he trained nurse practitioners, physician assistants, clinical pharmacists, medical social workers, and podiatry residents. His clinical team was extraordinarily robust, and they learned a great deal from one another.

Interprofessional collaboration is supposed to ultimately improve patient care outcomes. Many in the profession already feel that we are able to do so, although the research still needs to prove it. Teams seem to be the way to go to assure the best patient outcomes and maximum patient safety. Meanwhile, the efficiency and cost effectiveness of interprofessional collaboration is well demonstrated in many settings. Collaborative practice can also improve patient satisfaction.

One of the key components of this approach is improving communications among professionals from different backgrounds. If professionals are going to collaborate, shouldn't all of the team members know intimately the capabilities, skill sets, and breadth of opportunity of their teammates? When professions train together, attitudes about each other improve. Physicians need to rely on nursing colleagues, who are generally better trained in patient education than physicians are. Team-based care is an underpinning of the patient-centered medical home, which is one of the most viable primary care models to date. One important point, though: collaboration needs leadership, even if it's just subtle. A leader can set the context, define the strategy, adjudicate conflicting input, and take responsibility for the outcome. A group of people without a leader is just a mob.

A significant amount of interprofessional training already takes place in family medicine. According to new statistics from family medicine residency programs and the American Academy of Physician Assistants, roughly a quarter of programs are training nurse practitioners and a quarter are training physician assistants, with some overlap. In addition, many of the programs train clinical pharmacists, podiatrists, social workers, and other clinical professionals.

Hospitalists are also teaming up with these professionals. An interdisciplinary collaboration between the Society for Hospitalist Medicine, the American Academy of Nurse Practitioners, and the American Academy of Physician Assistants aims to lighten the workload of hospitalists.⁸ Data from the project show that 16 to 20 percent of hospitalist groups now include nurse practitioners and physician assistants in their teams.

Family medicine has effective models for collaboration in providing care and in training. In the world of practice, highly functional teams are used for trauma care, transplants, cardiac surgery, and rehabilitation. Health professionals working in teams can accomplish more together than they can individually. As far as teaching collaboration to medical learners, residency is a good time to learn leadership skills. In fact, the Accreditation Council for Graduate Medical Education and many of the residency review committees are now including a requirement for leadership training. Family medicine program requirements for the management of health systems call for “training to provide leadership for a clinical practice, a hospital medical staff, professional organizations and community.”

Medical students seem to like working in teams. Surveys show that when they experience interprofessional collaboration, the vast majority come away with positive changes in attitudes and consider it to be an educational benefit. According to one study, 80 percent of medical students

⁸ Brendon Shank, Project BOOST Expands, *The Hospitalist* 13(4):6-7 April 2009

report positive changes in attitudes, and 91 percent reported “educational benefits.”⁹ Most students in nursing, occupational therapy, physical therapy, and radiologic technology also have a favorable attitude toward collaborative training.

One of the major barriers to interprofessional collaboration is lack of exposure. Terms like “mid-level provider” or a “physician extender” only get in the way. When the notion of a collaborative practice can be introduced and physicians can see themselves as part of the same team, then physicians can get past preconceived notions. It’s true that when faculty in both medical schools and nursing schools first hear about interprofessional collaboration, they are skeptical, but once they have some experience with it they are almost always supportive.

There is evidence that patient satisfaction is improved in team-based care, and some evidence that patient safety is a little bit better when teams are involved. This makes sense. When there are more eyes on the problem, there is less likelihood that things will fall through the cracks. But there is tremendous unmet need for collaborative research. Although the business community already has the data that teams are a better way to go, this data just hasn’t made it out to the clinical literature. There are no research studies right now showing that interprofessional collaboration improves patient outcomes. Constructing such studies can be tricky. The profession should not be looking to compare parallel practices. Rather, it should be looking at collaborative practices and comparing them with the practices that don’t have the collaborative benefit.

More work needs to be done. The profession needs to look at patient outcomes more carefully and do a better job capturing the impact of collaborative training and work. In the clinical setting, there is evidence every day that teams are making a positive difference, but we need to collect this information and document it. Better metrics of patient outcome impacts are needed. This needs to be addressed soon.

CURRENT ISSUES IMPACTING MEDICAL EDUCATION

Update on the Comprehensive Review of the USMLE

Speaker

Ann Jobe, MD

Executive Director of the Clinical Skills Evaluation Collaboration of the National Board of Medical Examiners and the Educational Commission for Foreign Medical Graduates

The Comprehensive Review of the United States Medical Licensing Examination (USMLE) was originally seen as an opportunity for revolutionary change of the USMLE. Now, after three years of deliberations, expectations are more modest and prudent, and the changes are expected to evolutionary and incremental. Planning is moving at a glacial speed, but progress is not imperceptible. The USMLE will not be the way it is now. There will be changes but not to the degree that it looked like at the beginning of the review process.

