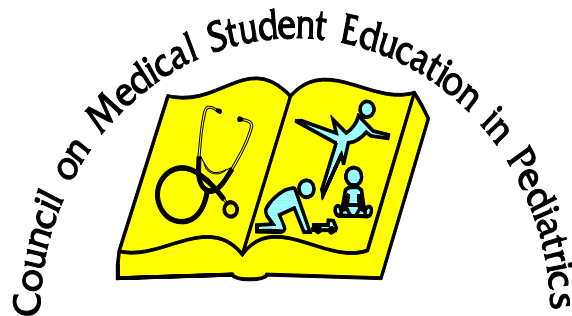


The Pediatric Educator



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Editor:

Gary Freed, D.O.

Emory University School of Medicine

President's Message

Greetings; I hope all is well with you and that you are enjoying the summer. It seems we were together just yesterday but four months have already passed since our meeting in San Antonio. We owe Glenn and the Meeting Committee heartfelt thanks for the wonderful job they did. As always, Jean and Lisa outdid themselves. The meeting evaluations are being reviewed and it would appear that the members had an excellent educational experience.

Since our meeting, much has happened. First, thanks to the efforts of Robin Deterding and the many grant reviewers, we are pleased to announce the winners of the second annual COMSEP Educational Grants Program. Congratulations to the following COMSEP members!

PI: Marlene Broussard, MD

Mentor: Pat F. Bass, III, MD, MS, MPH
Department Chair: Joseph A. Bocchini, Jr., M.D.

Louisiana State University Health Sciences Center-Shreveport

Title: Pediatric Junior Clerkship Students: Do they do what they document? Do they document what they do?

PI: Yvonne M. Friday, MD

Chair: Bonita Stanton, MD

Wayne State University

Title: Medical Student Nutrition Intervention Counseling and Coaching

PI: Melissa Held, MD

Mentor: Eve Ruth Colson, MD

Chair: Paul H. Dworkin, MD

University of Connecticut School of Medicine

Title: Prospective Study to Identify Unprofessional Behavior among Third Year Medical Students in Pediatrics

PI: Angela Peterman Mihalic, MD

Mentor: Alison E. Dobbie, MD

Chair: George Lister, MD

University of Texas Southwestern

Title: Designing and Evaluating a Pediatric Cultural Competence Curriculum

COMSEP has continued to collaborate with the Association of Pediatric Program Directors (APPD). The APPD brought their Task Force Leaders to the COMSEP meeting in San Antonio and similar to last year, COMSEP Task Force Leaders participated in the APPD Task Force meeting held in Toronto in May. Several of the Task Forces are developing collaborative projects. Additionally, the Presidents of both organizations had an opportunity to address their corresponding organizations. The planning continues for a combined meeting with the APPD in Baltimore in early May 2009.

COMSEP members have been very involved in the Residency Review and Redesign in Pediatrics project (R3P), a project of the American Board of Pediatrics. Lindsey Lane is the COMSEP representative to the project. The Curriculum Task Force as well as the APA Medical Education SIG have been and will be looking at a key part of the R3P project which involves the fourth year of medical school. The Chairs are also very interested in this and a joint committee of Chairs and Clerkship Directors will be formulated.

We are excited about our new Task Force Chairs. Congratulations to Jan Hanson (Research and Scholarship) and Anton Alerte (Learning Technology). Many thanks to Mary Ottolini (Learning Technology) and Shale Wong (Faculty Development) for all their hard work as they rotate off the Leadership of the Task Forces.

While we have traditionally met with the Chairs every three years, the Chairs have agreed to postpone our next combined meeting (which was scheduled for 2010). As

this will now be a stand alone COMSEP meeting, we are soliciting hosts for this meeting.

We have several ongoing projects. The executive committee is reviewing a proposed survey policy (e.g. who can survey the COMSEP membership and under what conditions) as well as a list-serve policy (e.g. who can post to the list-serve and what types of postings are appropriate). Each of the Task Forces and the *Pediatric Educator* Editorial Board are writing job descriptions and policies for election of members to these groups. We will be soliciting remarks from the General Membership on these issues shortly.

Finally, the planning for the Annual COMSEP meeting to be held in Atlanta is going smoothly. The meeting will be very exciting. I cannot wait to see all of you there.

As always, thanks to Gary Freed for putting together this issue of the *Pediatric Educator*.

Take care.
William Raszka

Research and Scholarship Task Force

The Research and Scholarship Taskforce had a busy meeting at COMSEP and is continuing to work on several projects. In the past year, two papers were accepted from the group and we had a successful workshop at COMSEP about the scholarship of teaching. During the meeting, we identified key workshops for the next few years we would like to present and volunteers for the journal club (Katinka Kersten, Virginia Barrow, Heidi Saller & M. Clarke). We further explored a collaborative project suggested by APPD about individual learning programs. Virginia Barrow

represented COMSEP at the APPD meeting (THANK YOU!) and we are proceeding with a literature review and plan to develop an educational intervention for 4th year students. Another group is working on a workshop for the 2008 COMSEP meeting, entitled The Scholarship of Application. Abstracts from the meeting were selected for the Teaching, Learning and Medicine edition that present proceedings of our meeting. We will be offering a pre-conference workshop about writing educational grants. Participants will then be well prepared to submit a successful grant proposal for the COMSEP educational grants. We have submitted two proposals for workshops at the national level, one to the AAMC meeting and one to PAS. Finally, we want to celebrate the hard work and dedicated leadership of Cindy Christy as Co-chair of the taskforce. She has provided inspiration, humor and support to many within the taskforce and organization. This year, we will be transitioning to new leadership, so by 2008 look for a new face leading the group.

