

Medical Informatics in a Medical School Curriculum

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Medical informatics is an area of growing importance in the health care arena as the reliance on rapid communication and the dissemination and sharing of information has matured into the age of computers and the Internet. To address the physician's role of life-long learner and researcher as proposed by the AAMC in the Medical School Objectives Project: Medical Informatics Objectives (MSOP/MIO), a formal curricular component has been integrated into the first two years of the Genesis curriculum at KCUMB. The emphasis is on the effective and efficient use of technology to make sound evidence based decisions. The curriculum is presented throughout the first two years of a patient presentation; systems based education beginning with orientation of incoming students and continuing through the fall semester of the second year. The curriculum consists of requiring the students to show proficiency in general computer literacy, Internet communication, database identification and search capabilities, biostatistics and decision making, relying on evidence based analysis. The final component of the curriculum requires the students to demonstrate utilization of these skills in the context of participating in an evidence-based, facilitated debate covering a controversial area of clinical application. Within this presentation the student is required to demonstrate the ability to locate relevant resources, analyze their significance in terms of content and validity and use this knowledge to propose a course of action. Future development of this program is anticipated to incorporate additional objectives from the MSOP/MIO including physician roles as clinician, educator/communicator and manager.

The Difficult Standardized Student--A Faculty Development Tool

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To determine faculty development needs of the Family Practice Department, a needs assessment was conducted. Most requested topics included teaching methods and methods of evaluation. The preferred teaching method was independent study, individual and mentor, or hands on exercises. The time frame most often requested was independent work or in a faculty meeting. To accomplish these requests, and to meet the goals of improving teaching methods and evaluative processes for the teaching clinical faculty, several "difficult student/resident" scenarios were developed. Faculty input was sought regarding frequently observed and difficult encounters with learners. Goals and objectives for each case were developed.

Based on faculty input, the difficult student/resident cases were written and enacted with faculty, paid students and standardized patients. Subjects of concern to the faculty included professionalism, empathy, interpersonal skills, "presence" and critical thinking. The template for the cases included 4 "scenes" (learner/patient encounter; learner presents to faculty; faculty examines the standardized patient with the learner; faculty reviews critical "teaching moments"). Each case was recorded to a CD for use in small group settings. A pre-test survey was administered prior to the in-service. A 6 month follow-up will be conducted to measure changes in teaching methods and evaluation. The "difficult student/resident" scenarios were approved by CME for granting of 1 hour of Category 1 credit for two scenarios. Future applications include Web page to enable distance learning for rural and community faculty, offering CME credit to faculty of other departments, and online independent study for faculty preferring to work off-site.

Use of "Grand Rounds" in the M1 Teaching OSCE

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We have revamped our original M1 testing OSCE into a teaching OSCE. Feedback from previous classes revealed several deficiencies in our original format. Adjustments have been made to address the special needs of the M1 students, including their relative lack of experience in conducting a focused history and physical exam, resulting in high anxiety levels that diminish the learning experience. More structure and teaching has been added to overcome these obstacles. The new teaching focus includes the addition of an OSCE Skills Session, designed to be a prep session held for small groups of students prior to their OSCE. During this session, the students are instructed on the format and logistics and given an outline of what is required in a focused history and physical exam and the corresponding SOAP note. In place of the usual six Standardized Patient (SP) cases, our teaching OSCE consists of students seeing a total of only four of six possible cases. The remaining time is devoted to OSCE Grand Rounds. This consists of a gathering of the students, Standardized Patients and a faculty member. The Standardized Patients provide general feedback to the students about what was well done and what could have been done better. The faculty member then reviews the cases, discussing what was expected, how the cases could have been completed for a successful encounter, and answers questions. Student feedback has been positive. We have observed excellent attendance, lower anxiety levels and improved attitudes and performances.

Teaching Patient-Centered Healthcare as an Approach to Respecting Patient Diversity

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Culturally appropriate care is a critical element of population-based medicine, addressing healthcare disparities, patient-physician communication and professionalism. Approximately 75% of 2005 US medical school graduating seniors report time devoted to instruction in these areas "was appropriate". To enhance this critical element a half-day intersession was developed. The program will buttress junior medical students' ability to provide culturally responsive care in a patient-centered manner, in which an individual's perspective on health, disease, illness, lifestyle and access to support services are part of a collaborative patient-physician approach to clinical decision making.

Objectives/Purpose: To implement a 1/2-day intersession to enhance junior medical students' ability to continuously apply a patient-centered approach focused on eliciting and responding to each patient's perspectives on health, disease and illness and the physician's role as provider. **Methods/Materials:** The intersession, designed collaboratively by medical students and clerkship directors, begins with addressing healthcare's unconscious biases and resulting healthcare disparities to emphasize the need for patient-centered care. Facilitated case-based small group discussions, utilizing Kleinman's Questions, guide students in identifying the medical community's values, patient-centered values, and their personal values. Written evaluations provide formative data to guide session revisions. PDA data drawn from junior medical student's clinical-experience-encounter-logs will provide summative data regarding the intersession's impact on point-of-care activities.

Results: Pending. **Conclusions:** Medical students and clerkship directors can successfully collaborate on the design, implementation and evaluation of the required intersession. Using patient-centered care for teaching cultural diversity to avoid healthcare disparities is a dynamic and synergistic approach to address patient-physician roles and stereotypes.

Do Objectives = Quality Learning & Teaching

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Medical College of Wisconsin and the MCW SCAs PDA Project Group / Medical College of Wisconsin

Objective: LCME Standard ED-1 states "the medical school faculty must define the objectives for its educational programs". Objectives provide the "big picture" for medical students and a curriculum blueprint for instructors. However, the degree to which students report inclusion of global objectives in daily instruction and its impact on educational quality has not been reported.

Method: Three volunteer student curriculum auditors (SCAs) per class (M1, M2) received Palm Tungsten/T3 PDAs pre-loaded with a Pendragon(tm) designed checklist. Each SCA independently completed one checklist per class regarding inclusion of each M1-2 objective: Critical Thinking and Problem Solving (CTPS); Patient Related Skills (PRS); Accessing, Managing and Appraising Medical Information (AMAMI); Professionalism (P); Communication Skills (CS); Population Health and Health Care Systems (PHHCS); and Scientific Foundations of Medicine (SFM). SCAs also rated teacher quality and learning impact. Records from Oct-Nov 2005 were analyzed using descriptive statistics and stepwise multiple regression to determine if objective(s) inclusion was associated with teacher quality and learning impact.

Results: 329 records were rated with at least one objective addressed in 92% (329) of sessions.

CTPS	PRS	AMAMI	P	CS	PHHCS	SFM
73% (224)	55% (164)	46% (144)	21% (65)	52% (159)	49% (151)	51% (155)

Two global objectives, CTPS (beta =.216) and AMAMI (beta =.187) predicted high learning impact and AMAMI (beta;= .272); CTPS (beta = .213) and PRS (beta =.145) predicted overall teaching effectiveness. Conclusion: Inclusion of clinically related objectives in daily instruction is associated with high teaching quality and learning impact.

Compassion and Professionalism: A New Role for Clinical Medical Librarians

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Purpose of innovation: Supporting medical students' professionalism and compassion Background: The clinical medical librarian (CML) program has provided informational support and instruction for medical students during their two month internal medicine rotations since 1971. The instruction and information provided by the CML traditionally responded to educational needs and patient care questions encountered on morning rounds. Methods: The consistent contact of the clinical medical librarians with students during their patient care experience provided an opening for introducing added resources and feedback about compassionate care and professionalism. The librarian provided information about ethical and patient care issues such as access, stereotyping and communication skills directly through discussions and comments on rounds and through information packets/emailed links. Some topics included: dealing with cultural differences, communicating with angry or difficult patients, exploring legal implications of HIV, and dying patients.

Results: There was increased discussion of ethical and social issues by physician faculty members on rounds. Student response has been favorable but further study of the long term impact is needed. Conclusions, including applicability to other schools or programs: As a member of the healthcare team, the clinical medical librarian is in an ideal situation to act as observer and to support the development of students' skills in relating to patients and other team members. This is an added value to existing CML services such as participation in informational instruction and providing consultation and information regarding patient care questions.

The Well-Patient Female Breast and Pelvic Exam Film at the University of Iowa

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The Carver College of Medicine has recently revised the teaching film for the "Well-Patient Female Breast and Pelvic Exam" in a collaborative process involving patient examiners, faculty, staff, and students. This film is used in the preclinical curriculum to orient second year medical and first year physician assistant students to the exam.

The purpose of the project was to create a resource that places patients at the center of the exam, provides multicultural perspectives, and provides reassurance as well as information to students first performing the female exam. At the conclusion of viewing the film and performing the examination, students will be able to list the elements of a patient-centered gynecological exam; describe the possible impact of age and cultural diversity on the patient's experience; and perform the basic elements of the exam. Rich in cultural diversity, the film traces the patient-examiner-led examination experience from start to finish. Female patients and patient examiners emphasize that the examination should always take into account mental and physical comfort issues such as appropriate language and touch. The demonstrated exam also promotes minimal and purposeful movements.

If students notice any signs of patient fear or possible abuse, they are instructed to follow up with the patient and to offer their assistance in a non-judgmental way, so that the patient recognizes that this is not normal and that help is available. Respectful communication and patient control of the experience are emphasized throughout. Handouts summarizing the Well-Patient Female Breast and Pelvic Exam for students and patient examiners supplement the film.

Healthcare Concerns for the 21st Century - Preparing Medical Students for Disasters

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Objective: A Bioterrorism/Weapons of Mass Destruction (BT/WMD) course. Methods: Fourth year medical students received presentations from hospital, regional and national experts, including representatives from the Emergency Department, Fire Department, Poison Center, CDC, and FBI. Historical and hypothetical scenarios were used and basic science material covered; however student roles regarding chain of command, overall management plans and available resources were emphasized. Students participated in a disaster drill. Basic science competencies were assessed with pre and post-tests. Other course objectives and satisfaction were assessed with post-course and focus group discussions, student comments in the media and by direct observation during the drill.

Results: Pre and post test results for basic science were 47% and 93% respectively. Student recognition of their current and future roles in BT/WMD events was affirmed during post-course and focus group discussions, and in comments to the media. Satisfaction was nearly universal. The London Underground bombings occurred during the course resulting in extensive media coverage and heightened appreciation of the subject matter. Conclusion: As present and future participants in BT/WMD disaster preparedness and response, medical students must recognize their roles and be prepared to contribute constructively regardless of their career choices or the particular events on the ground. An effective introductory method of accomplishing this is to use hospital, regional and national experts to emphasize general concepts of disaster medicine and to have students participate in a disaster drill. Current events can underscore the importance of achieving these competencies.

Teaching and Assessing Communication and Interpersonal Skills in the Emergency Medicine Clerkship

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Objective: To develop and implement a curriculum to teach and assess the communication and interpersonal skills (C-IPS) needed for patient care during an emergency medicine student clerkship. **Methods:** Students received a lecture regarding elements of C-IPS in the care of emergency medicine patients. Students were trained during the lecture to use a locally-written C-IPS checklist consisting of 17 skills where the rater indicates whether or not each skill was performed. Students complete an observed structured video examination (OSVE). Using the C-IPS checklist several faculty and student peers assessed each student's OSVE performance. Each student viewed their videotaped OSVE performance privately with the faculty and mock patient, completed a C-IPS self-assessment, and received verbal feedback about his/her performance. Students were required to fill out an anonymous evaluation of this portion of the curriculum.

Results: To date, 27 students have participated, and 24 students have complete data. The faculty recorded a mean of 13.56 C-IPS skills performed, the peer mean was 15.22, and the student self-assessment mean was 13.08. Results from a repeated-measures analysis-of-variance indicated a significant difference between the three group means, $F(2,46)=12.615$, $p<.001$. Follow-up paired-samples t-tests showed a significant difference between the faculty and student-peer assessments ($t(24)=6.72$, $p<.001$) and between the student-peer and self-assessments ($t(23)=4.14$, $p<.001$). The student peers assessed the OSVE performance more liberally than did either the faculty or the students themselves. The students evaluated this portion of the curriculum positively. **Conclusion:** Student communication and interpersonal skills can be taught and assessed during the EM student clerkship.

Teaching Cultural Competence through Problem-Based Learning

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The University of Missouri-Columbia, School of Medicine has trained physicians using a problem-based learning (PBL) curriculum since 1993. The curriculum places greater emphasis on the development of critical and problem-solving skills than on straight memorization. During their first and second year of medical school, students work their way through cases carefully selected to highlight the anatomical, physiological and biochemical principles associated with a particular patient's symptoms, as well as the necessary clinical skills to handle the situation. Recent calls for greater attention to cultural competence training have led the School to revisit some of the cases used for instruction of first and second-year medical students. The School's goal is to identify ways to include cultural competence principles into some of the cases currently in use. PBL is rooted in the conviction that lecture-based instruction encourages a passive approach to learning, which results in a narrow understanding of subjects.

Students learn what they are taught during lectures, and many times they fail to develop the skills needed to acquire deeper knowledge through independent learning and discovery. Traditional teaching methods (lectures specifically) are particularly risky when used to present information about cultures because they often utilize and perpetuate the kind of oversimplification that leads to the formation of stereotypes. Cultural competence, like knowledge of any aspect of the human body, is much too complex to be captured in a series of lectures, but it rests on a few crucial skills that can, in fact, be taught through PBL.