The current exam involves three steps and four events that take a total of five days. While the exam’s primary purpose is licensure, program directors use the USMLE to get a quantitative assessment of residency program applicants. In addition, medical schools sometimes use it for promotion of medical students between the second and third years.

The comprehensive review has identified several areas for improvement. For example, scientific reasoning skills in the current exam are clustered in Step 1, the basic science exam, and are largely ignored in Steps 2 and 3, even though medical schools have integrated scientific reasoning into all

⁹ Young L, et al. Knowing your allies: medical education and interprofessional exposure. *Journal of Interprofessional Care*. 2007; 21(2):155-63

four years of the curriculum. Also, the current exam relies heavily on multiple-choice questions and puts less emphasis on information seeking and interpretation of evidence, which are now widely taught in medical school to reflect the reality of medical practice.

The Committee to Evaluate the USMLE Program, or CEUP, started its work in late 2006. Its guiding principles stated that USMLE is primarily meant for licensure; secondary uses shouldn't be ignored as long as they do not compromise the primary purpose; any new assessment instruments should be valid and reliable measures of competencies for medical practice; and the exam needs to reflect the evolving national consensus of what it takes to be a physician.

In its Final Report in Spring 2008, CEUP recommended that USMLE should support decisions about an applicant's readiness to provide patient care on two patient-centered points: readiness for residency (supervised) practice and for independent (unsupervised) practice. CEUP probably regrets that it ever proposed a "gateway," which was misinterpreted as a call to combine the Step 1 and Step 2 exams. Erroneously, some medical students hoped the clinical skills exam was going to disappear, while some basic scientists feared that scientific reasoning questions would disappear.

CEUP also recommended that:

- The overall framework of the exam should use the six general medical competencies originally developed by the Accreditation Council for Graduate Medical Education: medical knowledge, clinical skills, interpersonal and communication skills, professionalism, systems-based practice, and practice-based learning and improvement.
- The scientific foundations of medicine should not just be limited to one step of the exam but should be emphasized throughout the process.
- Assessment of clinical skills should remain a component, and ways to further enhance the testing methods to address additional skills should be considered.
- USMLE should introduce, as soon as possible, a testing format designed to a) assess an examinee's ability to recognize and define a clinical problem, b) access appropriate reference resources in order to find the scientific and clinical information needed to address the problem, and c) interpret and apply that information in an effective manner.
- CEUP did not come to a consensus on whether there should be a numerical score or just pass-fail. The committee said the issue needs more study.

Sometime soon, a CRU Advisory Task Force will be formed, initially with members of the Step committees, to help USMLE staff with implementation of the comprehensive review, including adopting a competencies schema; defining competencies important to informing the "two decision" assessment model; enhancing science assessment throughout exam sequence; and creating an overall research agenda to continue the development.

The Physiology Committee of Step 1 and the Basic Science Committee will be combined across all the steps and all the disciplines. This will involve blending basic and clinical sciences across all steps; enhancing use of simulations in all steps; increasing emphasis on evaluation of evidence and on evidence-based decisions; and incorporating relevant translational science.

The timeline of expected CRU activities in 2009 and beyond are below. While the 2009 goals are quite firm, goals in succeeding years are very fluid.

2009

Don't expect much implementation at this stage, except maybe removing basic science "factoids" from the examination.

- First quarter: Test committees include more emergency department and inpatient test material; basic science moves further into Steps 2 and 3.

- Second quarter: Normal and abnormal will be merged in Step 1 subcommittees; adjust allocations; all basic science “factoids” will be phased out or rewritten.
- Third quarter: CRU advisory task force convenes; cross-step committees convene to compare content across steps; new task force on assessing test-taker’s ability to interpret medical literature, such as reading an article or going on an Internet site.
- Fourth quarter: Step 2 short-term clinical skills enhancements, which are already under way; more advanced communications skills in patient care (PC), systems-based practice (SBP), practice-based learning and improvement (PBLI); detailed research and implementation plan for the Comprehensive Review of the USMLE (CRU).

2010 to 2012

Expect a lot of planning and proposals for design models, such as how to implement a two-decision competency framework.