Respectfully submitted by Sherilyn Smith

Faculty Development Task Force

The FDTF enjoyed another busy and productive meeting this year. We began the meeting by introducing ourselves, doing a quick needs assessment and highlighting the experienced members of the task force who are always willing to serve as mentors. We also welcomed Surendra Varma who was joining us from the APPD Faculty Development Task Force.

Report of Activities

We opened the meeting by reviewing our members' activities over the last year, including:

- A well done review of the COMSEP membership scholarly activities, led by

Bob Swantz, which will be updated further after another call to the listserv following the meeting.

- Another successful mentorship program, led by Bill Wilson and Aleca Clarke
- Blinded peer review and selection of COMSEP workshop submissions, in conjunction with the meeting program planning committee.
- Implementation of a new workshop feedback form, designed to add additional material to presenters' educator's portfolio
- Organization of this year's Educator Journal Club activities. Six members volunteered to contribute evidence-based reviews of faculty development articles to the Educator Journal Club.

Working Groups

We then brainstormed next steps for our task force, and formed working groups for the following task force activities:

- Workshop planning and selection, led by Mike Barone
- Development of a COMSEP educator portfolio, led by Rashimi Srivastana
- Compilation of available faculty development resources, led by Julie Byerley
- Faculty development for community faculty, led by Harold Bland
- Individualized learning plan for educators, led by Karen Marcdante
- Mentoring program expansion, led by Bill Wilson
- Speakers bureau, led by Stephanie Starr and Jose Gonzalez
- Annual report of member's scholarly activities, led by Bob Swantz

Working group members completed a project planning activity, including outlining the project goals, outcomes, next steps and deadlines. Task force and working group leaders will continue to keep the projects moving ahead through quarterly conference

calls. Our first Working Group leader conference call occurred on June 5th! Work to date was reviewed and plans for moving projects forward were reviewed.

The FDTF has set an ambitious agenda for the 2007-2008 academic year, and with the dedicated efforts of our membership, we are well on our way to a great year!!!

Submitted by Angela Sharkey and Leslie Fall

Evaluation Task Force (ETF)

The 2007 COMSEP meeting marked the completion of the transition in leadership for the ETF. Paula Algranati stepped down as Co-chair after assisting Starla Martinez and Scott Davis in their first year as Co-Chairs of the task force.

In early 2006, Paula Algranati and Lindsey Lane, the co-leaders of the ETF at that time, distributed a survey of evaluation practices in clerkships. Paula and Lindsey have compiled the results of the survey. The report is undergoing editorial review and hopefully will be posted by the end of the summer on the COMSEP website for the membership at large to review.

The goals for the ETF meeting at COMSEP 2007 were as follows: 1) Long-term – Develop a specific outcome measure for each skill-based competency that allows for assessment of minimal competency and 2) Short-term: Develop specific outcome measures for each skill-based competency in the Growth, Development, Nutrition, and Newborn topic areas by September 1, 2007. Members attending the first ETF meeting broke into small groups to begin working on a draft of outcome measures for the following topic areas: Newborn Physical Exam, Newborn Anticipatory Guidance, Nutrition,

and Growth & Development. Each working group produced a draft of possible outcome measures that were reviewed by the whole group during the second task force meeting. The following members volunteered to lead their working group in developing a final draft: Newborn PE - Jimmy Stallworth, Madeleine Bruning; Newborn Anticipatory Guidance – Valerie Jameson, Maria Marquez; Growth & Development – Linda Lewin; Nutrition – Gary Freed, Michele Brennan. Other ETF members volunteered to serve on these work groups. Two of the four groups have met the initial timeline of having a draft ready by May 31st for distribution and review by the membership at-large of ETF.

Other items of business from the 2007 COMSEP meeting - Members decided to target “Fluid and Electrolytes” and “Child Abuse” as the next two topic areas for which specific outcome measures for associated skill-based competencies will be developed. Possible workshop themes related to evaluation for the 2008 meeting were discussed. The following three themes were the top choices by those present: “How to evaluate professionalism”, “Feedback – all aspects of it”, “Evaluation tools”. Three members of the ETF, Margaret Golden, Joan Connell, and Paola Palma-Sisto, volunteered to be reviewers for the Pediatric Educator.

Submitted by Scott Davis

Medical Student Education SIG Report

Leaders: Lindsey Lane and Bill Raszka

The SIG was devoted to two issues:

1. Using technology to enhance education
2. Responding to question posed to the SIG by R3P (Residency Review and Redesign in Pediatric Project) leaders.

Technology in Education:

Kathy Day from Thomas Jefferson University gave a demonstration of various technologies primarily dealing with audience response systems and pod casting. The group was able to practice with one of the audience response tools. She demonstrated the differences between two commercial pod-casting programs. Finally, the group explored a model for web conferencing that did not involve a huge amount of IT support.

R3P:

At the request of the R3P leadership, the SIG discussed the structure of the 4th year of medical school and the potential for a fourth year curriculum or 'pediatric' pathway for students intending to seek a pediatric residency. Overwhelmingly, the group was in favor of looking at the 4th year curriculum more carefully and developing some guidelines and curricular content (with specific competencies) particularly for the sub-internships. Residency directors were in favor of this approach as that could facilitate comparison of students from different medical schools. We explored some of the models that define specific objectives or competencies for the fourth year (e.g. required acting internships, specific one month end of fourth year courses, COMSEP mastery curriculum.) The Curriculum Task Force leaders for COMSEP were in attendance and have already begun working on the 4th year curriculum beginning with a curriculum for an inpatient, general pediatrics sub-internship. The COMSEP CTF will continue to work on developing the curriculum and guidelines for the general inpatient sub-internship (using CDIM as a model) and continue working with the APPD CTF on this project.