Needs Assessment For Undergraduate Geriatrics Curriculum

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PURPOSE OF STUDY: On the 2005 Association of American Medical Colleges' Graduation Questionnaire (GQ), 24% of students nation-wide reported inadequate geriatric teaching. A larger percentage of our graduates (38-54% over last three years) reported inadequate geriatric training. We are developing, implementing, and evaluating a geriatrics curriculum (didactic lectures, small-group sessions, and Observed Student Clinical Examinations [OSCEs] utilizing standardized patients for 3rd-year students) in a longitudinal study assessing the impact of the geriatrics curriculum on students' knowledge and clinical performance.

METHODOLOGY: We developed a 20-item, multiple-choice Geriatric Medicine Questionnaire (GMQ) addressing students' knowledge of common geriatric syndromes (possible range 0-20) and administered the GMQ to all 3rd- and 4th-year students as historical controls. The 3rd-year students also completed an Alzheimer's disease OSCE (patient encounter and post-encounter assessments).

RESULTS: Ninety-six students completed the GMQ (58 3rd-year and 38 4th-year); mean GMQ score was 11.6 ± 3.1 (range 1-19). Ninety-four 3rd-year students completed the dementia OSCE; average total score was 71%. The average score for the OSCE patient encounter (taking the memory loss history) was 66% (30 students scored below 60%). Ninety percent of 3rd-year students completing the GMQ correctly answered the question requiring recognition of Alzheimer's disease. Baseline GMQ knowledge scores support student feedback on the GQ.

CONCLUSION: The discrepancy in students' inability to perform a memory loss assessment and recognize Alzheimer's dementia in a clinical setting compared with their responses to the GMQ supports the use of OSCEs in teaching and evaluating this curriculum.

Toward The Evaluation Of An Emergency Medicine Journal Club Curriculum In Biostatistics And Evidence-Based Medicine, Using Resident Self-Assessments

Gary M. Gaddis, University Of Missouri-Kansas City And St. Luke's Hospital Of Kansas City

BACKGROUND: To acquire ACGME competencies of Medical Knowledge and Practice-Based Learning and Improvement, residents must acquire biostatistical and evidence-based medicine appraisal skills. Our emergency medicine residency facilitates these skills through Journal Club.

PURPOSE: To study the effectiveness of a journal club biostatistics and evidence-based medicine curriculum, tailored to residents' self-assessed skill deficiencies. **METHODS:** Nine PGY-I and nine PGY-II emergency medicine residents completed a self-assessment survey, consisting of 24 Likert items, designed to measure their perceived knowledge and skills regarding biostatistics, and basic and advanced evidence-based medicine skills. Journal club directors wrote the survey. Survey results were used to refine a 24 month journal club curriculum. After exposure to the revised curriculum, residents will again self-assess using the same survey.

RESULTS: Residents acknowledged deficiencies on the majority of items surveyed, for both biostatistics (M=2.4), and basic (M=3.2) and advanced (M=2.5) evidence-based medicine. Based upon survey results and the types of studies most common to emergency medicine, the directors increased curricular exposure to key concepts and skills, through more repetition, greater detail, and practical application. **CONCLUSION:** Emergency medicine residents, early in their training, self-identified many biostatistical and evidence-based medicine knowledge and skill deficiencies. Whether the journal club curriculum addresses their deficiencies will be ascertained by follow-up surveys of each class at the end of their PGY-III year. Future studies across other specialties and educational levels can evaluate the potential to generalize this approach to the modification and evaluation of journal club curricula, which are seldom subjected to formal evaluation.

Statistical Process Control Charting: A Promising Objective Method To Frequently Track Educational Outcomes, and Monitor For A Need For Learner Remediation

Gary M. Gaddis, MD, PhD / University Of Missouri-Kansas City School Of Medicine & St. Luke's Hospital Of Kansas City

BACKGROUND: Residents and students can demonstrate proficiency at certain ACGME competencies via: (1) fully objective assessments of knowledge, (typically done infrequently, such as annual resident in-training exams), or (2) frequent performance assessments, such as monthly rotation evaluations (which have both objective and subjective components). A tool to identify a need for remediation, which frequently AND non-subjectively monitors learner performance, could be valuable to medical educators. Unfortunately, no such tool currently exists. Statistical Process Control Charting (SPCC) might represent such a tool. SPCC is widely used in industry to frequently, objectively assess for non-random data variation, which triggers investigation for the root cause of the variation, and then attempted remediation of that cause.

PURPOSE: To focus discussion upon SPCC, and develop research ideas for its use, as a new technique for monitoring selected educational outcome parameters. **METHOD:** The process of SPCC will be described, and the standard rules used to identify non-random data variation will be discussed. Possible educational applications of SPCC, as envisioned by the presenter, will be noted. Next, the audience will be encouraged to suggest other applications for SPCC for educational assessment.

RESULTS: To be determined at the Research Consultation. **CONCLUSION:** SPCC is a valid, objective technique long used to assess for non-random variability of outcomes, as a trigger for focused investigation of the cause of such variation. SPCC may be adaptable to medical education to permit frequent objective assessment of selected educational outcomes which are not currently frequently assessed in a fully objective fashion.

An Electronic Portfolio Required of All University of Illinois Medical Students

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A student portfolio has been undertaken by the College of Medicine at the University of Illinois. During a year of planning, an electronic portfolio was piloted assisted by 47 first year medical students at two of the University of Illinois campuses and with the aid of eight faculty members who served as portfolio advisors. There are several purposes of the portfolio. First: to provide opportunities for the students to develop the ability to assess themselves through reflection. Often students do not take the time to reflect about such things as seeing their first cadaver, interviewing their first patient, witnessing a patient die, or simply considering what has happened to them over the course of a year. Second: to use the portfolio as a learning mechanism which occurs through feedback from advisors and through reflection on student actions. Third: its utility as a learner assessment device, potentially providing the advisor with important information about student progress that in programs without portfolios is often missed until too late or difficult to deal with, and to examine progress toward competence in such areas as professionalism where multiple approaches to assessment are necessary. Examples include student discomfort with the curriculum; student depression; undue anxiety. Fourth: the portfolio is useful as a curriculum evaluation tool. Fifth: the process and its content serves to bring about a closer relationship between advisor and student. During this pilot year we used the Blackboard(tm) course system as a temporary electronic portfolio system.

Using this structure we were able to comfortably disseminate a series of ten questions in eight assignments. Students completed and submitted responses to their portfolio area. Questions included -- Assignment 1 reflection on the reality of being a medical student and considering the life goal of being a physician; Assignment 5 a review the student's work and efforts during the first semester; Assignment 8 preparation for a meeting with the student's advisor by preparing to discuss their strengths, weaknesses, areas for improvement, and their plans for improvement. For this pilot a small group of medical educators and the student advisors were able to read student comments. An overall assignment completion rate of greater than 85% was achieved through the first seven assignments. Further, two-thirds of the pilot group has agreed to continue the pilot as we develop questions and procedures relevant for second year medical students. The Class of 2009 will be required to maintain a portfolio. Each first year medical student will be required to respond to questions and complete tasks in a College portfolio. Because we will be using the Blackboard(tm) Portfolio plug-in, students will also have the opportunity to construct a private portfolio, available only to themselves and anyone to whom they wish to provide access. It is our hope that a significant number of students realize the benefit of maintaining a private portfolio as it can provide important data for themselves as they move toward residency and later into board certification.

The Relationship Between Students' Attitudes Toward Coursework And Their Humanism And Psychosocial Beliefs About Patient Care

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Objectives/Purpose: This study will investigate whether students' attitudes toward science, psychosocial, and clinical courses differ and whether students' attitudes toward courses are related to humanism and beliefs about psychosocial aspects of patient care.

Methods/Techniques/Modes-of-inquiry/Data sources/Evidence: This is a cross-sectional, IRB approved study, using survey data collected from 100 medical students participating in a required communications course. The students will have completed two years of basic science curriculum and have limited clinical medicine exposure. Non-directional relationships between the study variables (humanism, psychosocial beliefs, attitudes toward psychosocial coursework, attitudes toward clinical coursework, and attitudes toward science coursework) will be explored through correlation analyses. Reliable and valid scales to measure self-reported humanism and psychosocial beliefs will be used along with a locally written questionnaire to measure students' attitudes toward coursework.

Results/Conclusions/Point-of-view: Results from factor analyses on humanism and psychosocial beliefs, and attitudes toward coursework will be reported. A repeated measures analysis of variance will determine whether or not students' attitudes toward science, psychosocial, and clinical courses differ. Additionally, correlations between study variables will be reported.

Educational/scientific significance: The literature makes the claim that students' attitudes toward basic science, psychosocial, and clinic coursework differ; some students view psychosocial courses as less valuable and relevant. This study will investigate the validity of this claim as well as potential explanatory correlates. Examining the relationship between students' humanism and psychosocial beliefs as they relate to attitudes toward coursework will help curriculum designers to understand the resistance students have toward courses that deal with the art of medicine.

Using a Student Grand Rounds to Incorporate Evidence-Based Medicine in an Internal Medicine Clerkship

Bruce Houghton, MD, and Hank Sakowski, MD / Creighton University School of Medicine

Our Ambulatory and Inpatient Internal Medicine Clerkships have utilized a "Student Grand Rounds" Presentation to help students integrate the precepts of Evidence Based Medicine (EBM) into their Clerkship experience. Objectives of the Grand Rounds: 1. Students will recognize clinical questions as they arise in the daily practice of medicine. 2. Students will formulate an answerable clinical question. 3. Students will be able to find current best evidence to answer their question by performing an effective medical literature search. 4. Students will critically appraise the medical literature. 5. Students will apply the information found to clinical practice. 6. Students will gain experience educating peers about their topic. Students participate in an 'interclerkship' interactive session (two half days) that introduces the basics of EBM early in the third year of medical school. Students work through exercises in the critical appraisal of 'therapy', 'diagnosis' and 'systematic review' articles. Furthermore, early in the IM Clerkship they have a refresher session in which the basics of EBM are discussed with review of bibliographic search techniques and critical appraisal of the medical literature and application of EBM to patient care. Students are encouraged to discuss clinical questions with their residents and faculty. Furthermore they are encouraged to seek help from the health sciences library personnel for bibliographic search assistance if needed. The student then presents his findings to other students on the Clerkship in a 'Grand Rounds' format. Clinical faculty evaluate the student's performance. Students are graded on their ability to formulate a four-component clinical question, perform a thorough literature search, critically appraise the evidence and discuss how they can or cannot apply the evidence to the patient's care.

The exercise allows the students to go through the steps of EBM to answer a clinical question arising from a patient they care for on rounds. Most often students utilize PowerPoint for their presentations and generate some good feedback from their fellow students. From the clinical faculty's point of view, the students have selected some very interesting clinical questions and have performed very well in this exercise. In fact since we initially incorporated this exercise into the Clerkship, clinic attendings have started to request students 'look up' certain clinical questions that arise in the clinics. Students can see the clinical utility of the EBM process. This has been one of the unanticipated effects of the Student Grand Rounds. We hope this experience may lead to students' continued use of these skills in their medical school careers and beyond. On the 2004 AAMC Medical School Graduation Questionnaire Creighton students who rated Evidence Based Medicine instruction as "Appropriate" dropped from 95.6% in 2003 to 85.1% and those who rated it as 'Excessive' increased from 2.7% in 2003 to 12.8% in 2004. We want other Clerkships to develop similar exercises for their students. In fact, the Pediatrics Clerkship has initiated a similar exercise in their rotation for medical students. We believe it is an excellent method to teach EBM to students on a Clerkship.

Incorporation of a Modified Form of Just-in-Time Teaching (JiTT) Quizzes into a First-Year Medical School Course

Diane Karius, PhD / Kansas City University of Medicine and Bioscience

Objective: In an effort to create more effective feedback between faculty teaching and student learning, the Just-in-Time Teaching (JiTT) paradigm was modified for incorporation into a team-taught, multidisciplinary systems-based course with a large enrollment. **Objective:** In an effort to create more effective feedback between faculty teaching and student learning, the Just-in-Time Teaching (JiTT) paradigm was modified for incorporation into a team-taught, multidisciplinary systems-based course with a large enrollment. **Methods:** First year medical students in the gastrointestinal course took weekly, formative quizzes using the quiz capabilities of Blackboard(tm) Course Management software. These quizzes were composed of 19 - 36 computer-graded questions and were available from Thursday afternoon to Friday morning at 8:00 a.m. The quiz statistics were used to identify learning issues to be incorporated into the weekly case discussion held later that morning.

Results: The average scores on the JiTT quizzes were significantly lower than those earned on the summative examinations given in the course. Linear regression indicated that performance on the JiTT quizzes was significantly correlated to the total points earned in the course, although they predicted only a limited proportion of the final point total ($\text{Exam points} = 0.0130 + (0.487 \times \text{JiTT score})$). Both faculty and students expressed disappointment at the low averages. These data indicate that JiTT quizzes can be incorporated effectively into a team-taught, multi-disciplinary medical curriculum, but the lower scores inherent in such a formative quiz may have consequences for both the students and the faculty.