- Task Force for scientific literature interpretation
- Develop single, integrated, cross-step content outline; develop test specifications and reclassify items
- Finalize two-decision and competency frameworks
- Pursue research agenda to advance assessment
- Initiate longer-term CS enhancement
- Develop information gathering format and items
- Score report evolution

Beyond 2012

Expect a lot of piloting. Activities will include:

- Recombine examination elements, committee responsibilities
- Test timing, break policies
- Secondary users
- Realign governance structure
- Continue research
- Continuous evolution, improvement

Questions about the Comprehensive Review of the USMLE need to be directed to Peter J. Katsufarakis, MD, Vice President for Assessment Programs for the National Board of Medical Examiners, at pkatsufarakis@nbme.org.

Medical Education and Disaster Preparedness

Speaker

James J. James, MD, DrPH, MHA

AMA Director, Center for Public Health Preparedness and Disaster Response, and Editor-in-Chief, Disaster Medicine and Public Health Preparedness

Every physician has a second specialty, which is public health preparedness. This duty goes back at least to 1847, when the first AMA *Code of Medical Ethics* included a pledge to serve the public health, “displaying skill and ingenuity in devising the best means for its protection.” There is still a reference to working for “the betterment of public health” in the AMA’s current *Principles of Medical Ethics*.

The overwhelming majority of physicians recognize this duty. An AMA survey asked MDs and DOs: “Do you have an obligation to respond to an emergency situation? Would you respond?” Eighty percent of physicians answered yes. They were decidedly less affirmative on the next question: “Do you feel prepared to respond? Do you have the education and training to respond?” Only 20 percent answered yes.¹⁰ Fully 80 percent of physicians do not feel prepared to respond to a disaster. And yet, despite the expressed need, very few physicians have received training in this area. In the past five or six years that the AMA Center for Public Health Preparedness and Disaster Response has been offering courses, some 80,000 to 100,000 people have participated, but that number includes all health professionals, not just physicians. It’s really just a drop in the bucket.

Meanwhile, the need for physicians to help out in disasters is escalating. In the past 30 years, there has been a huge increase in the number of defined disaster-level events. According to the Emergency Events Database, run by the World Health organization and the Belgian government, there were about 75 natural disasters worldwide in 1975 and about 500 in 2006.¹¹

The AMA Center for Public Health Preparedness and Disaster Response has three basic goals:

- Create an educational framework to meet the practical needs of all system responders.
- Develop a common language that all levels of responders understand.
- Create a framework that would allow for scientific evaluation and assessment.

The profession also needs to work with the public health community and agree on an integrated education program. If the medicine and public health professions can’t agree, the whole enterprise will fail, because we cannot have two systems conflicting with each other. There has been some tension between medicine and public health on this issue. Recently Dr. James attended a two-day meeting of the Association of Schools of Public Health. When he presented the center’s plan, he heard: “That comes from the House of Medicine, not from public health. We need to create our own plan.” After two days of discussions, however, the public health people were considering seven competency domains that were very similar to medicine’s seven domains. The hope is to integrate the two plans at a competency summit in December 2009.

Educating physicians cannot be handled through continuing medical education alone; it needs to be integrated into the curriculum of medical schools and other health professions schools. The educational framework needs to begin with competencies. An article published in *Disaster Medicine and Public Health Preparedness* offers a set of domains and a set of competencies as a starting point for education.¹²

The center has three target audiences to train:

- **Informed student or worker** - This includes health professionals and students who require awareness and understanding of particular aspects of disaster planning, mitigation, response, or recovery. This is the level at which medical schools need to be involved.
- **Practitioner** - This is a more advanced level of health professionals who have to apply clinical or public health knowledge, skills, and values in disaster planning, mitigation, response, and recovery.

¹⁰ G. Caleb Alexander and Matthew K. Wynia, Ready And Willing? Physicians’ Sense of Preparedness for Bioterrorism. *Health Affairs*, 22, no. 5 (2003): 189-197 doi: 10.1377/hlthaff.22.5.189

¹¹ EM-DAT: Emergency Events Database, number of world natural disasters 1975-2008, <http://www.emdat.be/Database/Trends/trends.html>

¹² Subbarao et al, A Consensus-based Educational Framework and Competency Set for the Discipline of Disaster Medicine and Public Health Preparedness, *Disaster Medicine and Public Health Preparedness* 2008; 2: 57-68

- **Leader** - This category includes senior executives, such as CEOs, COOs, CFOs, directors, managers, and department heads who make administrative decisions and provide leadership and policymaking roles in disaster planning, mitigation, response, or recovery.