While there was consensus that the 4th year curriculum be looked at, there was an even split between attendees who wanted national vs. local guidelines. After some discussion, it seemed that a reasonable approach would be to develop national guidelines that could be adopted locally and potentially tailored for local needs. There was consensus that any 4th year curriculum that is developed should not be mandatory. The group wrestled with developing outcomes data. Most people felt that a continuum of education approach favored using portfolios and generating benchmarks.

This information was passed on to the R3P leadership.

Change of Leadership:

Sandy Sanguino (Northwestern University) and Maria Marquez (Georgetown University) will be the new leaders of the SIG.

Journal Club

I would like to thank the reviewers and editors for the wonderful job they have done putting together this section. The Journal Club, as envisioned by Steve Miller and the Faculty Development Task Force, was an effort to keep our membership informed about new, controversial, or interesting developments in medical education. Over the years the Journal Club has proven to be an invaluable resource. As the organization has evolved and continued its focus on professional development, timely reviews of the medical education literature seem more important than ever. This year, for the first time, we have organized the reviewers by Task Force to ensure that the reviews reflect the breadth of interests across the organization. As always, the reviews will also be posted to the COMSEP Web page.

Again, thanks so much to our reviewers.
W.R.

Starr S, Haley HL, Mazor KM, Ferguson W, Philbin M, Quirk M. **Initial Testing of an Instrument to Measure Teacher Identity in Physicians.** *Teaching and Learning in Medicine*, 182(2). 117-125

Reviewed by: Michael Barone: Faculty Development Task Force

What is the problem and what is known about it so far?

Physicians involved in teaching have higher job satisfaction. Nevertheless, most academic departments have difficulty recruiting and retaining teachers, particularly in primary care where practice management and compensation issues can create a tension to the teaching mission.

Why did the researchers do this particular study?

Researchers hypothesized that one's self identification as a teacher is measurable. Quantifying *teacher identity* might be useful in recruiting/retaining clinician teachers. The group's previous studies demonstrated that teacher identity can be considered in 7 elements: a) feeling intrinsic satisfaction from teaching, b) having knowledge and skill about teaching, c) belonging to a group of teachers, d) feeling a responsibility to teach, e) sharing clinical expertise with learners, f) receiving rewards for teaching, and g) believing that being a physician means being a teacher.

Who was studied?

Pediatrics, Family Medicine and Medicine preceptors (n=153) from a preclinical longitudinal course were studied. Faculty represented full-time, community teaching affiliate employees, and private practice.

How was the study done?

A physician self-reported survey was created to measure the strength of each of these elements. Respondent data, including demographics, years of practice and teaching, faculty status, financial compensation, and faculty development training, were collected for stratification reasons. The survey consisted of 4 items for each of the 7 elements along with 4 items measuring "*global teacher identity*". The 32 items were scored on a Likert scale (1=SD, 5=SA). Physician focus groups and instrument pilot testing ensured the content of each group of 4 questions was representative of the element being measured. Researchers compared responses of teachers with and without salary support and faculty development training. Comparisons were done on self-reported "realities" and "desired outcomes" of teaching.

What did the researchers find?

The response rate was 83%, composed of 24% pediatricians, 37% internists, and 39% family physicians; 43% had completed faculty development programs. Strength of each item toward teacher identity was measured by magnitude of mean score. These ranked as follows: 1) Sharing clinical expertise – (4.35), 2) Feeling intrinsic satisfaction from teaching – (4.29), 3) Believing that being a doctor means being a teacher – (4.26), 4) Feeling responsibility to teach – (4.15), 5) Having knowledge and skill about teaching – (3.70), 6) Belonging to a group of teachers – (3.61), and 7) Receiving rewards for teaching – (3.55). When comparing "realities" and "desired outcomes", two items demonstrated large, statistically significant differences. One was, "The medical school rewards my teaching" and "I would like to be rewarded for my teaching." The other was "I feel part of a community of teachers" and "I would like to

be part of a community of teachers.” Salaried physicians and participants in faculty development programs scored significantly higher than non-salaried, non-participants in “*global teacher identity*” and on many individual elements.

What were the limitations of the study?

Only physicians who were actively teaching were studied. The instrument may not be generalizable to those who do not teach. Furthermore, the high mean scores for each element may have been influenced by the high prevalence of faculty development participants. This study was performed at UMass, known for great faculty development and committed teachers.

What are the implications of the study?

As in other studies, it was shown that teacher identity can vary a great deal based on *outside forces* such as salary support and belonging to a group of teachers, not simply attitudes of individuals. Given that the survey instrument is largely a self-report of attitudes, one could see using this to identify those who feel responsibility to teach and derive satisfaction from teaching. Once identified, it seems clear that belonging to a group, having available faculty development, and some reward system (not necessarily monetary), could help to retain this identified group of teachers.

So let's think about this a minute: can we identify an analogy? Wait! What about COMSEP? Belonging to a group, available faculty development and the reward of professional and, to no small degree, emotional support. No wonder we've done a good job making people see the clerkship director position as a career. Proof of principle... BZM

Epstein RM. **Assessment in medical education.** *N Engl J Med* 2007;356:387-96.