The SMILE Program: A Model for Building Clinical Leadership

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The expanding scientific curriculum of medical education makes it a challenge to allow time for non-technical training of medical students. One option used by a number of residency programs is a single- to three-day extra-curricular leadership training experience. The outcomes of these programs and additional, independent research on leadership training have demonstrated improved class camaraderie and more effective healthcare with improved outcomes. The expanding scientific curriculum of medical education makes it a challenge to allow time for non-technical training of medical students. One option used by a number of residency programs is a single- to three-day extra-curricular leadership training experience. The outcomes of these programs and additional, independent research on leadership training have demonstrated improved class camaraderie and more effective healthcare with improved outcomes. While the outcomes for such experiences have been described for residency programs, there is limited information on leadership and other non-technical training experiences for undergraduate medical students. Moreover, there is limited information on an appropriate structure, content and organization to follow for leadership training.

The purpose of this poster is to present the structure, content and organization of an established leadership program for undergraduate medical students. Leadership training is important in preparing pre-clinical students for their upcoming team-based clinical years, as well as advancing their personal development and academic performance. The organization of the program followed three tiers of leadership; that of self, that of others and defining one's vision. The content was designed around basic leadership acumen and principles and aligned with the objectives of the Medical College's Dean's office for student leadership. Participant feedback was reviewed and the program was determined to be a valuable, positive experience for all that were involved. While the 3-day program for preclinical medical students is still nascent, a formal presentation of leadership principles can provide quality training to the population and provide long-term positive effects.

Comparing Student Performance And Faculty Vs. Standardized Patient Raters Using The Same OSCE Cases At Three Institutions

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To assess reliability of common clinical skills stations, two stations were developed and implemented during Objective Structured Clinical Examinations (OSCE) at three medical schools. Students were evaluated by both faculty examiners and standardized patients (SP). There were no significant differences in ratings by faculty examiners between institutions; however, SP ratings differed significantly on both stations. When comparing raters, faculty examiners rated students significantly lower than SP's in the station including a physical examination. SP scores were better correlated with faculty examiner scores the more experienced a school was using SP's as examiners.

Taking Faculty Development International-Omaha to Kabul

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University of Nebraska Medical Center

Purpose: The University of Nebraska at Omaha (UNO) and the University of Nebraska Medical Center (UNMC) have a long standing relationship with Afghanistan in building back the country, agriculture and specifically the schools and health programs. The President of the Kabul Medical University, Cherish Ali, MD, asked Ward Chambers, MD (Consultant from the University of Nebraska Medical Center) for Faculty Development instruction in newer curriculum methods for the Afghanistan Medical University. The goals are to improve the medical school training curriculum and the status of women in the medical field. In 2004-05, the Afghanistan Medical School Class has approximately 30% women. Purpose: The University of Nebraska at Omaha (UNO) and the University of Nebraska Medical Center (UNMC) have a long standing relationship with Afghanistan in building back the country, agriculture and specifically the schools and health programs. The President of the Kabul Medical University, Cherish Ali, MD, asked Ward Chambers, MD (Consultant from the University of Nebraska Medical Center) for Faculty Development instruction in newer curriculum methods for the Afghanistan Medical University.

The goals are to improve the medical school training curriculum and the status of women in the medical field. In 2004-05, the Afghanistan Medical School Class has approximately 30% women. Method: The medical curriculum instruction, presented to the Kabul Faculty consisted of didactic, problem based learning, (PBL), and small group activity with Socratic reasoning. Also included were interactive sessions on writing questions and objectives, delivering lectures using active learning, and dealing with students. These teaching techniques are in contrast with the traditional methods of lecture and rote memory. The presentations were given by lecture (PowerPoint), small group sessions, problem based learning, handout materials, and question-answer sessions. A group of Kabul Medical Faculty were selected and given four half-day faculty development sessions on: 1. Problem Based Learning--Sixteen Kabul Faculty members wanted to be in the same PBL group and participated actively in a sample case and discussion. 2. Writing Objectives and Multiple Choice Questions --Writing objectives was a new concept to most of the Medical School Faculty. Writing multiple choice questions was based on principles developed by the National Board of Medical Examiners, NBME. Faculty members were asked to write an objective prior to the presentation and then critiqued their own objectives as a part of the instruction. 3. Small Group Discussion: Principles of the Integrated Clinical Experience (ICE) using biopsychosocial issues-- Demonstrations of small group sessions were presented on stage in front of the lecture hall, of approximately 200 medical students and faculty. 4. Dealing with Medical Students and Inserting Active Learning into the Lecture--These sessions dealt with academic difficulty, how to develop better study habits and principles of interactive learning during a lecture period. Results: Overall, program evaluations evidenced strong acceptance of the Kabul faculty by ratings of greater than or equal to 4.0 on a 5.0 point scale. Concerns of the Kabul faculty are large classes (200-300 students), how to acquire enough rooms to break down into groups of 8-12 students and having sufficient facilities and faculty to accommodate all classes. Even though numerous Kabul Faculty spoke English, a translator was requested by the medical school President so that all faculty members could clearly understand the material presented. The presenters learned to speak more slowly and to avoid American idioms. Conclusion: The Faculty Development Programs presented to the Kabul Medical University Doctors were well received. The UNMC team was asked by the President of the Medical University, Cheragh Ali, MD, to return and repeat the same program for another

set of faculty in Kabul. Curriculum review and revision for schools of medicine is another way for UNMC to demonstrate world class leadership.

RIME/IME POSTER ABSTRACTS

Aseptic Technique And Informed Consent: Do Surgical Residents Improve Their Skills During Residency?

Monica L. Lypson, Stanley J Hamstra, Lisa Colletti / University of Michigan Medical School

Purpose of Study: The Graduate Medical Education Committee (GMEC) at the University of Michigan developed a Post-Graduate Orientation Assessment (POA) to determine baseline proficiency in multiple aspects of the ACGME's six general competencies. This includes a 9 station OSCE, of which two are designed to assess resident's ability to obtain informed consent and utilize aseptic technique.

Methodology: During House Officer Orientation in 2002-2005, we assessed the baseline ability of PGY-1's to perform these latter two skills. In June, 2005 a majority of the PGY-2's and PGY-3's repeated these assessments.

Summary of Results: We found no significant difference between surgical PGY-1's and surgical PGY-2/3's in their performance on the Aseptic Technique station ($t_{(55)}=0.84$, $p=0.404$). Similarly, no significant differences were noted in performance between surgical PGY-1's and surgical PGY-2/3's on the Informed Consent station ($t_{(49)}=0.12$, $p=0.902$). In contrast, when residents from all specialties were included, PGY-2/3's showed better performance than the PGY-1's on the Informed Consent station ($t_{(51)}=2.46$, $p=0.017$).

Conclusions: The results of this study should have surgical educators questioning the ability of the current educational structure within surgical training programs to educate residents in the technical aspects of informed consent and aseptic technique. One possible approach is offered by Leeper-Majors and colleagues, who recently demonstrated that the use of standardized patients to teach informed consent among surgical house staff is highly effective'.
Reference

1. Leeper-Majors, K, et al. The Effect of Standardized Patient Feedback in Teaching Surgical Residents Informed Consent: Results of a Pilot Study. *CURRENT SURGERY • Vol 60(6) 615-622:2003*

Sustained effect of a multidimensional curriculum revision on knowledge acquisition

Jess Mandel, MD, Kimberly Ephgrave MD, and Julie Phye PhD
University of Iowa Carver College of Medicine

When medical schools undertake curriculum revision, the allocation of increased time to the teaching of professionalism, communication, cultural competence, and clinical skills is often perceived as exerting a negative influence on the acquisition of core medical knowledge because of the loss of lecture hours in basic science disciplines and the loss of an exclusive focus on the traditional domains of medical knowledge. We report the ten-year experience at the University of Iowa Carver College of Medicine following a major multidimensional curriculum revision in 1995 that reduced lecture hours devoted to conventional basic sciences, expanded explicit instruction in patient-doctor communication and clinical skills, and inaugurated learning communities that emphasized service learning and engagement with the greater Iowa City community. Despite concerns that a less traditional didactic structure might impact negatively upon the domains of basic medical knowledge, mean USMLE Step 1 and Step 2CK scores rapidly and significantly improved after adoption of the new curriculum, and these improvements have been sustained for over a decade.

The University of Iowa experience suggests that curricular revision that is multidimensional and emphasizes communication, professionalism and community engagement can also impact positively on the acquisition of medical knowledge, even when curricular time designated to traditional basic science domains is reduced.

Medical School Millennial Students: A Comparison With Generation Xers

R. Stephen Manuel, University of Cincinnati College of Medicine

Nicole J. Borges, Northeastern Ohio Universities College of Medicine

Carol L. Elam, University of Kentucky College of Medicine

Bonnie J. Jones, Northeastern Ohio Universities College of Medicine

Purpose: Two generational cohorts comprising students enrolled in medical schools today are Generation X and Millennial students. Population theorists ascribe different sets of personal characteristics, attitudes, and preferences to each group. This study examined whether selected characteristics used to describe Generation X and Millennial students were quantifiable using a personality measure. Personality differences between Generation X and Millennial medical students were investigated.

Method: Eight hundred and nine medical students (399 females and 410 males) enrolled between the years of 1989-2004 at a midwestern medical school completed the 16 Personality Factor Questionnaire (16PF). Responses to the 16PF between the two generations were calculated using multivariate analysis of variance (MANOVA).

Results: A MANOVA showed significant differences for Generation X versus Millennial students on 10 of the 16 personality factors. As predicted, Millennial students scored significantly higher than Generation X students on the factors of Warmth, Rule-Consciousness, Sensitivity, Emotional Stability, and Perfectionism; Generation X students scored higher than Millennials on Self-Reliance. Millennial students also were significantly different from Generation X students on Openness to Change, Reasoning, Social Boldness, and Apprehension.

Conclusions: The 16PF serves as a useful tool to examine the differences between these groups and to gain a better understanding of the factors that comprise their personalities. Given differences between Generation Xers and Millennials noted in this initial exploratory work, this study forecasts possible educational implications in medical school academic affairs and student services, and offers areas for future research.

Career Change To Medicine: A Qualitative Study

R. Stephen Manuel, University of Cincinnati College of Medicine

Nicole J. Borges and Delese Wear, Northeastern Ohio Universities College of Medicine

Purpose: Current students and graduates at medical schools include individuals who entered medicine from another profession or occupation. Individuals who shift professions are undoubtedly encouraged and discouraged by a number of factors. The purpose of this study was to examine the factors and themes that have led to a career change to medicine using qualitative inquiry.

Method: Participants responded to questions about their former career, reasons for changing career, impact of changing career, expectations about new career, barriers and sources of support, satisfaction with decision, and advice for others considering a career change.

Results: Respondents included 6 individuals. Respondents desired a career change for both personal and professional reasons. Respondents seemed satisfied with their career change thus far, but felt that it came with some sacrifices and new concerns. Most respondents felt personally and professionally supported in their decision to pursue medicine although some alluded to colleagues from their former career not understanding the person's decision to choose medicine as second career. Remaining loyal to one's former profession was noted as important. A career change to medicine required longer hours, more work, and studying than originally expected. While the advice imparted to others was encouraging and supportive, it also cautioned them to explore that they were doing it for "the right reasons."

Conclusions: Medical educators and student services personnel who teach and provide personal support to students throughout medical school will benefit from a better understanding of the unique issues faced by student who had former careers.

Scientific Knowledge Is Only One Aspect Of A Student's Ability To Perform Successfully in a Clinical Skills Setting

Rebecca McClure, Becky Dawson, and Jane Johnson
A.T. Still University - Kirksville College Of Osteopathic Medicine

Objective: Compare the assessment of acquired scientific knowledge based on course grades and post-rotation exams in three discipline areas to subjective scores evaluating clinical skills of the same students for osteopathic medical students from three consecutive class years.

Method: Final course scores and post-rotation exam scores from Pediatrics, Anesthesiology, and Obstetrics/Gynecology were collected and compared with scores from clinical evaluation forms completed by the students' preceptors, which assessed various medical, communication and professional skills. These three courses were taught over a comparable time period and assessed in a similar manner. Pearson correlation coefficients were calculated using SPSS 14.0 to determine the relationship of the scores.

Summary of Results: No relationship was found between post-rotation exam grades and post-rotation evaluation scores. A weak relationship exists between course grades and post-rotation evaluation scores ($r = .10$, $p = .04$). Not surprisingly, the strongest relationship ($r = .33$, $p < .001$) was found between the two methods of assessing scientific knowledge: course grades and post-rotation exam scores.

Conclusion: Students who do well on exams, whether course or post-rotation exams, don't necessarily perform well in a clinical skills situation. Scientific knowledge is only one aspect in the treatment of patients. Medical interviewing, physical examination skills, ability to relate and interact with patients, and applying scientific knowledge appropriately, are equally important. It will be interesting to see if the integration of simulation experiences currently being offered in the curriculum has a noticeable impact on the performance of students in the clinical setting in future classes.