Creating the exact curriculum is the medical schools' business, but the Center can give the schools the basics to start the process. The Association of Schools of Public Health is constructing its own competency domain educational framework, but it has studied the Center's work and is going to use it as a basis for their template.

The National Disaster Life Support (NDLS™) courses are ready to use, and updated versions should be ready around September 2009. These courses could be integrated in a horizontal fashion in a weekend or so. Meanwhile, the Advanced Disaster Life Support™ course for practitioners will be reviewed in the next month or so.

Tips for teaching disaster preparedness:

- **Train in advance** - There is no time for last-minute training. Disasters that at first look relatively benign can move forward at overwhelming speed. In the Spanish Flu epidemic of 1918, for example, the virus had progressed only in small waves by late spring, then hit its violent, destructive numbers in September and October.

- **Make sure what is learned is retained** - Since these events are so infrequent, information must be retained over long periods. It's difficult to measure retention of education that is not being exercised. This requires dynamic teamwork. It has been particularly difficult, though, to define the target audience for the education endeavors.

- **Train by function, not specialty** – A shift needs to occur from audiences based on specialties or disciplines to audiences based on function. Distinct levels of proficiencies need to be defined in accordance with Bloom's Taxonomy, the widely recognized classification system for students' learning objectives.

- **Create learning tiers** - Levels of proficiency need to be created, such as awareness, tactical, and strategic, that make sense to everyone involved, not just physicians.

Medicine is on the brink of taking a leadership role in this work—not just in disaster preparation and public health education, but also in planning for and responding to such events. If this education doesn't get into the professional schools, maintaining the leadership role won't occur.

Speaker

Italo Subbarao, DO, MBA

AMA Director, Public Health Readiness Office; Medical Director, National Disaster Life Support Program Office; and Deputy Editor, Disaster Medicine and Public Health Preparedness

Changing the culture of preparedness really begins in medical schools. While a few medical schools are teaching disaster preparedness, most are not yet doing so. The AMA would like to change that and is leading the effort.

As previously mentioned, the AMA survey found that 80 percent of practicing doctors want to respond to disaster/emergency events, but only 20 percent thought they were prepared to do so. To find out the attitudes of the next generation of doctors, a similar survey was conducted with medical students in collaboration with the Johns Hopkins Center for Public Health and the University of Cincinnati Medical School. Results will be published in the September-October 2009 issue of *Disaster Medicine and Public Health Preparedness*.¹³ The survey found that even more medical

¹³ See <http://www.dmphp.org/>

students would respond than practicing physicians. In the event of a natural disaster or a pandemic flu outbreak, about 85 percent of the medical students were willing to respond. But, as with the practicing physicians, only about 20 percent of the students indicated they had the ability to respond. With a radiological event, about 80 percent were willing to respond and only about 10 percent felt they had the ability.

To meet the needs brought to light by this survey, the following recommendations are offered:

- Add public health and disaster medicine as one of the core competencies of the Accreditation Council for Graduate Medical Education.
- Add some questions on this topic to the USMLE.
- Conduct a follow-up study with medical school deans to objectively assess the integration of disaster medicine into the medical school curriculum. We need to get a more detailed assessment of what is in the curriculum.

Meanwhile, the AMA is stepping up efforts to encourage medical schools to teach disaster preparedness. The House of Delegates has directed the AMA to ask medical schools and residency programs to incorporate education and training in disaster medicine and public health preparedness into their curricula. The House was acting on recommendations by the AMA Council on Medical Education's Report 15,¹⁴ which the House adopted with minor changes.

The House also adopted a few specific recommendations in CME Report 15, such as:

- Current National Disaster Life Support™ courses and course materials should be revised for use in medical schools and residency programs.
- Medical schools and residency programs should be encouraged to use multiple methods, including simulation, disaster drills, interprofessional team-based learning, and other interactive formats for teaching disaster medicine and public health preparedness.
- The National Disaster Life Support Education Consortium should be involved in the newly created Federal Education and Training Interagency Group (FETIG).¹⁵

The AMA program helps foster courses that comport to the educational framework that was laid out. The National Disaster Life Support™ (NDLS™) Program is a partnership between the AMA and the Medical College of Georgia, University of Georgia, University of Texas Southwestern Medical Center at Dallas, and University of Texas Health Science Center at Houston School of Public Health. The NDLS™ program offers courses such as Core Disaster Life Support® (CDLS®) and Basic Disaster Life Support™ (BDLS®), which generally match the level of “informed worker or student.” NDLS™ also offers Advanced Disaster Life Support™ (ADLS®), which is designed for the more highly trained “practitioner” level.