Reviewed by Bill Varade, MD: University of Rochester, NY: (Evaluation Task Force)

What is the problem and what is known about it so far?

Clerkship directors and others charged with assessing the competency of trainees and other professionals face challenges in developing and utilizing appropriate, reliable, and valid assessment tools. Part of the problem lies in defining what is being measured – a particular area of competence – since it is often context-specific (setting, disease specifics, etc.), content-specific (information gathering and clinical reasoning), and developmental (novices tend to use rule-based formulas while experts can make rapid, context-based judgments in ambiguous situations). Importantly, in any given individual, development of competence will usually vary across different contents and contexts reflecting the particulars of training, exposure, personal interests, etc.

Some competencies are more easily measured than others. Medical facts tend to be more easily evaluated though may not accurately predict clinical competence. Accurately gauging clinical reasoning ability usually requires more sophisticated and varied assessments while evaluation of competencies such as professionalism and the ability to work effectively in teams becomes still more problematic.

The purpose of assessment varies as well, being formative or summative and being used for the personal development of the learner, for selection for advanced training, or for certification purposes. Not all assessment tools can be used interchangeably for all these goals and no one tool is appropriate for all situations.

What did the researchers find?

This is a review article, not a trial. In it, the author first provides a concise summary of some of the theoretical foundations of assessment as well as the potential benefits and perils of assessment. A broad survey of the various assessment tools available to medical educators is presented. Importantly, the appropriate context for using the tools as well as the pros and cons for each method are discussed. Future directions and challenges in assessment are addressed. These include assessments of quality of care and patient safety, teamwork, and professionalism. The need to use multiple types of assessments longitudinally to gain an accurate, comprehensive picture of an individual is stressed. However, the proper selection and weighting of these individual tools to provide this global picture remains a problem to be resolved. The need for standardization of assessments within and between institutions to allow meaningful comparisons of learners needs to be balanced with the development of specific clerkship and institutional evaluation tools that reflect their unique curriculum and culture. Also, the problems of avoiding the unintended effects of assessment as well as the special situation of evaluating clinical expertise are discussed.

What were the limitations of the study?

The article presumes some basic familiarity with the assessment tools discussed. The format does not permit an extensive review of each item. Further discussion of the costs (both in terms of dollars and manpower required) would be helpful for those considering using a particular tool. However, a comprehensive reference list is provided to allow further investigation of specifics of the individual techniques.

What are the implications of the study?

The article provides an informative

compilation of assessment tools available to medical educators. The table outlining the domains assessed by the individual tools, their suggested use, limitations and strengths as well as the references will be especially useful for the clerkship director looking for new means to assess students' competencies or to round out currently used assessment tools.

Editorial Comment: *It is hard to know whether to be happy that educational articles now appear in the NEJM or sad that the content of this article has been found in most Clerkship Guides and Curricula (including COMSEP) for more than a decade. Nonetheless, this is a well written review of the subject.-WVR*

Wagner P, Hendrich J, Moseley G, Hudson V. **Defining medical professionalism: a qualitative study.** *Medical Education.* March 2007. 41 (3). p. 288-294.

Reviewed by Melissa Held, M.D.
Connecticut Children's Medical Center and
University of Connecticut School of
Medicine.

What is the problem and what is known about it so far?

There is no one agreed upon definition of medical professionalism and yet it is an important part of the core content of medical education. Many medical organizations such as the American Board of Internal Medicine have established "sets of professional responsibilities" to use as professional guidelines for physicians. The ABIM published "Medical professionalism in the new millennium: a physician charter" in 2002. This charter outlined professional responsibilities including a commitment to professional competence, honesty with

patients, patient confidentiality, maintaining appropriate relations with patients, improving access to care, and others¹. One criticism of the charter is that it does not take into account differing perspectives of learners at different stages of their careers or of patients.

What did the researchers do in this particular study?

This was a qualitative study which examined the findings of 8 focus groups who explored the meaning of medical professionalism. These groups consisted of medical faculty, residents, medical students and patients. Themes were identified and concept maps developed.

Who was studied?

Faculty and residents from the departments of family medicine and pediatrics at an academic medical institution, students rotating through their junior clerkship in family medicine, and active patients in an academic family medical center.

How was the studied done?

There were 8 focus groups comprising of 51 subjects (2 groups of each: faculty, residents, students and patients). Focus groups were led by 2 investigators using a set of trigger questions and a standard script of questions to encourage open-ended dialogue. Another investigator or research assistant took notes as a backup to audio taping. Audiotapes were transcribed. Data analysis was performed by an investigator experienced in qualitative analysis and data coding using immersion/crystallization. Investigators independently reviewed all transcripts and categorized items into themes. A theme table was generated. A visual concept map was then developed based on common themes among the groups with additional themes specific to groups. Consensus on themes and concept maps was reached via investigator discussion.

What did the researchers find?

Three primary and three secondary themes were common to all groups. Primary themes included knowledge/technical skills (being “competent” and “knowing your stuff”), patient relationships (trust and confidence) and character virtues (compassion, maturity, ability to show emotion, etc.). Secondary themes included medicine as a unique profession (handling intense issues, personal congruence, and peer relationships with a multi-disciplinary team).

There were unique themes by focus groups. Faculty focused on maturity and duty to patients (empowerment vs. authoritarianism). Residents discussed constant availability and duty to peers. Students were concerned about patient relationships (“didn’t want to hurt anyone”). Patients also were verbal about relationships (asking about their comfort, voice tone, body language etc.).

What are the limitations of the study?