Accreditation process. preparing the curricular self-study

Julia McNabb, D.O., and Jeanne Kangas, M.S. / Kirksville College of Osteopathic Medicine

Issue Addressed: Institutional accreditation is a challenge that osteopathic medical schools must meet on a regular basis. Preparation for the accreditation process can be time consuming; therefore, development of an efficient course of action is valuable. **Rationale or Pertinence to Medical Education:** An institutional accrediting body evaluates an entire organization and accredits it as a whole. It assesses formal educational activities and also evaluates governance and administration, financial stability, admissions and student personnel services, resources, student academic achievement, organizational effectiveness, and relationships with outside constituencies. The institution must engage in a self-study and prepare a report of its findings for the accreditation body. An evaluation team from the accreditation body will conduct a review and prepare a report of their recommendation. Accreditation organizations are increasingly expecting evidence of student learning. Although it is within the realm of graduate medical education, the AOA and ACGME have developed competency standards for the purpose of demonstrating resident physician learning. We used these standards as a basis to design similar standards suitable for assessment of student level learning. The standards provide achievable student learning goals suitable for entry to postgraduate training. Furthermore these competency standards set the framework for the curricular portion of the accreditation self-study analysis. **Educational Objectives/Participant Outcomes:** We developed tools and methodology to aid us in preparing for our accreditation evaluation by the North Central Association of Colleges and Schools (NCA) and the American Osteopathic Association (AOA) Commission on Osteopathic College Accreditation (COCA).

The Mentored Professional Enrichment Experience at Southern Illinois University School of Medicine

Sarah Merideth, MA, Mary T. Aiello MA, Patricia L. Hopkins-Price PhD, and Eric C. Niederhoffer PhD
Southern Illinois University School of Medicine

Objective: The Mentored Professional Enrichment Experience (MPEE) is a structured, competitive summer research program for students between their first and second years. It was established in 2000 as part of a new curriculum design to provide an opportunity for students to pursue research interests and career development.

Methods Students identify a mentor from SIU-SOM faculty or approved external sponsors, develop a research question and appropriate methods, and establish their goals. Project areas may include traditional laboratory research, clinical research, or investigations in health-related areas such as rehabilitation, health education, or public health. Students may join an ongoing faculty research project, but they must make an original contribution. Each student submits an application including a detailed proposal, which is blind-reviewed by three faculty. Students whose applications are accepted are eligible to receive financial support. Mentors SIU-SOM faculty are also eligible to receive financial support. Following completion of the eight-week project, students present the results of their research to faculty and peers during a formal symposium. Successful completion of the program is noted in the students' Dean's letters.

Results To date, five classes of students have participated in MPEE. With a class size of 72, the average number of participants is 11, with a range of 3-24. Both students and mentors complete a one-page evaluation of the program. **Conclusions** Feedback about MPEE has been overwhelmingly positive, and the quality of student presentations has improved from year-to-year. With necessary funding, any school could implement a similar program.

A Student-Facilitated Practice OSCE Initiative

Anna Moranski, B.S., Kathryn N. Huggett PhD, Amanda S. Lofgreen M.S.
Creighton University School of Medicine

Objectives: As preparation for the required OSCE in the first-year Interviewing and Physical Exam course, practice OSCE sessions were offered to first-year medical students in October 2005. The objectives for the practice OSCE were to improve first-year medical students' interviewing, physical exam, and SOAP note writing skills; increase students' familiarity with the OSCE setting and format; and increase students' confidence in performing these tasks.

Method: Four second-year students developed the learning objectives and implemented the program. The educational director for the medical school's clinical assessment center recruited and trained standardized patients for this experience. The Office of Medical Education provided financial support for the standardized patients. **Results:** All first-year students at our School of Medicine were invited to register for the practice sessions and 109 students (86.5%) participated. Required OSCEs occurred between October and December. After completing their required OSCE, students were invited to complete an online survey.

To date, of the students who have completed the required OSCE, 98.2% reported the practice OSCE was very helpful, 89.1% indicated the practice OSCE reduced stress and anxiety about the required OSCE, and 100% would recommend offering the practice sessions next year. When asked about specific areas of preparation, 94.5% said the practice acquainted them with the OSCE structure and 84.6% agreed that verbal feedback provided by M2 students helped them improve their SOAP notes. **Conclusion:** The student-facilitated practice OSCE was well received and improved students' knowledge and confidence in skill areas required for successful completion of the OSCE.

Development of a Bioterrorism/Public Health Emergency Curriculum

**Phyllis Muellenberg, MA, Thomas Birk, PhD, S. James Booth, PhD, David Crouse, PhD
Jean Deupree, PhD, Mary C. Haven, MS, Steven H. Hinrichs, MD, James R. Newland, MD
University of Nebraska Medical Center**

Supported by a Department of Health and Human Services grant, the School of Allied Health Professions, University of Nebraska Medical Center has collaborated with faculty from the colleges of medicine, nursing, pharmacy, dentistry, public health and allied health programs to develop a web-based bioterrorism/ public health emergency curriculum for education of students from these disciplines.

The overall goal is to prepare graduates to: (1) recognize indications of a terrorist event or other public health emergency; (2) effectively meet the health care needs of patients, especially the most vulnerable, in a safe manner; (3) rapidly alert the emergency public health system; and (4) effectively participate in a coordinated multidisciplinary response. Eight web-based modules address knowledge based competencies in emergency management and preparedness, terrorism and public health emergency preparedness, public health surveillance and response systems, and selected clinical competencies for health professionals. Evaluation includes documenting the number and professional discipline of module completers along with demographic survey, pre-test, post-test, and evaluation survey data used in a continuous improvement process.

A total of 1,562 health profession students completed one or more web-based modules preparing them to participate more effectively in a multi-disciplinary response to a public health emergency. These course modules are available for distribution on the Internet or in CD-Rom packages to other health professions students or practitioners.

Innovations in Clinical Medical Librarianship

**Peggy Mullaly-Quijas, PhD, Michelle Beattie MLS, and Amrita Burdick MA, MLS
University of Missouri - Kansas City**

The Clinical Medical Librarian Program (CMLP) at the Health Sciences Library at the University of Missouri - Kansas City (UMKC) is one of the oldest in the nation, celebrating over 30 years of existence. At UMKC, the Clinical Medical Librarians (CMLs) follow teams of faculty and students on clinical rounds and provide information in response to educational and clinical queries. Over the years, as technology and medical education has evolved, so has the CMLP. This is especially true in the way the CML and the faculty and students communicate with each other. The objective of this poster is to present the new and changing methods of communications used by the CMLs to bring information to the faculty and students who needs it. Such methods include the use of Blackboard, Ariel, and email. These new communication methods have resulted in the increase in speed in which educational and clinical information can now be delivered. These innovations have implications for the delivering of all library information in a medical school setting.

Cultural effects on required evaluations of interpersonal skills and professionalism within an American multinational residency team

Carol Packard, MEd / University of Illinois

This poster will present findings from cross-cultural research, including a recent study by the presenter, which examined specific cultural effects on competency evaluations within an American multinational resident team. 51 residents completed a well known validated culture survey, then evaluated reported critical incidents based on the ACGME interpersonal skill and professionalism competencies. These were the same evaluation questions used on their form for evaluating senior residents. Significant variation based on culture were found. This poster will then recommend a curriculum for practical team development and educational interventions based on these results and literature from the fields of Human Resources Development and health care. Residency and faculty teams can use these recommendations to enhance intercultural understanding, minimize evaluation variation, and increase positive team relations. This poster will present findings from cross-cultural research, including a recent study by the presenter, which examined specific cultural effects on competency evaluations within an American multinational resident team. 51 residents completed a well known validated culture survey, then evaluated reported critical incidents based on the ACGME interpersonal skill and professionalism competencies. These were the same evaluation questions used on their form for evaluating senior residents. Significant variation based on culture were found. This poster will then recommend a curriculum for practical team development and educational interventions based on these results and literature from the fields of Human Resources Development and health care. Residency and faculty teams can use these recommendations to enhance intercultural understanding, minimize evaluation variation, and increase positive team relations.

Academic Enrichment: Minority Students. Use of Deep Breathing Meditation (DBM) To Reduce Testing Stresses

Gina Paul, PhD, and Barb Elam MS, LCPC / Southern Illinois University Wellness Center
Steven Verhulst PhD / Southern Illinois University School of Medicine

Purpose: Since stress can interfere with learning and testing, we wanted to provide minority, post-baccalaureate students with a pro-active approach to reduce stresses associated with these situations. We examined students' beliefs and perceived symptoms regarding testing and academic stresses and their use of deep breathing meditation (DBM). **Methods:** In a 10-month study, 32 students were surveyed at the beginning and end of the 2004 summer semester and in April 2005 to assess their perceived beliefs regarding testing stresses and their use of DBM. Students first attended two one-hour informational sessions regarding stress and test performance, were taught how to perform DBM, and evaluated with the HeartMath monitoring system; all students fully performed DBM. Students then participated in regular 5-minute deep breathing sessions over the next ten months and were encouraged to use DBM in other testing situations outside of our class. Data were analyzed using TTests and frequencies.

Results: The majority of students (84%) had never used DBM before the summer semester; after 10 months, 94% used DBM outside of class. Results indicated that students were able to significantly reduce feelings of: test anxiety ($p < .000$), exam nervousness ($p < .002$), self-doubt ($p < .000$) and concentration loss ($p < .001$). Students reported they believed that daily use of DBM would help them academically ($p < .0001$) and reported using DBM if they became anxious during exams in other testing situations ($p < .000$). **Conclusion:** The results suggest that significant positive behavior changes occurred when minority postbaccalaureate students were given the opportunity to practice a stress reduction technique on a consistent basis.

Capturing Live Lectures using Camtasia Studio Screen Recorder: Methods & Impact

Geraud Plantegenest, M.A, Kathy Lovell, PhD, Robert Stephenson, PhD, Carol Mindock-Wilkins, PhD, Darshak Thakore, M.S, Doug Waggot, MEd, John Ford B.A
Michigan State University

Purpose: The purpose of this project was to provide web-based access to classroom lectures recorded digitally using a screen and audio recorder software capable of real time content playback, and to explore educational benefits and determine which features are important to students. **Methods:** Camtasia (TechSmith, Okemos, MI), a low-cost program that records audio and screen content, was used to record classroom lectures for two Year 1 basic science courses during fall semester 2005. Some lecturers used PowerPoint files and some used text documents in Windows Journal on a Tablet PC. After a lecture, the instructor inserted markers, did other editing as appropriate and uploaded the Camtasia file to a server. Technology staff then rendered and compressed the file, and prepared it for web streaming and for download. The playback speed of the lectures could be adjusted using Windows XP Media Player.

Results: Feedback from students indicated a positive impact of the availability of online lectures. There was no substantial change in lecture attendance compared to previous years with only MP3 audio lecture files available. Ability to increase the playback speed to 1.5 time was an important feature for students. A survey and focus group interviews will provide additional information. **Conclusions:** Availability of classroom lectures in multiple formats with variable playback speed had a positive subjective educational impact. Analysis of the value added of specific features and type of use of the video files will assist with strategic planning for educational technology.

Professionalism Assessment And Reporting Tools In Undergraduate Medical Education

Richard R. Rattin, Nehad I. El-Sawi, and Tawnya T. Johnson
Kansas City University of Medicine and Biosciences – College of Osteopathic Medicine

Purpose A pilot professionalism program at Kansas City University of Medicine and Biosciences – College of Osteopathic Medicine provided an opportunity to investigate two different phenomena surrounding the use of reporting tools for professionalism assessment. First, the potential connections between reporting tools and student professionalism outcomes were explored. Second, the pilot program allowed the researchers to explore the unintended and implicit messages that accompanied the formal curriculum. Specifically, the messages embedded in the Professionalism Scorecards, or reporting tools, were revealed.

Methodology A retrospective one-group pretest-posttest design was utilized to explore the possible connections between reporting tools and student performance: two different Professionalism Scorecards were used each semester, and class outcomes were compared by semester. Qualitative methods were used to provide insight into the messages that were embedded in two different Professionalism Scorecards.

Summary of Results. The quantitative results indicated that there was a positive shift in student behavior from fall to spring semester. The qualitative analysis revealed that the messages embedded in the Professionalism Scorecards substantially differed.

Conclusions. The connections between reporting tools and student performance could not be established. However, the statistical results suggested that the use of a more subjective reporting tool did not negatively impact student performance. The qualitative approaches used in this study revealed that the two Professionalism Scorecards sent different messages. Accordingly, educators should be cognizant of the implicit messages sent by their reporting tools as they may differ.

An Innovative Program to Teach First and Second Year Medical Students about the Impact of Chronic Illness on Patients and Families

Kendall Reed, DO, Mary Pat Wohlford-Wessels, PhD, and Sharon A. Mueller RN, MA
Des Moines University

At Des Moines University, Osteopathic Medical Center, first and second year students are given a choice of electives, in addition to the traditional curriculum. One of these electives is a new program referred to as the "Chronic Care Program"/Community Osteopathic Professional Education/C.O.P.E.. At Des Moines University, Osteopathic Medical Center, first and second year students are given a choice of electives, in addition to the traditional curriculum. One of these electives is a new program referred to as the "Chronic Care Program"/Community Osteopathic Professional Education/C.O.P.E..

This program was implemented in the Spring of 2004. It was developed to introduce first and second year medical students to patients dealing with chronic illness, while fostering compassionate care. Students in the program study the psychological, financial and interpersonal impact of diseases, such as, congestive heart failure, chronic obstructive pulmonary disease, diabetes, multiple sclerosis and Parkinson's disease. Patients enrolled in the program are referred by community physicians and caregivers, as potential candidates, whereby the students may learn more about the chronic illness as it affects real people.