These courses stress a comprehensive, all-hazards approach to help physicians and other health professionals deal with catastrophic emergencies from terrorist acts, explosions, fires, natural disasters (such as hurricanes and floods), and infectious diseases. The AMA is the continuing medical education accrediting organization for this initiative as well as the publisher of course texts. The system has more than 72 training centers and has trained about 80,000 people.

The NDLS™ is guided by the National Disaster Life Support Education Consortium™ (NDLSEC™), an unincorporated association cosponsored by the AMA, providing knowledge and expertise for regular review and critique of the NDLS™ courses. Its goal is to establish nationally recognized, standardized, and multidisciplinary courses to train health professionals to respond to disasters and

¹⁴ Council on Medical Education Report 15: “Education in Disaster Medicine and Public Health Preparedness During Medical School and Residency Training.”

¹⁵ See <http://www.ama-assn.org/ama1/pub/upload/mm/475/a-09-ref-comm-c.pdf>

other public health emergencies in an effective and coordinated manner. It is believed that if the trunk of the tree is developed, distinctive branches can grow out of it for different specialties and subspecialties.¹⁶ Many of the training centers are at academic institutions. For example, the NDLS™ Program counts 27 participating medical schools as well as three colleges of nursing, two of dentistry, and other allied professional schools.

Seven competency domains have been identified for educators to use. The levels of proficiency comport to Bloom's Taxonomy, which escalates knowledge through three domains: affective, psychomotor, and cognitive.

The seven competency domains are:

1. Preparation and planning
2. Detection and communication
3. Incident management and support systems
4. Safety and security
5. Clinical and public health assessment and intervention
6. Contingency, continuity, and recovery
7. Public health law and ethics

The domains were developed through an interprofessional approach that took a significant amount of time, but it gives strength to the developed framework. A panel of experts was used, with multiple stakeholder input, leaning heavily on the federation of medicine for input but also reaching out to nursing, public health, and the military.

A new program for laypeople, Citizen Ready, will be released in August or September 2009. The first module, Pandemic Influenza for Citizens, has already been developed and was funded through a grant from the Department of Homeland Security. Citizen Ready includes a community speakers' kit. It is hoped that medical students will help support this effort.

Presidential Directive 21, signed by former President Bush on October 18, 2007, recognizes disaster medicine as a fundamental discipline. The Joint Program for Disaster Medicine and Public Health, based at the Uniformed Services University of the Health Sciences, "shall lead federal efforts to develop and propagate core curricula, training, and research related to medicine and public health in disasters," the directive states.¹⁷ Dr. James has been AMA's liaison to this effort.

Innovative Strategies for Transforming the Education of Physicians (ISTEP)

Speaker

William Filstead, PhD

AMA Director of ISTEP

The new ISTEP program, still in its early phases, is embarking on a search for the "holy grail" of medical education: identifying teaching techniques that improve the way medicine is practiced, as demonstrated by rigorous scientific research. As a collaborative that brings together 27 medical schools and the AMA, ISTEP aspires to be a key player in medical education research, which has long suffered from underfunding.

This pioneering program sprang from the AMA's Initiative to Transform Medical Education (ITME), now in its third phase. The Final Report of Phase 2 of ITME, issued in December 2007, asked the

¹⁶ NDLS Program: www.ama-assn.org/go/ndls; NDLSEC: www.ama-assn.org/go/ndlsec

¹⁷ Homeland Security Presidential Directive 21: Public Health and Medical Preparedness, Oct. 18, 2007, http://www.dhs.gov/xabout/laws/gc_1219263961449.shtm

AMA to “develop and implement a research agenda that identifies the factors in the learning environment that contribute to learners’ acquisition of appropriate attitudes, values and behaviors as well as knowledge and skills.”¹⁸

ISTEP has created a strong, member-driven organization and, through a few preliminary pilot studies, has shown that a disparate group of 27 medical schools can effectively collaborate on serious research. The work started in 2005, when the AMA sent out a request for application and received applications from 53 schools. Twenty-seven medical schools were awarded one-year planning grants, either individually or as part of a joint application. For example, four medical schools in the Boston area formed a team at one research site. Altogether, the schools make up 16 research teams at sites across the country. Each team includes representatives across the medical education continuum: undergraduate, graduate, and continuing medical education.