This study was conducted at a single institution using a small sample size. There are possible biases of the particular qualitative reviewers.

What are the implications of the study?

There are developmental shifts across learning stages in medicine. These differences should be explored further as they may contribute to the difficulty in finding a standard curriculum in teaching professionalism to medical students and residents.

Citations:

1. Medical Professionalism Project. Medical professionalism in the new millennium: a physician charter. *Ann Intern Med.* 2002; 136: 243-6.

Editorial Comment: *It is interesting, but*

perhaps not surprising, that students, residents, and faculty had different ideas of what it means to be "professional". This may explain one of the difficulties in assessing professionalism in our trainees - perhaps we are assessing them on things that they do not see as important (which is why it is so important to have "anchors" on evaluation forms so that everyone knows what the standards are). This may also explain why when a student recently forged another student's signature for a mandatory teaching session, the students could not understand why our entire faculty team was appalled....SB

Harris DL, Krause KC, Parish DC, Smith MU. **Academic competencies for medical faculty.** *Fam Med.* 2007 May;39(5):343-50.

Reviewed by Julie Byerley

What is the problem and what is known about it so far?

Medical training prepares the faculty member for clinical care, but less training is available for becoming an effective teacher, functioning effectively in administrative work, or efficiently navigating the systems of medical education, research, and program development. Competencies are being outlined for medical learners and for practicing clinicians, but non-clinical competencies for faculty members in academic medicine have not been comprehensively defined.

Why did the researchers do this particular study?

This paper describes the development of checklists of academic competencies for family medicine faculty and publishes the tools created in the process.

Who was studied?

Family medicine faculty members in various

positions were considered by expert panel in preparation of the lists of competencies.

How was the study done?

This paper outlines the work of the Faculty Futures Initiative, convened in 1997 and funded by the Bureau of Health Professions to develop a strategic plan for faculty development in family medicine. A twenty-one member expert panel was created from leaders of family medicine organizations and other related groups including the AAP. They achieved consensus on a master list of non-clinical academic competencies which they divided into categories of leadership, administration, teaching, curriculum development, research, medical informatics, care management, and multiculturalism.

They then decided which competencies were necessary for people holding different positions in academic departments. Positions considered include teacher-administrators: chair, residency director, clinic director; teacher-educators: director of education, pre-doctoral director, clerkship director; teacher-researcher: director of research, research faculty; and teacher-clinician: community preceptor, clinical faculty.

Finally, they developed a list of ideals for proportion of time spent on each competency category for faculty holding the various positions outlined.

The lists were reviewed by a separate expert panel and revised after broad input.

What did the researchers find?

The checklists are available at <http://www.stfm.org/fmhub/fm2007/May/Dona343.pdf>.

For family medicine clerkship directors the authors describe the ideal time distribution of competency-focused work as 30% clinical,

20% teaching, 15% administrative, 15% curriculum development, 10% research, 5% leadership, and 5% medical informatics. Competencies outlined for family medicine clerkship directors include all those named in teaching, curriculum development, and multiculturalism but fewer of those named in leadership, administration, research, and medical informatics.

What were the limitations of the study?

The checklist was developed by expert panel consensus. They have been implemented in various ways in at least four medical schools (U Washington, Wayne State University, Northeastern Ohio Universities College of Medicine, and Mercer University) but have not been validated by outcomes research. Competencies for family medicine clerkship directors may be different than competencies required for pediatrics clerkship directors.

What are the implications of the study?

The paper presents several tools that are potentially useful in faculty development. The core competencies list could be used as a guide for self-assessment of faculty members or as a framework for feedback from mentors or peers. This list also could be used to guide curriculum in faculty development programs. The list of competencies categorized by position or by ideal time distribution may be used to reflect on performance in a particular faculty position. And, just as lists of competencies have been developed for clinicians, competency checklists for faculty are likely forthcoming. These provide a starting point for consideration.

Editorial Comment: This should prove remarkably valuable when meeting with the Chair (e.g. when asked to doing something or at the end of year review). We have defined competence in research and now finally are defining competencies in education and administration (outside the business world).

The real rub will be in designing assessment tools. -WVR

Sinclair, HK, Cleland, JA **Undergraduate medical students: who seeks formative feedback?** *Medical Education* 2007: 41: 580-582.

Reviewer Paola Palma Sisto, Medical College of Wisconsin

What is the problem so and what is known about it so far?

The positive effect of offering feedback on learner performance has been well established. Formative feedback (offering advice to improve) is distinctive and generally more useful for improvement than summative feedback (final evaluation of performance). It is unknown which type of learner is actively seeking formative feedback.

Why did the researchers do this particular study?

Year 3 medical students at the University of Aberdeen, UK must complete a "journal style" review paper for a Community Course before progression to Year 4. The papers are marked by course tutors trained in essay marking. The students receive both formative (written comments on each essay) and summative (final grade) on each essay. The formative feedback has to be picked up by the student or the student needs to give the course organizers a stamped, addressed envelope. The summative evaluation can be accessed via a computerized system. Since many students did not access their formative feedback, researchers were interested in which type of student did and how it correlated with performance on the essays.

Who was studied?

Study subjects were the 2004 and 2005 cohorts of Year 3 MBChB students at the

University of Aberdeen.

How was the study done?

This was an observational study of retrospective data. Data on gender and final grade were routinely collected. Students were required to sign for receipt of their formative feedback sheets or office staff noted who had been sent the feedback via mail. Categorical data were described as percentages and associations between 2 categorical factors compared using chi-square tests.