This elective has grown in popularity over the past year and a half, to the point where 25-30% of current first and second year students have enrolled. Ultimately the goal would be to make the Chronic Care Program a permanent part of the curriculum. Once students receive their patient assignment, they set up a time and place to visit. This may be in the physician's office, treatment center, hospital, patient's home or wherever the patient feels is conducive to open discussion of his/her illness. As long as students are in the Des Moines area, they may continue to participate, which means they may follow these patients for up to four years. Also, as students move out-of-the area, another student/students are assigned to the patient, in order to provide continuity for the patients. At the end of each visit, the students document their experiences in their journals and also in a SOAP note format. There are no actual "hands-on" assessments done by the students, unless supervised by a physician. Listening skills are imperative to this project. In order to maximize communication, students are encouraged to meet in small groups, at least quarterly, with faculty facilitators, to discuss their variety of experiences.

Faculty Development Across the Continuum of Medical Education at University of Illinois-Chicago

Janet Riddle, MD, Mark H. Gelula PhD, and Rachel Yudkowsky MD, MHPE
University of Illinois-Chicago College of Medicine

Purpose: The faculty development section in the Department of Medical Education serves to improve the teaching skills of fourth-year medical students, residents and faculty. **Methods:** We develop our programs using adult learning principles and Kolb's experiential learning theory. Participants learn to recognize differences among learners' cognitive styles, to recognize stages in developing clinical competence, to focus on higher order thinking, to provide opportunities for active learning, and to use brief clinical teaching skills.

Descriptions of programs: Sixty fourth-year medical students receive three hours of training in small group facilitation and feedback skills in preparation for serving as tutors in Essentials of Clinical Medicine. A clinical teaching elective allows fourth-year students to learn the skills and theory supporting clinical teaching through lectures, observations and critical review of teaching. Incoming residents are introduced to brief clinical teaching and giving feedback during orientation. All first-year residents are required to attend two additional workshops on topics of their choice. Senior residents are offered more intensive teaching skills training in an elective two-day workshop that expands their knowledge of adult learning and develops their teaching skills. Faculty workshops focus on brief clinical teaching, giving feedback, assessing students and effective lecturing. Workshops emphasizing the acquisition of clinical teaching skills utilize interactions with standardized medical students and review of videotaped teaching performance.

Conclusions: Participants in our programs value the opportunity to practice skills through simulations and standardized student encounters. Programs that target multiple levels of learners contribute to the learning climate in the entire college of medicine.

Bridging the gap: Librarian Expertise and Medical Education

**Erika Severson, MS, Christopher Hooper-Lane, MLIS, Andrew Boies, MD, Terrance M. Burton, MLS, & Natalie Reed MLS
UW-Madison, Ebling Library**

Purpose: This poster will illustrate a novel approach, utilizing a recent MD graduate, to increase integration of librarian expertise throughout the medical curriculum. **Methods:** Medical librarians have invaluable skills and training in critical areas of evidence-based practice and medical informatics that often go untapped throughout medical education. Our library recently relocated into a shared health sciences education facility, increasing the visibility of the library. To take advantage of this opportunity, the library hired a recent graduate from our MD program as a one year intern and designated a liaison dedicated specifically to medical education. The new intern, in conjunction with the liaison, spearheaded efforts to increase the connections between medical education and the expertise offered by our librarians.

Conclusion: Our approach has already yielded several benefits. We have successfully identified and taken part in opportunities for library involvement in the curriculum, e.g., venues such as pediatrics rounds and 3rd-year core education days. Inservices led by the intern and the creation of a curriculum map have led to a better understanding by librarians of the educational experience of medical students. We have improved connections with key curricular players such as deans and course directors, leading to increased participation on medical school committees, and we are restructuring some key web pages to reflect the information-seeking needs of students.

Innovative Ways to Expand History of Medicine Instruction

Brian Sick, MD / University of Minnesota

Objective: Introduce medical history to residents and medical students to engender interest in the history of medicine and to provide a way to understand how clinical knowledge is discovered and evolves over time. **Objective:** Introduce medical history to residents and medical students to engender interest in the history of medicine and to provide a way to understand how clinical knowledge is discovered and evolves over time.

Methods: Three methods of instruction were instituted during inpatient rotations for the medical students and residents. First, noon conferences were conducted once every two to three months which were devoted to medical history. Each presentation started by describing how medicine was practiced in the past, and was then brought full circle to show how each of these topics is still very relevant in current medical practice. Second, "Medical History Attending Rounds" were held. One aspect of medical history was expanded upon as it pertained to a particular patient. In addition the teams were given an original description of a disease and asked to discover the disease and the author. If possible these were paired with actual patients for whom they were caring. The final method was "History of Medicine Morning Report." On a regular basis a case was presented in morning report followed by a five to ten minute talk on the history of the disease. Also, if possible, the original description or most important historical article pertaining to the disease was given to the residents and students.

Results: A survey conducted of the residents and students about their opinion of medical history instruction showed that of 54 responses, 49 wanted more history of medicine teaching. Forty wanted more morning reports, 18 wanted more noon conferences, and 8 wanted more attending rounds. **Conclusions:** Residents and students are interested in the history of medicine. There are ways to make the information relevant and interesting to current patient care with minimal preparation by the educator.

Guided Apprenticeship Model of Faculty Development

Deborah Simpson, PhD, Diane Brown, BS, Dawn Bragg, PhD, Nancy Havas, MD, Suzanne Gehl, MD, Kathryn Denson, MD, Edmund Duthie, Jr, MD

Medical College of Wisconsin and the Geriatric Case Development Group, Medical College of Wisconsin

Purpose/Objective: Traditionally clinician educator faculty development (CE-FD) occurs through a structured curriculum culminating in each participant's capstone project. However, as internal demands for clinical and academic productivity are married with external mandates, new approaches to CE-FD must emerge. This study reports the outcomes of a workgroup based approach to CE-FD.

Methods: A multi-disciplinary workgroup was convened with the express purpose of developing OSVEs for ACGME responsive teaching and assessment. Team members were drawn from multiple specialties areas and were predominately assistant professors (9). Team members worked for 2 years collaborating with educators to design and disseminate project materials. To evaluate the impact of project participation, all team members (N=10), except project director and coordinator, completed a multi-section evaluation tool specific to their knowledge of ACGME competencies and professional academic skills (PAS) development. **Results:** More than 85% of team members were generated > 3 specific literature-based objectives for each targeted ACGME competency. All members (100%) reported explicitly incorporating ACCME competency language into teaching and learner assessment and improved educator competencies (e.g., teaching, instructional technology design and delivery).

In PAS, 100% increased their colleague networks, dissemination, and academic productivity with one new faculty member reported "this was vital in many dimensions: networking opportunities, building of confidence as a junior faculty member....this experience has helped me 'spread my wings' as a developing academician." **Conclusions:** The guided apprenticeship CE-FD model improved competencies as educators, and academicians, serving as a viable approach for faculty development.

Physician leaders: Who are they? What do they do?

Carla Stebbins, PhD

Des Moines University

Physicians are in a unique position to be effective change agents in the evolving health care system. Their role is crucial to ensure the proper integration of quality care and cost containment. Most physicians believe that their education and experience in practice ensures their success as physician leaders, yet many are reported to be highly ineffective in these roles. In fact, studies highlight the disruptive behavior of some physicians and the negative outcomes to such behavior. Today, the risks of weak leadership are more than just a few dissatisfied patients...there are serious legal and financial issues to consider. Physicians are in a unique position to be effective change agents in the evolving health care system. Their role is crucial to ensure the proper integration of quality care and cost containment. Most physicians believe that their education and experience in practice ensures their success as physician leaders, yet many are reported to be highly ineffective in these roles. In fact, studies highlight the disruptive behavior of some physicians and the negative outcomes to such behavior.

Today, the risks of weak leadership are more than just a few dissatisfied patients...there are serious legal and financial issues to consider. If we cannot rely on a credential or experience, how do we identify physician leaders? For those engaged in the development of physician leaders, what is the desired outcome? The findings of this qualitative study provide grounded theory to identifying the personal characteristics and professional disciplines of physician that are successfully leading change in today's health care system. These findings, along with data to support, will be shared with participants. In addition, direction on how to develop these leadership characteristics within a medical school, residency program, or other professional development program will be provided.

"A Performance Improvement Plan in Professionalism for the Emergency Medicine Resident"

Christine Sullivan, MD / Truman Medical Center, University of Missouri-Kansas City School of Medicine

Objective: To implement a process to successfully remediate an emergency medicine resident's performance in professionalism. **Methods:** A resident was found to be deficient in the ACGME competency of professionalism and related aspects of patient care and interpersonal and communication skills. A remediation plan was developed to improve performance. Monthly resident requirements included: self-assessment, meetings with the Director of Guest Services at the hospital, and Faculty Advisor meetings. All participants completed worksheets, and the resident reviewed all comments. The most important element of the process was daily resident feedback that supervising faculty in the emergency department gave to the resident using a performance tool that addressed areas of previous unsatisfactory professional behavior. Each item was scored on a defined one-through-five scale. A three represented competent performance, and any score below that was discussed with the resident at the completion of each shift. Requirements were reviewed over a three month period.

Results: A review of worksheets, resident self-assessments, and faculty ratings on the performance improvement tool showed that the resident gained better insight about performance strengths and weaknesses, and enhanced awareness of the patient perspective. The resident's overall score on the performance improvement tool increased, fluctuations in shift performance decreased over time, and the resident achieved a competent performance score for each element of the tool. **Conclusion:** The remediation process resulted in improved performance and an overall change in professional behavior by the resident. The performance improvement plan in professionalism could be applicable to other residency specialties.

Promoting Professionalism among Medical Students and Faculty through Narratives

George Thompson, MD, and Louise E. Arnold, PhD / University of Missouri-Kansas City School of Medicine

Purpose. Like their counterparts elsewhere, faculty at a mid-western medical school are investigating methods to nurture medical students' professionalism. These faculty believe they need to learn to communicate the principles of professionalism to learners more explicitly. We therefore introduced a project to increase awareness and appreciation of professionalism principles and build faculty skill in teaching and role-modeling professionalism. **Purpose.** Like their counterparts elsewhere, faculty at a mid-western medical school are investigating methods to nurture medical students' professionalism. These faculty believe they need to learn to communicate the principles of professionalism to learners more explicitly. We therefore introduced a project to increase awareness and appreciation of professionalism principles and build faculty skill in teaching and role-modeling professionalism.

Methods. Trained in a variant of appreciative inquiry and using a semi-structured interview guide, students interviewed faculty about their positive experiences with professionalism. The interviews occurred in a continuity clinic. Students wrote narratives, based on these interviews, about the faculty's experiences and reflected on their reactions to faculty's stories. The narratives are being analyzed for themes and compiled into a web-based workbook. In a workshop, faculty will learn how to incorporate the workbook and appreciative inquiry into their teaching. Practice in explicit role modeling of professionalism will also be provided. A pre-post program evaluation to determine project outcomes is ongoing.

Results. Eighty-four student interviewers and 36 faculty interviewees were trained and participated; 193 additional students observed the interviews; 131 narratives were written. The interviews initiated communication between students and faculty about professionalism topics they had not previously discussed. Unexpectedly, faculty and students asked that these interviews recur regularly. **Conclusion.** Students and faculty will participate in appreciative inquiry about professionalism. Whether participating enables faculty to offer more explicit instruction about professionalism and increases awareness and appreciation of professionalism principles will be ascertained upon completion and evaluation of the project, as will its generalizability.

Differences In Personality Styles May Impact Teacher-Learner Interactions During Clinical Clerkships

Laura J. Torbeck, Paula S. Wales, Mary A. Bell, James J. Brokaw, John M. Kunzer, and Virginia C. Thurston
Indiana University School of Medicine, Indianapolis

The Surgery and Obstetrics/Gynecology (Ob/Gyn) clerkships at the Indiana University School of Medicine have historically received low student evaluations. We hypothesized that the poor evaluations may reflect, at least in part, inherent differences in the personality styles of the learners compared to those of the teachers (faculty and residents) in these particular departments. Differences between teachers and learners could impede effective communication and adversely impact students' perception of the learning environment. Using the Myers-Briggs Type Indicator (MBTI) to assess personality styles, we administered the instrument to 152 faculty members and residents (100 from Surgery and 52 from Ob/Gyn) and 553 medical students. Aggregate MBTI data for faculty, residents, and students were analyzed based on four dichotomous scales and an overall temperament scale. Chi-square statistics were calculated to compare expected versus observed results for each of the three groups. We found that teachers were similar to learners on the Introversion/Extraversion scale and the Sensing/Intuition scale, but that teachers were dissimilar from learners on the Thinking/Feeling scale ($p < 0.03$), the Judging/Perceiving scale ($p < 0.01$), and the overall temperament scale ($p < 0.01$). These results suggest that differences in personality styles may affect the teacher-learner interaction during clinical rotations and alter students' perception of the learning environment.

Competency-Based Promotion Criteria for Surgery Residents

Laura Torbeck, PhD, Indiana University
David Canal, Scott Engum, Ryan Nachreiner, Mary Maluccio

Purpose. The Accreditation Council for Graduate Medical Education (ACGME) has mandated a shift from a structure- and process-based educational system to a competency-based system. The ACGME has not provided criteria for assessing performance, preferring to leave that to the discretion of the individual training programs. Such criteria are important for residents to better demonstrate what is expected of them as they strive to attain the appropriate knowledge, skills, and attitudes. With this need in mind, the authors present newly developed ACGME-competency-based promotion criteria for surgery residents.