The 27 schools provide a highly representative sample to study in upcoming research projects. It has been determined that the 27 schools contain a representative sample of medical learners. Both medical students and residents in these schools are comparable to all U.S. medical students and residents in terms of demographics, such as ratios of females, whites, blacks, Asians, and Hispanics. Member institutions also provide the AMA with links to an array of schools in other health disciplines. The members are part of universities that contain 14 schools of public health, 12 schools of social work, and 15 schools of nursing. The members also link the AMA with important sources of research grants, such as the Donald W. Reynolds Foundation, which funds gerontology research and has relationships with seven of the ISTEP medical schools.

ISTEP was officially launched in February 2007. Since then, a few studies have been launched to get a sense of how to conduct research in the most productive way. Beyond the actual research results, the initial studies helped determine how well the collaborative functions. It is challenging to work across multiple sites, implementing a complex protocol that requires training and other activities. The studies showed that it can be done.

There are three research projects that are either ongoing or about to start:

- **Sound Prescribing** - This project examines how marketing practices may influence physicians’ prescribing decisions. Based on the findings, it is hoped to develop educational strategies to help physicians manage pharmaceutical industry marketing and promotional materials. The project is funded from a \$550 million payment in 2004 by the drugmaker Warner-Lambert to state attorneys general, settling a lawsuit that alleged inappropriate off-label marketing of the epilepsy drug Neurontin.

Sound Prescribing is made up of two studies, involving medical students and residents. The study on medical students is about to conclude but there are no results yet. It focuses on how pharmaceutical marketing affects the students’ knowledge, attitudes, and values. Researchers followed second-year and third-year medical students at Stanford University School of Medicine, the Keck School of Medicine at the University of Southern California, the Brody School of Medicine at East Carolina University, and Tufts University School of Medicine. The students were given surveys, lecture, and debate sessions and Web-based educational modules measuring their comprehension of pharmaceutical marketing techniques.

The second Sound Prescribing study is a randomized controlled trial of primary care residents to determine whether a Web-based learning module could influence the way they approach prescribing. Project participants were first- and second-year residents at the University of Texas at Houston Medical School, the University of Pennsylvania School of Medicine, Stanford University School of Medicine, and Creighton University School of Medicine. The residents interviewed an unannounced

¹⁸ ITME Phase 3 Program Implementation: Recommendations for optimizing the medical education learning environment, June 2007, www.ama-assn.org/ama1/pub/upload/mm/377/finalitme.pdf

standardized patient who asked for an inappropriate medication. The study found no difference in prescribing behavior between the treatment group that used the learning module and a control group that did not.

• **NIDA Centers of Excellence** - The National Institute of Drug Abuse (NIDA) Centers of Excellence project involves teaching medical students and primary care residents to deal with substance abuse and then assessing their comprehension. The project covers drug addiction awareness, prevention, diagnosis, and treatment. Survey evaluations, focus groups, key faculty interviews, lectures, Web-based learning, case studies, and standardized patients are used. The project is a partnership between the NIDA and eight medical schools organized into four different teams.

NIDA wanted the ISTEP collaborative to decide how alcohol and tobacco initiatives could be written into curricula. They were asked to develop, evaluate, implement, and disseminate a curriculum. The project has been in effect for two years and the collaborative is about to apply for funding on Round 2, which would take the developed curriculum at the medical school level and repackage it for a broader outreach program in continuing medical education and other mediums.

A much more ambitious project will start in 2010 or 2011. The Longitudinal Cohort Pilot will select a large cohort of medical students as subjects and follow them throughout their career to determine how the medical education experience shapes the learner and how he or she eventually practices.

The vision is to have this breakthrough longitudinal study be like the Framingham study was for heart patients. There will be a chance to map out the process of becoming a physician as it occurs, as opposed to cross-sectional studies, where you just get glimmers of things. This study will see how medical students grow and how that growth affects who they become. It will show how their environment affects their experiences and how that environment is changed by their experiences as they move through their career. Adding new members to the longitudinal cohort study is a possibility if there is interest from the AMA-SMS.

The best content and competencies that can be integrated into the curriculum is being sought, rather than just being an add-on that will fall off later. A comparative education approach is being used to evaluate different approaches to research. How schools undertake medical education is being explored and then best practices will be examined to compile courses and experiences that can be models for all schools to use.

Future research must overcome the realities of the current funding environment. It is hoped that grants can be secured from the American Recovery and Reinvestment Act (ARRA) of 2009, the federal stimulus package, which is providing \$8.2 billion for research.

The collaborative has applied for two categories of ARRA grants:

- Research and Research Infrastructure “Grand Opportunities,” or RC2 grants, which would fund development of a sound infrastructure to embark on the longitudinal cohort study.
- NIH Challenge Grants in Health and Science Research, or RC1 grants. An RC1 application has been submitted to study the ethical, social, and legal implications of genomic medicines and how this topic is being addressed in medical school curriculums. There is only a limited amount of room in the curriculum, but if new content isn’t included, the curriculum will lack new forms of expertise that physicians might need in the future.