What did the researchers find?

The study included a total of 360 students. 52.7% were female. The overall final grades were distributed as follows: 9%-"outstanding", 50%-"very good", 30%-"good", 10%-"pass", 1%-"fail". Less than half of the students (46.4%) sought their formative feedback sheets in the 2 years.

Significantly more females collected the formative feedback (53.6% vs. 38%, $p=0.004$) as compared to males. Those students that achieved higher final grades also were more likely to collect the formative feedback (56.7% of "outstanding" and "very good" scores vs. 40.1% of the "good" and "pass and fail" scores, $P=0.02$)

What were the limitations of the study?

This is a retrospective and observational study, which may not be generalizable. The motivations of the students for accessing the feedback were also not elicited. The researchers did not look at overall performance on other courses using other methods of assessment to determine if the "poorer" performing students were actually performing poorly in other courses or in this specific exercise, a type of exercise they had not performed previously up until this point.

What are the implications of the study?

Students who tended to have poorer

performance on the essay type assessment, students who would have most benefited from feedback, were less likely to access formative feedback in this particular course. We are well aware that medical students often ask for more feedback; however it is unclear whether the feedback is actually valued and incorporated, unless the instructor specifically looks for those attributes. The researchers conclude that the medical students on this course may be more concerned about final grades than about using assessments as a learning experience. The researchers also consider that there may be an association between improved performance and having a more positive attitude towards formative feedback. Strategies need to be developed to teach all learners the value of formative feedback.

Editorial Comment: While it is a little unclear that the model used in this course really applies to feedback in general (as the students could not use the feedback to improve their skills in this particular course), it is disappointing that so few students took advantage of their opportunities to view the faculty comments. Alas, the old saw, "assessment wags the tail" rings true after all these years. WVR

The following reviewers elected to not use the standardized form followed by previous reviewers.

Pusic MV, Pachev GS, MacDonald WA.
Embedding Medical Student Computer Tutorials into a Busy Emergency Department. *Acad Emerg Med* 2007; 14:138-148.

Review by Chris White
Medical College of Georgia

Overview: The authors wanted to see if focused, brief computer tutorials could supplement medical student learning when placed in the midst of the clinical learning environment. They created 6 short computer tutorials (each designed to be able to be completed in 10-15 minutes), and placed them on a computer at the nursing station in the pediatric emergency department.

The study involved senior medical students during their required 2-week pediatric emergency medicine rotation. The students were asked (not required) to do 3 of the tutorials whenever they could find a convenient time to do so during the rotation. They were randomized to do 3 of the 6 cases.

Outcome measures included: 1) Statistics on student usage of the tutorials (how many cases were done, how long each case took, time of day cases were done, etc.); 2) Student performance on a 6-item, short-answer written examination. The exam was given as a pre-test at the start of the rotation, and at the end of the rotation. The exam did not count toward their final grade. 3) Multiple surveys of student computer experience, attitudes toward the tutorials, clinical experience during the rotation. 4) Faculty survey regarding their attitudes toward the intervention. The students' performance on the written exam was graded by 3 reviewers, two of whom were blinded to the identity of the student and whether it was the pretest or posttest. Since the students only did 3 tutorials but were tested on all 6, they also served as control groups for the tutorials they were not assigned on the written examination.

The computer cases were designed using a program called Toolbook II Instructor, version 5.5 (SumTotal Corp., Mountain View, CA). The topics of the 6 cases were: cervical spine x-rays, febrile seizures, fever without source, growth plate fractures, oral

rehydration solutions and tissue adhesives.

Results: 74 students took both the pre-test and post-test, and 73% of the students did all three cases they were assigned. The mean tests scores improved from 2.9 (± 1.9) out of 10 to 4.9 (± 2.4) from the pre-test to the post-test, which was a large statistically significant effect size. For 5 of 6 tutorials there was at least a moderate statistically significant improvement in test scores by the students who completed the tutorial. Interestingly, the tutorial where no effect was noted involved growth plate fractures. The authors postulate that this was due to the dedication of the teaching faculty to teaching this concept. Most students found the tutorials helpful, and the location in the middle of the nursing station was not a problem.

Limitations: Some of the students found ways to do the other 3 cases they were not assigned by signing in under the "residents" or "other" category (these groups had access to all 6 tutorials). This "contamination" of the control group might have lessened the impact of the intervention.

Comments: The authors felt "the single most important finding of the study was that medical students on rotation in a busy clinical setting could and would do the computer tutorials." There is an excellent discussion in the introduction of the paper about the use of multimedia learning strategies, and using computer-assisted instruction (CAI) for situational or "just-in-time" learning. They chose these 6 tutorials because they felt they were important for the students to learn, lent themselves readily to a computer-based teaching format, and they involved the kinds of patients that most students will see in their emergency department. The authors hypothesized that students who seek to acquire knowledge when they need it most will have the greatest motivation to learn.

Thus having a short, focused learning module on a specific topic can reinforce a concept that the student has just seen in an actual patient. Many of us encourage students to read about the patients they see because they remember it better. The use of CAI in this study is very analogous to that concept, and is much different than the use of CLIPP, which attempts to create a simulated patient with embedded learning issues. These short computer tutorials lend themselves well to placement in the clinical environment, as they can be completed in 10-15 minutes. This type of CAI might also lend itself well to being converted to a podcast, which could be reviewed by the student as often as needed and would be readily available.