Methods: An expert group of four surgeons developed minimum promotion criteria for each PGY level. Once devised, the criteria were then shared with faculty and a committee of residents for feedback, which was then brought back to the expert group for discussion. Refinements were made to the criteria and formatted into a matrix.

Results: The matrix is a 5x59 table. Fifty-nine promotion criteria are listed. Each promotion criterion is linked to its respective PGY level, ACGME Subcompetency Label, Setting, and Evaluation Method. Conclusions Having a set number of competency-based promotion criteria will be valuable in a surgery program for three main reasons: (1) continuous performance assessment with clearly defined criteria provide more educationally sound training; (2) criteria can better target remediation for those residents failing to meet the criteria in a timely manner; and (3) criteria can improve faculty development, especially in terms of how to assess competence, give feedback, and account for faculty responsibility in training and evaluating competent physicians.

Library as Catalyst for Change in Medical Curriculum and Faculty Development

Alice Weber, MLS, and Jeanne M. Le Ber MLIS, University of Utah
Grant W. Cannon, MD, George E. Wahlen VA Medical Center

Objectives: The objective of this poster is to share our experiences and promote discussion on how partnerships between librarians and health sciences faculty can impact student learning and promote faculty development. **Methods:** When the school of medicine began their curriculum reform process in 1996, librarians at this academic health sciences center actively participated on committees. Committee work led to partnerships with faculty. These collaborations functioned as a catalyst for change. Librarians provided leadership that effected student learning in all four years of the curriculum, and stimulated faculty development. **Student learning incorporated:**• First year: Resource orientation• Second year: Pathology• Third year: Topics In Medicine-OB, Pediatrics and Family Practice• Fourth year: Public/Community Project **Faculty development evolved to address needs:**• Short classes and consultations• Monthly technology forums• Tablet PC training• New technologies in education building• Telehealth, Breeze and other video technologies. **Results:** In any given school year medical curriculum courses produce 1900 in-class interactions between librarians and students. Faculty took advantage of a variety of library courses and services including classroom control system training, Tablet PC, WebCT, bibliographic management, Access, Excel, PowerPoint, and database searching, and a slide scanning service.

Conclusions: The partnership between librarians and faculty has been successful and significant. Librarian leadership has resulted in the integration of course content that emphasizes resources to enhance knowledge, skills and competence, and evidence-based searching. Faculty rely on librarian services to keep current with instruction technologies.

Osteopathic Medical Students. Knowledge and Perceptions of Complementary and Alternative Medicine

Mary Wohlford-Wessels, PhD, Des Moines University
Mary Huba, PhD, Iowa State University

As the prevalence of complementary and alternative medicine (CAM) use increases in the general population, it is critical that medical students are knowledgeable about its appropriate use and effectiveness. The purpose of this study was to describe osteopathic medical students' opinions, knowledge, perceptions, and perceived effectiveness of complementary and alternative medicine. A comprehensive review of the literature revealed only five studies of medical students. All of the studies to date included allopathic rather than osteopathic medical students. The data were collected using a 72 item, closed format survey instrument. The survey was distributed to second year students at two osteopathic medical schools. A cross-sectional self-selected sample was utilized.

The analysis of data included descriptive statistics, frequencies, and t-tests. A correlation analysis and factor analysis was also conducted. It was found that participants had generally positive attitudes about the usefulness of CAM and the need for physicians to know more about CAM. Participants reported they were less than knowledgeable about most CAM therapies; however, the more they knew about a select therapy, the more effective they thought the therapy was. Participants' lack of knowledge about CAM therapies may explain why the conceptual groupings expected in the factor analysis did not occur. There were virtually no differences in results by gender. Knowing more about students' opinions, knowledge and perceived effectiveness about CAM supports the need for curricular change. Adding content to medical school curricula related to the social and behavioral aspects of health will further develop medical student competencies in CAM. The development of competencies related to social and behavioral health will improve physician/patient communication which will ultimately improve patient outcomes. This poster presentation is designed to share detailed information about student perceptions about CAM, and will provide some insight into how perceptions can be used to better prepare students' for practice.

Performance Improvement in a Medical School; Defining Baseline Metrics. Pursuing Benchmark Targets

Mary Wohlford-Wessels, PhD, Des Moines University

Diane Hills, PhD, Des Moines University

Des Moines University's College of Osteopathic Medicine developed a comprehensive performance improvement (PI) initiative that was implemented in 2003. This presentation is designed to provide detailed information about how the program was developed and implemented. The resulting program meets both internal and external reporting requirements. Most important however is the fact that the PI program has been developed to meet the National Baldrige criteria for performance excellence.

Meeting the Baldrige criteria requires the development of comprehensive databases that allow an institution to trend outcomes over time and against other peer institutions. Des Moines University's College of Osteopathic Medicine developed a comprehensive performance improvement (PI) initiative that was implemented in 2003. This presentation is designed to provide detailed information about how the program was developed and implemented. The resulting program meets both internal and external reporting requirements. Most important however is the fact that the PI program has been developed to meet the National Baldrige criteria for performance excellence. Meeting the Baldrige criteria requires the development of comprehensive databases that allow an institution to trend outcomes over time and against other peer institutions. Comprehensive PI reports have been developed the past two years. The reports have been utilized to assess student outcomes, faculty productivity, and the continued development of scholarship within the college. In addition the PI program includes processes that assist college leadership in determining the appropriateness of resource allocation compared to peer institutions. Details regarding the assessment of faculty welfare, and institutional culture will also be shared.

The Longitudinal Student Assessment Project (LSAP)

Mary Wohlford-Wessels, PhD, and Diane Hills PhD / Des Moines University

Medical school faculty and administrators have long discussed the factors that contribute to the making of a good doctor. Clearly medical students need to be skilled in science and have cognitive gifts that will serve to support them as they progress through a rigorous medical school curriculum and move out into practice. Medical school faculty and administrators have long discussed the factors that contribute to the making of a good doctor. Clearly medical students need to be skilled in science and have cognitive gifts that will serve to support them as they progress through a rigorous medical school curriculum and move out into practice. The criteria medical schools use to select students are similar across the country. They include academic ability, insight into medicine (including work experience), extracurricular activities and interests, personality, motivation, and linguistic and communication skills. But what is the evidence base for using these criteria. It is well known that applications to medical school and other health professions follow cyclical patterns. The cause and factors that contribute to increases and decreases in applications are often not understood. Some trends however can be explained, for example in the 1980's qualified college graduates were drawn to careers in the computer sciences and technology. The increase in minority applications and applications from women have contributed to an increased applicant pool. In fact for the first time in the history of osteopathic medical education, there were more women than men in the applicant pool in 2004. Applications from underrepresented minority students also rose to the highest level in a decade. In osteopathic medical schools, the number of applicants reached an all-time high in 1996, and then declined steadily for six years through 2002. Applicant numbers rose in 2003 and 2004 and continued to rise sharply for the 2005 entering class. As the number of applications rise, and as the number of medical schools increase, it is important to be able to select the best possible students for admissions. For years medical education researchers have tracked numerous medical student variables in hopes of being able to identify the best predictors for medical school success. A systematic review of the literature by Ferguson, James and Madeley (2002) identified factors associated with success in medical school (http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11964342&dopt=Abstract).

The systematic review examined data on the predictive validity of criteria that have been studied widely in relation to the selection of medical student: cognitive factors (previous academic ability), non-cognitive factors (personality, learning styles, interviews, references, personal statements), and demographic factors (sex, ethnicity). The authors indicated that previous academic ability, personal statements, references, and interviews are all traditionally used as selection metrics. Ferguson et. al, conclude that though previous academic performance is a good predictor, it is not perfect. Their systematic review of previous research indicates that a strategic learning style, white ethnicity, and gender (female) are all associated with success in medical training. This presentation will include a detailed description of the development of a data warehouse of select student variables that is being utilized for medical education research. In particular, the warehouse is designed to identify the attributes that are most useful in determining who will be successful in medical school and who will not. The warehouse will be queried in a systematic fashion to yield information about incoming students. The performance of students as they progress through the curriculum can be monitored as well. Thresholds have been developed that support the early identification of students who need remedial educational interventions, as well as identifying those individuals who are performing extremely well. During the 2004-2005 academic year a database was developed utilizing information collected on a routine basis by several departments.

The variables included in the database to date represent an initial attempt to begin to answer questions related to admission and academic success. The data elements follow: Student name Total MCAT score Undergraduate science GPA Product (total MCAT x Undergraduate Science GPA) Rank first year GPA first year Rank second year GPA second year Gender COMLEX 1 mean score COMLEX 2 mean score Class. After some consideration, it has become apparent that the following additional information would add value. Cumulative undergraduate GPA Non-science undergraduate GPA Undergraduate institution (by code) Undergraduate degree Undergraduate major MCAT score components MCAT Verbal MCAT Physical Science MCAT Biology MCAT Writing Ethnicity Age (utilizing birth date) Marital status Basic science scores - year 1 (end of course average) Physical Diagnosis I & II scores COMLEX 2 - PE mean scores COMLEX 3 mean scores. This presentation provides a detailed description of data sources, data organization, research questions and results. The presentation will also include a corresponding action plan that serves to support student academic achievement and provide information which is used to make curricular improvements.

Student Perceptions Of Curricular Strengths And Weaknesses In Preparing Them For The USMLE Step 2 Clinical Skills Exam

Carla Aamodt, MD, and Alison Dobbie, MD
University of Kansas School of Medicine
Saturday, 10:15 - 11:45 am

Purpose: In 2004, the NBME introduced the USMLE Step 2 Clinical Skills exam (Step 2CS) as a medical licensure requirement. In this pilot study we investigated students' perceptions of curricular strengths and weaknesses as they prepared for the national exam.

Methodology: We conducted a modified nominal group session (Dobbie, Rhodes et al. , 2004). Five senior medical students identified the most and least helpful curricular elements for Step 2CS preparation, then edited and grouped these elements. Students voted on the relative importance of each element, producing a final group rank order. Each element could receive 25 points maximum.

Summary of results: The top five helpful elements were: 1) opportunities to diagnose undifferentiated patients (23 points) 2) the local Clinical Skills practice exam (13) 3) Step 2CS- specific review books (12) 4) other clinical experiences (11) and 5) experiential pre-clerkship clinical skills training (7). The five least helpful elements were: 1) the absence of a differential diagnosis course (15) 2) absence of a medical decision-making course (15) 3) lack of reinforcement of clinical skills techniques in the clerkships (14), 4) pre-clerkship courses generally (12), and 5) lack of exam-specific medical interviewing training (10).

Conclusions: Students reported actual and simulated clinical experiences as most helpful preparation for the Step 2CS. Students believed they lacked training in differential diagnosis and medical decision-making. We are currently repeating this pilot at several other institutions.

Dobbie, A., M. Rhodes, et al. (2004). "Using a modified nominal group technique as a curriculum evaluation tool." *Family Medicine* 36(6): 402-6.

Standardized Patient SIG Session: Strategies for Preparing Standardized Patients to Give Feedback

Mary Aiello, MA Southern Illinois University School of Medicine, Moderator
Karen Reynolds, RN, MS Southern Illinois University School of Medicine
Rachel Yudkowsky, MD, MHPE, University of Illinois at Chicago
Friday, 3:15 - 4:45 pm

Standardized patients (SPs) are used at several medical schools for teaching and assessment cases. They often complete patient satisfaction checklists or rating scales assessing communication and interpersonal skills. The National Board of Medical Examiners is completing its first year of the United States Medical Licensing Examination (USMLE) Step 2 Clinical Skills (CS). Medical schools nationwide are preparing students for the exam in different ways. In this presentation, three medical schools will discuss strategies used to prepare students. The University of Kansas Medical Center will discuss their Clinical Skills Assessment (CSA), how it was modified and how they manage a program with relatively few physician hours. Students at the University of Illinois at Chicago College of Medicine (UIC-COM) have multiple standardized patient experiences across the four years, all of which combine to provide a good grounding for USMLE Step 2CS. Students attend a clinical reasoning and communication skills workshop held during the internal medicine clerkship ambulatory rotation. During the rotation students conduct focused SP encounters on effective and ineffective strategies and behaviors. UIC-COM will also review changes made to the M4 exam intended to familiarize students with the Step 2CS format and provide students with constructive feedback. At Southern Illinois University School of Medicine (SIUSOM) each course and clerkship has performance-based assessments. Students are required to complete a clinical competency exam (CCX) in Year 4. SIUSOM modified its Senior CCX to include cases similar to the patient notes used in USMLE Step 2CS.

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GME Panel Discussion: Professionalism: Assessment & Remediation

Louise Arnold, PhD, University of Missouri Kansas City School of Medicine
Ernie Yoder, MD, PhD, FACP, Providence Hospital & Medical Centers
Christine Sullivan, MD, University of Missouri Kansas City School of Medicine
Saturday, 10:15 - 11:45 am

Individuals active in graduate medical education certainly agree that Professionalism is a critical competency, but how well do we incorporate educational activities, meaningful assessment, and, importantly, effective remediation into our programs? Although the specific competencies associated with Professionalism are defined by the ACGME (a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population), translating these skills to the day-to-day world of residency education and assessment is often challenging. This workshop is facilitated by medical educators known for their work in professionalism, as well as by a current program director who developed an innovative approach to dealing with a trainee assessed as having significant professionalism issues. The following objectives will be the focus of an interactive workshop, incorporating exercises encouraging reflection and discussion:

- Describe why a transparent definition of professionalism is critical;
- Define professionalism in a clear and succinct manner;
- Describe the pros and cons of frequently used approaches to assessing residents' professionalism;
- Identify potentially effective ways to assess professionalism of residents;
- Describe an effective technique to remediate residents' unprofessional behavior; and
- State general principles for remediating professional behavior.