Other projects are being explored—for example, discussions are ongoing with the AMA Center for Public Health Preparedness and Disaster Response to create a demonstration pilot project on integrating the health professions for disaster preparedness. This project would utilize the various schools of health professions within ISTEP.

For more information, contact William Filstead, PhD, AMA Director of ISTEP, (312) 464-2533, istep@ama-assn.org, Web site: www.ama-assn.org/go/istep

Mini-Presentations on Innovations in Medical Education

Faculty Involvement Within the AMA

Speaker

Donald G. Eckhoff, MD

Professor of Orthopedics, University of Colorado School of Medicine

Alternate Delegate for the Section on Medical Schools

Medical school faculty are chronically underrepresented at AMA meetings, but that can change. If the AMA-SMS started to present issues that speak directly to faculty concerns, it is believed that many more faculty would come. Truth be told, this Section has not spent much time talking about the needs of faculty. A lot of time is spent discussing the needs of medical students and residents, and sometimes the Section submits resolutions on their behalf. There is nothing wrong with that, but Dr. Eckhoff said he can't remember the last time the Section offered to submit a resolution on behalf of faculty.

The AMA-SMS Governing Council has brainstormed and came up with a list of topics that would interest faculty and hopefully draw them to the Section meetings. The list, which follows below, is not meant to be comprehensive:

- **Lifestyle** - ER call; taking sabbaticals; retirement phase-out; disability coverage; balancing responsibilities to family and to school.
- **Reimbursement** - Medicare, Medicaid, and other government payers, such as Tricare; the uninsured; indemnity insurance.
- **New faculty** - Discounted practice “buy-ins”; training for “academic physicians” before and after hiring.
- **Practice** - Practice “cannibalization” by the institution; restrictive covenants and buy-outs; practice support personnel, such as interns, residents and fellows, physician assistants, medical assistants, nurse practitioners, and nurses in the doctor's office and in the hospital.
- **Administrative** - Institutional taxes and contracts, such as for employment, reimbursement, and unilateral contract change.
- **Promotion** - The impact of factor or citation indices; the need to take changing realities in the work environment into account; the impact of changing patterns of promotion and tenure; types of promotional tracks; use of pre-tenure periods.
- **Dispute and conflict resolution** - Between the chair and faculty; between fellow faculty
- **Ethical** - Fraud, both academic or intellectual and economic; faculty abuse.
- **Research** - Resources; protected time.
- **Medical Education** - Time mandates; compensation and recognition; LCME and ACGME requirements; the role of voluntary medical staff in medical education; the effect of consumer-driven health care on medical education.
- **Professional** - Dealing with stress; malaise and impact on faculty and trainees.

A topic from the list was culled to demonstrate an issue that Dr. Eckhoff believes holds a great deal of interest for faculty today but has not been discussed much in open forums. The topic is “practice cannibalization.” Many members of the Governing Council were not aware that this was taking place, but Dr. Eckhoff assured them that many faculty members know about it.

Practice cannibalization is when medical schools hire new faculty and try to offer the best compensation package possible. When that new faculty member arrives, however, the medical school finds that it has overstated its case. The new faculty member does not have the expected number of patients to reach the agreed-upon salary. To make up the difference, other faculty members are asked to see fewer new patients so that the new arrival can have enough patients. That is, the patient bases of other faculty members are “cannibalized” so that promises made to new faculty can be met. Many questions could be debated here. Which faculty members have to sacrifice the most? Is there an equitable formula to make those sacrifices? And should recruiters scale back their promises to faculty candidates?

Section members were invited to suggest more topics for future meeting presentations that would appeal to faculty.

Telemedicine in Clinical Education

Speaker

Maria Savoia, MD

*Vice Dean for Medical Education, University of California, San Diego School of Medicine
Member, Governing Council of the Section on Medical Schools*

As a medical student, Dr. Savoia remembered her excitement scrubbing in for a few hysterectomies, and then her utter disappointment with the actual experience. She said she was in the back and couldn't see the procedure being performed. Sitting in the doctors' lounge afterwards, feeling bitter about the whole thing, she tipped off the next bunch of students due to scrub in: “You will get to see *nothing!*”

Telemedicine has changed all that. Now, with the aid of a camera, the medical student can see exactly what the surgeon sees. Just as it has been great for medical education, telemedicine has also been great for medical care. Surgeons can assist in an operation without actually having to be there. It is believed that this approach will be an integral part of the medical practice of the future. Everyone is getting used to looking at images on screens with robotics and laparoscopic surgical techniques. Telemedicine has opened up medical care to the hinterlands, not just in rural California but also in the rest of the world, where there is a serious shortage of physicians.