Editorial Comment: *I can't help but think the newest film in a well-known series will be called "Fast and Furious: Medical School Edition." We all are looking for highly interactive education sessions that minimize faculty student time but maximize adult learning. "Just in time" learning is hot and many of the tools to create CAI modules (see <http://www.toolbook.com/> or [articulate.com](http://www.articulate.com)) seem easy to use.*

Adler, Me, Trainor, JL, Sidall VJ and McGaghie WC. **Development and Evaluation of High-fidelity Simulation Case Scenarios for Pediatric Resident Education.** Ambulatory Pediatrics 2007;7:182-186.

Reviewed by: Margaret Golden MD MPH
SUNY Downstate
Assessment Task Force

Many schools are looking at patient simulators as adjuncts to live patient encounters for teaching and assessing clinical skills. Some research suggests that repeated

practice on a simulator may be superior to learning from actual clinical encounters (Friedrich MJ "Practice Makes Perfect: Risk-free Medical Training with Patient Simulators. JAMA 2002;288:2808-2812.) On the other hand, some medical educators are uncomfortable that we are moving farther and farther away from patients. Hence rigorous assessment of the strengths and weaknesses of simulations is crucial to guide how we adopt this new tool.

Drs. Adler, Trainor et al report on the process of developing and validating "high-fidelity simulation scenarios" for 4 rarely encountered but time critical pediatric management problems: apnea, asthma, SVT, and sepsis.

One cohort of pediatric residents (n=51) at Children's Memorial Hospital in Chicago were used for field testing the case scenarios, which were run on a METI PediaSIM mannequin. A second but overlapping cohort (n=54) was used to measure the validity and reliability of the simulation exercise as a tool for assessing resident competence.

The paper gives fairly detailed accounts of the simulation exercises and the development process, which are worth reading. The developers spent >100 hours apiece reviewing and revising both the scenarios and the scoring check list.

For the purposes of evaluating resident performance, the encounters were videotaped, and each encounter was reviewed and scored by three of the authors. Each of the 54 resident participated in two simulations, for a total of 111 encounters (I couldn't get this math to work). The Kappa coefficients by case ranged from 0.75-0.87, which indicates quite respectable inter-rater reliability. As for validity, the mean score of second year residents was significantly higher than that of

first year residents, except for the Sepsis case, in which the first years performed quite well (the authors attribute this to the patient mix of their program.) Previous experience with a simulation also predicted a higher score, and most residents scored higher on the second case than on the first. However, residents later in a given year of training did not score substantially higher than those earlier in that year, which does raise some concerns about how well this exercise translates into actual clinical skill.

What does this study add to our knowledge of training on simulators? It does not answer the fundamental question: does prior training on a simulator improve the learner's ability to react appropriately in a crisis with a real patient? To answer such a question with rigorous research methodology seems utopian—and perhaps not necessary, given the enormous face validity of using simulators to practice for rare, critical events. But I think it is important to ask a related question: does training on a simulator introduce clinically significant distortions in a trainee's response to a live patient? The authors do not report any follow-up on the clinical performance of their residents—but perhaps that will be the subject of a later study.

We need to recall Miller's pyramid here. The paper demonstrates a way to make a very big jump, from the "knows/knows how levels" of performance to the "shows how level." As Margaret Golden accurately points out, the next leap is to the top of the pyramid: "does." The other question, even with their careful process to develop the scenario relates to generalizability. Would that all episodes of sepsis, asthma, SVT and apnea the same. If a resident can do well the way the case has been constructed, can they also do well with other presentations of the same

conditions? - BZM

Hirsh DA, Ogur B, Thibault GE, Cox M.
"Continuity" as an Organizing Principle for Clinical Education Reform. *NEJM*
2007;356(8):858-866

Reviewed by Kathy Preville, MD
East Carolina University

Authors from the Medical Education Section of the *New England Journal of Medicine* promote a call to arms in this article on medical education reform. They describe the present system of clinical teaching as the same model used since Osler's day. We are challenged to break down the walls between clerkships and integrate teaching across disciplines. Medical Education needs to respond to the health care needs of society and promote better patient sensitivity. Patient-centered care can be linked to learner-centered needs by allowing students the opportunity to establish a continuity relationship with the patient, but also with the same mentoring faculty (continuity of supervision).

The authors discuss horizontal and vertical integration of curriculum realizing everyone would be challenged to compromise and coordinate goals and objectives.

Patient and faculty preceptor continuity opportunities could best be presented in the ambulatory setting over an extended period of time.

The ability to model evidence-based care and positive patient relationships would allow faculty to take back their role as teachers which in the present model has been relegated to residents on the inpatient services. Continuity of care, curriculum, and supervision holds promise to produce the kind of doctors our health care system needs.

Editorial Comment: *This article is part of a series being published by the NEJM that highlights important, and sometimes controversial, aspects of medical education. It is exciting to see this prestigious journal routinely publishing articles on medical education (see also the review of Epstein RM. Assessment in Medical Education. N Engl J Med 2007;356:387-96 in this edition of the Pediatric Educator). While many schools have abandoned departmentally based basic science courses, it has been much more challenging in the clinical arena. SB*

Schwartz L.M., Fernandez, R, Kouyoumijan, S.R., Jones, K. A. **A Randomized Comparison Trial of Case-based Learning versus Human Patient Simulation in Medical Student Education.** *Academic Emergency Medicine* 2007;14:130-137

Reviewed by Katinka Kersten
University of Missouri

Mannequin-based human patient simulation (HPS) in medical education is gaining popularity. There is enough data to show that participants respond favorably to HPS-based training. However, there is little evidence to support that HPS is superior in acquiring knowledge and skills when compared to more traditional teaching formats.