Competency Case Studies - A new method.

Patrick Bankston, PhD, Indiana University School of Medicine
W. Marshall Anderson PhD, Indiana University School of Medicine - Northwest
Saturday, 11:00 am - 11:45 am

Indiana University School of Medicine (IUSM) incorporated a competency curriculum consisting of nine competencies in the four-year undergraduate medical school program six years ago. Our first class to graduate with a competency transcript was in 2003. One of the difficult problems that the school had to address is how to remediate the competencies across the four years. This small group discussion will focus on methods of remediation and their successes and how different institutions can share information about methods of competency remediation through a competency case studies approach.

Questions to be discussed during this session are as follows: 1. Remediation during a course; 2. Remediation at the end of a course; 3. Year-end evaluations of competencies and remediation efforts; and 4. Possible mechanisms for sharing remediation methods between institutions through a competency case studies approach. An example of a successful remediation of a competency at the end of a third year clerkship will be presented. At the end of these discussions there will be a summary of methods, successes, and failures and mechanisms for continued sharing of remediation ideas.

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SESSION ABSTRACTS

A Multi-Faceted Educational Experience Involving Medical Student Comfort and Experience with Palliative Care

Carolyn L. Bell, MD; Susan L Dottl, PhD; Matthew LoConte, MD; James F Cleary, MBBS; Laura C Dast, BA

University of Wisconsin School of Medicine and Public Health, Madison Wisconsin

Saturday, 3:15 - 4:45 pm

Objective: Palliative care is an important part of caring for patients and often poorly modeled by residents and physicians. We developed a day-long multi-faceted educational experience for third-year medical students. The goals of the educational workshop were to enhance their knowledge, comfort, and skills in basic palliative care principles.

Method: Third-year students were surveyed prior to the workshop to assess their existing experience, knowledge, comfort, and skills in palliative care. The educational experience consisted of lectures, small-group workshops, standardized patient interviews, demonstrations, and discussion of the movie "Wit." Students completed a post-test survey after the intervention and a follow-up survey eight months later.

Results: The pre-workshop survey showed most students had little experience either observing or participating in delivering bad news to a patient, discussing resuscitation (DNR) status with patients or patients' families, helping patients make the transition to palliative care, hospice referral, witnessing a code, or pronouncing death. Students' comfort levels in each of these areas tended to be low as well, with from 28% to 72% of students reporting feeling either uncomfortable or very uncomfortable performing each task. There were significant correlations between previous experience and comfort levels at pretest, post-test, and follow-up ($r=0.27$ to 0.70 , $p<.05$). There was a significant increase in comfort levels over time ($p<.05$ for witnessing a code, $p<.001$ for all other areas).

Educational significance: A palliative care educational workshop effectively increased medical students' comfort in addressing key palliative care issues. This increase in comfort persisted over eight months.

CurrMIT Advanced Users Discussion Group

Terri Cameron, MA, Consultant in Medical Education

Deb Lafferty, Mayo Clinic College of Medicine

Al Salas, MA, Association of American Medical Colleges

Robby Reynolds, MPA, Association of American Medical Colleges

Friday, 4:00 - 4:45 pm

CurrMIT users and prospective users discuss challenges they have faced, solutions they have found, and help each other out in an informal small-group discussion and demonstration. This will be lead by 'expert' users from schools in the region, and AAMC's CurrMIT staff. AAMC staff will also demonstrate recent CurrMIT enhancements, and will discuss successful strategies by schools in other regions. Although called "Advanced" Users Group, all are welcome.

Submitting Your Educational Materials to MedEdPORTAL

Chris S. Candler, MD, and Robby Reynolds, MPA

MedEdPORTAL, AAMC

Friday, 1:30 - 2:15 pm

New forms of digital publishing have provided unprecedented opportunities for publication of scholarly works online. The Association of American Medical Colleges has developed MedEdPORTAL to serve as a prestigious publishing venue through which faculty might disseminate their educational works. MedEdPORTAL was designed to promote collaboration and educational scholarship by facilitating the exchange of peer reviewed educational materials, knowledge, and solutions. Through MedEdPORTAL faculty and medical schools may both publish and share instructional and assessment materials.

MedEdPORTAL invites faculty to submit materials such as tutorials, cases (PBL, SP, OSCE, etc), lab manuals, assessment instruments, faculty development materials, web sites, computer-based materials, etc. These products will undergo a rigorous peer review process comparable to that used by established print-based journals. Reviewers will assess each submission using accepted standards of educational scholarship.

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Publishing within MedEdPORTAL has several benefits for faculty including recognition of peer-reviewed work that may be considered by promotion & tenure committees, useful feedback for enhancement or expansion of the resource, and expanding the audience of potential users.

SESSION ABSTRACTS

Students and the Electronic Health Record

Heidi Chumley, MD, Madelyn Pollock MD, and Michael Karr
Kansas University School of Medicine
Saturday, 3:15 - 4:45 pm

Many academic health centers are implementing electronic health records (EHR), and our medical students will increasingly train in environments with EHRs. An EHR alters the educational environment, particularly in the outpatient setting, which creates operational and educational challenges for medical educators. We implemented an EHR in our faculty and resident ambulatory primary care practice in May, 2005, a practice which has 4-8 third-year medical students and frequent first, second, and fourth year students each day. During this complex process, we identified many challenges for medical students. The purpose of this symposium is to outline and discuss the challenges and solutions when incorporating students into outpatient settings with EHRs. During this symposium, presenters will outline challenges and solutions from three different perspectives. First, a clinician educator who was responsible for the implementation of the EHR in our ambulatory practice will describe our outpatient clinical operation and student involvement, and outline the EHR implementation process and clinic-based operational challenges that impacted learners. Second, a senior coordinator for technology will describe our technology support systems and outline the technology-based operational challenges that impacted learners. Third, a family medicine clerkship director will describe the clerkship and educational challenges, including preliminary survey data on the impact on student learning. Following these short sections, the presenters will lead the audience in a discussion of common educational and operational challenges and solutions for learners in ambulatory settings with EHRs.

A Multi-faceted Outcome-Oriented Faculty Development Program to Enhance Precepting Effectiveness in the Outpatient Setting

Karen Connell, MS, Memoona Hasnain MD, PhD, and Patrick Tranmer MD, MPH
University of Illinois at Chicago
Friday, 3:15 - 4:45 pm

The challenge of making precepting encounters in outpatient settings meaningful learning experiences for residents and students is widely recognized. Numerous reports in the literature suggest strategies for structuring the clinical environment for instructional efficiency as well as strategies that preceptors can use to enhance their teaching effectiveness. There are, however, few reports of faculty development models that actually result in behavioral change. Wilkerson and Irby (1998), in a comprehensive review of the literature regarding strategies for improving teaching practices, conclude that, to improve teaching, faculty development programs should include intensive courses or workshops, coupled with a teaching assessment system and individual consultation. This workshop will introduce participants to the key elements and processes of such a program, which was funded in part by a CGEA grant and involved eleven faculty representing three Chicago-area residency programs. The program spanned a four-month period and consisted of a) three half-day workshops, b) self-assessment of audiotaped precepting encounters between workshops, using a seven-item preceptor effectiveness checklist developed for the project, and c) three 90-minute individual consultations with a program faculty member, based on review of participants' self-assessed, audio-taped precepting encounters. The program was evaluated by comparing pre, post and four-month follow-up videotaped samples of each preceptor's behavior, as well as by pre and post program assessment of each participant by residents, using a psychometrically refined clinical assessment tool reflect 13 competencies in Patient Care, Medical Knowledge, and Practice-Based Learning and Improvement. Workshop participants will "taste" key aspects of the program and discuss its outcomes and implications.

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The Leadership Smorgasbord: Advancing Medical Education Goals through Unusual Partnerships

Laura Dast, BA, UW-Madison, School of Medicine and Public Health

Erika L. Sevetson MS, UW-Madison, Ebling Library

Friday, 1:30 - 3:00 pm

Rationale: There are times when traditional forms of leadership and committee work can advance a unit, departmental, or school goal to a certain degree, then lose momentum. In many cases, the task is picked up, not by someone in a traditional leadership or instructional position, but by someone who is passionate about the goal or who can approach the goal from a unique perspective. Though there can be difficulties in fostering these unique connections, the partnerships that arise from such opportunities can be invaluable to advancing medical education goals. Objectives: Participants will share experiences of success in creating innovative partnerships and will develop creative strategies for forging partnerships in unlikely places. Topic Outline: Introductions and review of session objectives-5 min. Case study: a description of an unusual partnership at a midwestern university-how it came about, who is involved. -15 min. Group exercise and discussion-60 min. Conclusion-10 min. Methods/Session Format: An example of a partnership between the health sciences library team and a recently graduated MD to better integrate evidence-based practice and informatics into the undergraduate medical curriculum will be presented. Small groups will be formed to share ideas and to develop scenarios-and solutions-relevant to participants' own institutions. Participants are encouraged to bring cases from their home institutions to explore in a group format. Questions: 1. What conditions have to be in place for a new partnership to thrive? What are the barriers to success? 2. What unusual partnerships have you seen at your own institution? 3. Do you have stalled objectives that would benefit from the energy of a new partnership? 4. Who are the non-traditional players at your institution? How would your objectives benefit from their involvement?

Integrating Readily Available (CAM) Modules

Gautam Desai, DO, Kansas City University of Medicine and Biosciences

Friday, 1:30 - 2:15 pm

Complementary and Alternative Medicine (CAM) coursework had not been required at KCUMB COM prior to 2004 (excepting Osteopathic Manual Medicine, considered CAM by the National Institutes of Health). 95% of 446 students surveyed by the author felt CAM should be taught during medical school, and studies reveal that roughly 10% of the U.S. population uses some form of CAM regularly, with many patients uncomfortable telling physicians about CAM use. It is important students be familiar with some of the most prevalent CAM modalities their patients will be using, especially as OMM is considered CAM. The Educational Development for Complementary and Alternative Medicine (EDCAM) Grant was applied for and received from the American Medical Student Association Foundation/NIH. Goals are to improve students' familiarity with various CAM modalities and effectiveness, and being able to converse with patients about CAM. In 2004, CAM coursework became required, and in 2005, the topics covered included: 1. Ayurvedic 2. Herbals 3. Yoga 4. Acupuncture 5. Traditional Chinese Medicine 6. Massage Therapy 7. Chiropractic 8. Stress reduction and 9. T'ai Chi. Below are some challenges and solutions: (Challenge/solution) Large class size/repeat activities in smaller groups Skeptical students/credible speakers and evidence based CAM; Reinforcing material/testing subject matter/using CAM in standardized pt cases /The EDCAM curriculum was successfully integrated, and feedback from learners has been utilized to continue to improve the curriculum. Assessment will be in the form of a survey, testing basic knowledge of common CAM therapies, using the same survey previously administered to students prior to the EDCAM curriculum.

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Does Providing Oral Exam Topics Prior To The Exam Improve Educational Outcomes?

Alfred Fleming, MD, Kathryn Huggett, PhD, and Amanda Lofgreen, MS
Creighton University School of Medicine
Saturday, 10:15 - 11:45 am

Purpose: The purpose of this pilot study was to determine whether providing students with oral exam topics prior to the exam resulted in a greater number of students receiving a grade of Honors in the obstetrics and gynecology clerkship. Because students who earn Honors in a clerkship must also achieve an NBME subject examination score that equals or exceeds the 90th percentile, we also compared NBME subject examination scores for the pre- and post-intervention groups.

Methods: We compared the percentage of students who achieved a grade of Honors in the clerkship in the graduating classes of 2005 (topics were not provided in advance) and 2006 (topics were provided in advance) using the student's t-test for independent samples. We also compared NBME subject examination mean scores for both graduating classes.

Results: 17. 48% of all students in the class of 2005 received Honors, compared to 17. 24% of students in the class of 2006. These results were not statistically significant ($p = .96$). Likewise, we did not detect a significant difference ($p = .55$) in NBME subject examination scores between the two classes.

Conclusions: The results demonstrate that informing students of the topics prior to administering the exam did not significantly improve the educational outcomes examined here. Future study should explore how individual students use the information to review and prepare for the examinations, and identify any value added by the advance notice but not reflected in final scores (e. g. , reduced exam anxiety or increased collaboration among students).

Faculty Development Programs from Soup to Nuts

Victoria Fleming, PhD, and Eric Boberg PhD
Northwestern University Feinberg School of Medicine
Saturday, 10:15 - 11:45 am

Faculty Development Programs are an essential component to faculty development efforts. Departments who do not have professional educators on staff need people able to coordinate program efforts. Even professional educators may not be trained to put on programs. A poorly received program can set such programming back significantly at the local level. Therefore, it is important to 'get it right' the first time. This session is for anyone new to the process, or interested in improving the process, of developing programs for faculty. In this workshop, participants will learn eight steps to successful program offering, see a case-in-point example of a program that was conceptualized and successfully offered, and practice the process of offering a workshop using a mock faculty development program. The content of the workshop is organized in three sections: Section A: The steps to successful Faculty Development Programs Section B: A Case Example of the Development of a New Program Section C: A Mock Program Development Activity for Workshop Participants Rather than working through the sections sequentially, we will walk through each step, drawing from the case example and when appropriate, having small groups work through the mock program development activity. This framework will ensure on-task participation throughout the go-minute workshop.