Amanda Gosman, MD, now Director of Pediatric Plastic Surgery at the University of California-San Diego, started working with Project Smile in Ecuador as a resident, performing cleft lip, palate, and other plastic surgeries on children. For many years, Project Smile's approach was to drive a big van to a no-frills clinic in an isolated area, set it up, do their work, and leave. Dr. Gosman thought, “We are coming in, spending very little time there and leaving. Where's the follow-up?” She decided to integrate telemedicine into her work, so that she could assist on-site providers in follow-up and other care. Through telemedicine, Dr. Gosman and colleagues at the medical center in San Diego have been mentoring providers in rural Ecuador. She has been providing case-based learning, long distance grand rounds, using lectures, interactive technology, and streaming cases. UC-San Diego School of Medicine now offers telemedicine electives for students and residents that can involve working in Ecuador.

One case of Dr. Gosman's illustrates how her approach has changed the way surgeons can do good works in poor countries. A young boy in Ecuador was severely scalded by a hot pot falling on him. He received skin grafts but no post-operative care, so his body assumed a fixed position. He could not eat on his own or dress himself. Dr. Gosman redid the skin grafts, removed the contractures, operated on the child, and beamed a video of the surgery to the center in San Diego so that students and others could view it live. Back in San Diego, she continued using telemedicine to help providers in Ecuador with postoperative care so that the boy didn't again end up in a fixed position. The

continuity of care was provided via telemedicine. The medical students saw a better model of care than the episodic care that U.S. doctors traditionally deliver in poor countries.

Telemedicine still poses a lot of technical challenges—even in the hills outside San Diego, much less the mountains of Ecuador. Going from one hospital to another in Southern California has its technological challenges, such as connectivity and having enough bandwidth to get high-definition pictures and voice quality. But these technical features are steadily improving.

Each of the five University of California medical schools has been promised \$35 million for telemedicine projects, but the money is being held back due to the state's fiscal problems. Some funds, however, have been dispersed already. In 2007, UC-San Diego School of Medicine used a \$1 million grant to establish the Southern California Telemedicine Learning Center to prepare physicians and others to perform telemedicine. Meanwhile, the Federal Communications Commission gave the state monies to provide high band-width connections for telemedicine to about 700 rural and urban sites in California, which requires a great deal of training and education at the center.

AMA Code of Medical Ethics

Speaker

Susan Dorr Goold, MD

Associate Professor of Internal Medicine and Health Management and Policy, University of Michigan; Member, AMA Council on Ethical and Judicial Affairs

The AMA Council on Ethical and Judicial Affairs (CEJA) has long recognized that anyone who chooses a medical career needs to become aware of the ethical dimensions of the profession as early as possible, when they are still in medical school. Medical students should have some understanding of *The Code of Medical Ethics of the American Medical Association*.

The unabridged version is a 438-page book—too long to hand out. CEJA has been distributing a shorter version, in booklet form, to all incoming medical students. The booklet, which can fit into a pocket, has been something tangible to give medical students, a sort of rite of passage that sends a message: “You’re now entering the profession of medicine. You’re not a doctor yet but you’re still expected to abide by the profession’s ethics.”

Things have changed, however, in the past few years. The code, in its entirety, is now available online on the AMA Web site.¹⁹ Instead of distributing the booklet, CEJA briefly contemplated giving medical students the URL, but that doesn’t mean very much. CEJA has also considered distributing a small card just with the AMA Principles of Medical Ethics,²⁰ which is at the beginning of the full code.

CEJA is asking for the Section’s advice. As educators focused on medical students, the Section could provide valuable advice on what is the best way to approach medical students. Whatever it is that is chosen, CEJA wants to distribute it universally, at all medical schools. CEJA wants to provide something to all medical students at the white coat ceremony or some other occasion when they enter school. CEJA wants this gift to improve their awareness and understanding of ethical behavior. CEJA has a judicial function and it is not unusual to hear, “I never knew I couldn’t do that.”

¹⁹ See <http://www.ama-assn.org/ama/pub/physician-resources/medical-ethics/code-medical-ethics.shtml>.

²⁰ See <http://www.ama-assn.org/ama/pub/physician-resources/medical-ethics/code-medical-ethics/principles-medical-ethics.shtml>