In this study the efficacy of simulation training versus case-based learning (CBL) among medical students was evaluated as measured by observable behavioral actions after the educational intervention.

Fourth year medical students that were enrolled in a mandatory, month-long emergency medicine (EM) clerkship were studied. In week one the students were given a lecture on EM management of acute chest syndrome (ACS) and they received the core objectives. In week two students were consented for participation in the study and were randomized to participate in a one hour

HPS-based instruction or CBL session. In the CBL session the students worked through a vignette of a patient with ACS with the help of a facilitator and they reviewed management of ventricular tachycardia and ventricular fibrillation. During the HPS session participants individually assessed and managed a simulated patient with ACS and subsequent cardiac arrest with guidance and feedback from an instructor. At the end of the clerkship all students participated in an ACS OSCE similar to the case presented earlier. A trained evaluator who was blinded to the intervention groups scored the students' performance utilizing a 43-point checklist of required actions. All sessions were recorded and a subset of students' performance was scored again by two physicians who were also blinded. A total of 102 students participated in this study ($n = 52$ for CBL group and $n = 50$ for HPS group). Student performance on the OSCE exam was similar between the two groups for the majority of items. There was no mean difference between groups on the overall score (43 items), history category (22 items), acute MI evaluation and management (13 items), and cardiac arrest management score (8 items). Demographics and subspecialty interest at the time of the study were well balanced between the groups. The overall percent agreement between the physicians and trained evaluator scores was 89%.

The study was fairly small and it was not possible to randomize for academic achievement and prior patient care experiences with the potential for baseline group differences. One of the strengths of HPS is the unlimited ability for repetition of skills with assessment and feedback. This has been shown to improve acquisition of expertise in medicine. Repetition of skills with potential outcome changes was not part of this study. In addition, HPS-based training appears to be particularly effective in training

cognitive strategies and situational awareness. These qualities were not evaluated with the OSCE exam.

The use of patient simulation training in medical schools is growing exponentially. This prospective randomized study showed that the outcome on a clinical OSCE exam was no different when students participated in a one hour CBL session versus a one hour HPS session. Clearly more outcome-based research is needed in the field of simulation.

Don't discard those problem based learning cases and CBL vignettes as of yet!

There's a repetitive process that plays out as new teaching methods are developed. The early literature on PBL was much like this, and we've seen the same thing with computer-aided instruction. Should we be surprised that we see these papers with simulation? Eventually, this technology will find its place. My guess: team training and procedure training. I have my doubts about diagnostic skills and clinical reasoning skills, at least with 2007 technology. - BZM

Rosenbaum M, Lench S, Ferguson K.
Increasing Departmental and College-Wide Faculty Development Opportunities Through a Teaching Scholars Program.
Academic Medicine 2006; 81(11):965-9.

Reviewed by Soo Kin, Loma Linda

The University of Iowa created a 3-year curriculum for a Teaching Scholars Program (TSP) in 1999 after a review of faculty development programming at that time. The program was developed to promote faculty development within individual departments as well throughout the University of Iowa Carver College of Medicine (CCOM).

The goals of the teaching scholars program were to 1) promote the development of a core

group of faculty members for faculty development 2) increase the involvement of the departments in the area of faculty development 3) increase the resources in order to disseminate the faculty development efforts 4) develop skills and knowledge for the implementation of faculty development programs and provide continuing education to other faculty colleagues.

During the first year, TSP faculty are given assigned readings and exercises, which are then used for monthly half-day active training sessions. Participants also assess the faculty development needs within their departments and develop projects accordingly. In the second and third years, the TSP faculty meet quarterly and implement their faculty development projects both within their department as well as one other CCOM audience.

Evaluation data from 1999-2006 demonstrated that following completion of the TSP, there were significant increases in programs for faculty development by the participants both within their respective departments as well as other departments of CCOM. Significant increases in education leadership and scholarship were also noted both within CCOM as well as nationally.

A key success of the TSP is that it helps to stress the importance of faculty development within the institution and fosters a supportive educational climate. Scholars gain knowledge of critical tools and develop the know-how for the development and implementation of programs that meet faculty needs. Critically, the scholars expand their professional development skills. The program also allows a core group of faculty to identify and find solutions to faculty development needs and problems, which in turn helps to strengthen the department and also the institution. The core group increases

in size as former graduates continue to participate in the TSP by way of networking and acting as facilitators for quarterly sessions for the current participants.

The TSP program requires quite an impressive time and monetary commitment. Not only does it require a three-year commitment by the participant, but it also requires other faculty and facilitators for the monthly/quarterly sessions mentorship duties.

The estimated cost for professional staff time is 0.75 FTE for the directors with 5% FTE for administrative support during the first year of the program when there are monthly sessions.

During the second and third year when program sessions meet quarterly, and when consultation and support of individual projects are required, 0.30 FTE is required for the directors with 2% FTE administrative support. Other administrative costs are approximately \$1,500 during active years. The Dean's office at CCOM offered a stipend of \$2,000 for each scholar, and the overall stipend costs have been approximately \$9,000 per year (not all of the allotted stipend funding was used by all the scholars).

Editorial Comment: Faculty Development is a broad term. Institutions need to adopt an approach similar to that of the COMSEP Faculty Development Task Force. Teach the Teacher models are important but just as critical is the professional development of individual educators and scholars. While administrators routinely whine about the cost of faculty development, it certainly is less expensive than outfitting a lab (and does not become obsolete!).



See Y'all in Atlanta in 2008!