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Making the Case for a Cooperative Multidisciplinary Clinical Simulation Center

Paul Gauger, M. D., Pamela B. Andreatta Ed. D. , M. F. A. , M. A. Stanley J. Hamstra PhD, James O. Woolliscroft M. D., and Larry D. Gruppen PhD / University of Michigan
Saturday, 3:15 - 4:00 pm

Clinical simulation has a secure and expanding role in clinical training and assessment of competence. Many programs have grown out of efforts housed administratively and financially within a single clinical department. For the reasons of finances and organizational culture, the scale of what can be accomplished is limited. The potential impact of clinical simulation has now spread across professions (physicians, nurses, allied health personnel) and the continuum of training (students, residents, and practicing physicians). As more medical schools consider the substantial investment required for a state of the art clinical simulation center, cooperative models that share the risks and benefits among stakeholder entities throughout the medical center can increase the capabilities and the scope of the center substantially. Participants will understand an actual example sequence of developments which successfully led to the inception of a multidisciplinary clinical simulation center within an academic health system. The specific issues to be discussed include performing an institutional needs assessment; identifying and leveraging existing simulation efforts; identifying potential stakeholders; developing a funding model; working with medical and surgical industry; developing a business plan; personnel decisions; simulator purchasing decisions; integrating with the CME mission; and promotion and development efforts. Attendees will be able to assess and potentially adapt these experiences to their own particular medical school environment should they intend to start a similar program.

"A review of the best evidence in faculty development: exploring ways to better measure outcomes"

Mark Gelula, PhD, University of Illinois at Chicago
Ernie Yoder, MD, PhD, FACP, Providence Hospital & Medical Centers
Karen Marcdante, MD, Medical College of Wisconsin
Marcy Rosenbaum, PhD, University of Iowa Carver College of Medicine
Friday, 10:15 - 11:45 am

Developing effective medical teachers is an increasingly important component of medical education. Various and diverse activities, designed to improve teacher effectiveness at all levels of the educational continuum, are offered to health care professionals in different settings. The Best Evidence in Medical Education (BEME) Collaboration recently completed a systematic review of the impact of faculty development initiatives on teaching effectiveness in medical education. In this workshop we will present a summary of this review and focus on identifying desired, measurable outcomes that have not been well documented in many faculty development efforts. Interactive dialogues will delineate rigorous measures of faculty development outcomes which must be developed and implemented. Participants will have an opportunity to examine the feasibility of applying these ideas to faculty development programming at their home institutions.

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A Model for Resident Competence

Mary Gleason Heffron, PhD, and Deborah J. Simpson PhD
Medical College of Wisconsin
Saturday, 10:15 - 11:00 am

Purpose: To meet the objectives for Phase III of the ACGME Outcome Project (beginning July 2006), residency programs must integrate the ACGME Competencies and their assessments into learning and patient care. However, programs must first define their standards of competence in each area, and how standards change each year or level in the program. This session will test Bloom's Taxonomy as a model for setting criterion and assessing competence for two of the six ACGME Competencies (Professionalism and Systems-based Practice). Further, this model will be used to describe different levels of competence based on the level of the resident (PGY). It is hypothesized that the taxonomy as a model of competence will assist programs with the Phase III requirements for integrating the General Competencies into education and clinical care. Methods: 1. Lecture on competencies and Bloom's Taxonomy; 2. Small group discussions to use the taxonomy to define standards and levels of competence in Professionalism and Systems-based Practice competencies; and 3. Large group discussion of the value of the taxonomy as a model for assessing competence. Results/Conclusions: Attendees will learn a new way to frame the competencies, in terms of the criterion for competence and the levels of competence for each program year. Attendees will evaluate the utility of Bloom's Taxonomy as a framework for creating assessments of competency and helping programs to integrate the competencies and assessments into programs.

GME Medical Educator Resource Exchange (MERE) Session: Sharing Best Practices in Teaching and Assessing Systems-based Practice

Ilene Harris, PhD, University of Illinois-Chicago
Michele Raible, MD, PharmD, University of Illinois-Chicago
Saturday, 1:30 - 3:00 pm

The ACGME general competency domain of Systems-Based Practice (SBP) is often considered the most difficult area for residencies to include in curricular and assessment activities. A GME focus group during the November 2005 AAMC Annual Meeting specifically concentrated on SBP, discussing points raised by a recent IIME report (from the Ad Hoc Committee of Deans). Representatives from institutions and from individual programs discussed how they had developed effective teaching strategies to address the general competency of SBP, as well as effective assessment strategies to measure the effectiveness of those teaching strategies. The focus group demonstrated that many thoughtful and innovative programs are being created to address this educational realm. Nevertheless, relatively little literature has been published in this area. Individuals attending this Medical Education Resources Exchange (MERE) will be asked to bring short handouts or summaries of their experiences and/or innovations in SBP to share with the group. New or novel activities or programs still in development are welcome. Attendees also will discuss how their residencies or institutions have addressed SBP.

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So You Are Thinking About Starting a Learning Community: The Nuts and Bolts from 3 Schools Who Have Done It

Joel Gordon, MD, Carver College of Medicine, University of Iowa

David Wooldridge, MD, University of Missouri-Kansas City

Sandra Osborn, MD, University of Wisconsin

Friday, 10:15 - 11:45 am

Learning Communities having become an increasingly popular way to organize student affairs, curriculum, or both in a variety of medical schools throughout the country. Three member institutions in the CGEA have Learning Communities and would like to share their experiences with other member institutions. Representatives from the University of Missouri-Kansas City, the University of Wisconsin, and the University of Iowa propose to host this small group discussion to discuss their varying experiences with the Learning Community format with other CGEA members who might be contemplating the initiation of Learning Communities at their respective institutions. The small group discussion will begin with a brief introduction of each of the participants and their experience with Learning Communities. Three sequential breakout sessions will be held with each of these 3 institutions to allow for each of these schools to describe their own experiences with Learning Communities, sharing both their successes and challenges and to discover experiences at other CGEA schools that also have Learning Communities. The small group discussion will conclude with all of the participants coming together for a large group discussion session where each of the facilitators will have a chance to interact with all of the attendees and facilitate a general discussion about Learning Communities for medical students in today's medical school environment. Participants should leave the small group discussion with a better understanding about what a Learning Community is and what benefits and challenges await them should they decide to embark on this format at their respective institutions.

LCME Best Practices -- Self Study Process

Heather Hageman, MBA, Washington University School of Medicine

Dana Levinson, University of Chicago Pritzker School of Medicine

John X Thomas, Jr PhD, Feinberg School of Medicine at Northwestern University

Saturday, 10:15 - 11:45 am

Liaison Committee on Medical Education self study cycles at individual medical schools occur every eight years. In that time institutional memory has often waned and staff are left to reconstruct the process from scratch. Further, while a successful site visit is no doubt a goal, schools should use the opportunity to gain other tangible benefits from their efforts. Careful organization of the self study process is critical to a successful self study and site visit. The process can operationally be divided into database management, staff/participant organization and the site visit. Schools undergoing a self study in the near future should attend to learn what other schools have found helpful to their processes. The objectives of this workshop are to identify best practices employed in the management of an LCME self study to most efficiently conduct the process while achieving internal goals. Areas to be discussed are:

1) Database management, 2) Participant organization and committee formation, and 3) Site visit planning and conduct. Workshop presenters will share their different perspectives in these areas and then divide participants into small groups for further discussion and identification of best practices employed in the self study process.

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Using AAMC Data Resources

Heather Hageman, MBA, Washington University School of Medicine
Brian Mavis, PhD, Michigan State University College of Human Medicine
Rajeev K Sabharwal, MPH, AAMC
Saturday, 3:15 - 4:45 pm

An increasing number of medical schools are building outcomes assessment databases to analyze the impact of curricular initiatives, track their graduates progress through the medical educational continuum and to address the LCME requirement to assess the extent to which educational objectives have been met. However, medical school faculty and administrative staff may not be fully aware of the extent of resources/data available through the Association of American Medical Colleges (AAMC), including the ability to benchmark individual institutions against others and over long time periods. By working through research questions using blinded AAMC data, participants will 1) understand how to access, and develop a working knowledge of the wide array of data resources available from the AAMC; the American Medical College Application Service (AMCAS), GME Track and Faculty Roster databases; and the AAMC Data Book and Minorities in Medical Education Facts and Figures Report; 2) recognize important issues to consider when using these data, such as response rates to questionnaires (who responds), value of programmatic vs. individualized data; what additional types of data the AAMC can provide by request; and 3) develop an approach for identifying and incorporating relevant AAMC-based data and resources of value in addressing specific questions pertaining to educational outcomes for their schools.

Selection Bias In Completing The AAMC Graduation Questionnaire With Identifiers

Heather L. Hageman, Dorothy A. Andriole, Alison J. Whelan, Donna B. Jeffe
Washington University School of Medicine, St. Louis, MO
Saturday, 10:15 - 11:45 am

PURPOSE OF STUDY: Students can complete the AAMC Graduation Questionnaire (GQ) anonymously or with identifiers. Anonymous data provides valuable programmatic information, but precludes linkage of GQ responses with other individualized-student data or with parallel items on post-graduate surveys. We explored GQ-completion selection bias by analyzing student-specific variables for associations with identified-GQ completion.

METHODOLOGY: With IRB approval, we grouped 2001-2003 graduates as completing the GQ with identifiers versus either not completing the GQ or completing it anonymously. Identified-GQ completion was analyzed in association with student gender, residency-training specialty, USMLE Step 1 and 2 scores, third-year-clerkships' grade-point average (GPA), Alpha Omega Alpha election, and MD/PhD graduation using two-tailed chi-square or Fisher's exact tests for categorical variables and one-way analysis of variance for continuous variables. Multiple logistic regression identified independent predictors of identified-GQ completion.

RESULTS: Of 341 graduates, 263 (77%) completed the GQ. Of these, 200 (76%) completed the GQ with identifiers, comparable to the 2001-2003 national rate of 77%. In bivariate tests, identified-GQ completion was associated with higher GPA ($p=.001$), female gender (64% vs. 53%, $p=.041$), residency-training specialty selection (60% vs. 20%, $p=.019$) and non- MD/PhD graduation ($p=.044$). In logistic regression analysis, GPA independently predicted identified-GQ completion (OR: 2.131, 95% confidence interval: 1.203-3.773).

CONCLUSION: Selection bias in identified- GQ completion was evident, with more academically accomplished graduates twice as likely to complete the GQ with identifiers; lower-performing students either did not complete the GQ or completed it anonymously.

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Selection Bias In Educational Outcomes Assessment

Heather L. Hageman, Dorothy A. Andriole, Alison J. Whelan, Donna B. Jeffe
Washington University School of Medicine, St. Louis, MO
Saturday, 10:15 - 11:45 am

PURPOSE OF STUDY: The use of multiple outcomes-assessment measures from a variety of sources should enhance the number and scope of graduates for whom outcomes data are available. We identified student variables associated with the number of outcomes assessments available.

METHODOLOGY: With IRB approval, we analyzed availability of each of three post-graduate outcomes assessments [program-director survey, first post-graduate year (PGY-I) survey, and USMLE Step 3 score] for associations with gender, residency-training specialty, MD/PhD graduation, and medical-school academic achievement (mean composite of standardized USMLE Step 1 and Step 2 scores and third-year-clerkships' grade-point average) for our classes of 2001-2003 graduates. Chi-square tests measured associations between categorical variables; one-way analysis of variance tested between-groups differences in academic achievement. P-values are 2-sided.

RESULTS: At least one assessment was available for 96% (327 /341) of our graduates; 49% (167/341) had data from all three sources. Academic achievement was higher among graduates completing the PGY-I graduate survey ($p = .004$), among those whose program directors completed PGY-1 performance evaluations ($p = .029$); and among those with Step 3 scores available ($p = .004$). Composite academic-achievement scores increased with successively greater numbers of assessments available ($F_{[3,340]} = 6.732$; $p < .001$); gender, MD/PhD graduation, and specialty were not associated with the number available.

CONCLUSION: More academically accomplished graduates were represented in our outcomes assessment program, even utilizing multiple sources for data collection. Extra efforts to gather information about less academically accomplished graduates are warranted to assure inclusion of data for a broad range of medical graduates.

Finding Efficiency, Effectiveness, and Creativity in Med Ed Leadership

Kimberly Hoffman, PhD, Linda Headrick MD, and Michael Hosokawa Ed. D.
University of Missouri-Columbia
Friday, 10:15 - 11:45 am

The LCCME, ACGME, and recent IOM reports have brought an increasing awareness of the importance of assessing the results of one's professional practice, analyzing the literature to determine best practice and taking action to close the gap between the two. As medical education leaders we must model continuous improvement in our educational programs for our learners. Further, in times of fiscal limitations, medical education leaders must find ways to improve results, remove waste and promote the most effective use of resources by working as part of an interdependent system. The improvement literature provides a useful framework to continuously enhance our work as medical educators. We will share one school's experience with continuous quality improvement in medical education. The goals of this workshop are to: 1) Identify principles and methods of continuous improvement useful to leaders in medical education; 2) Explore examples in which medical education leaders have used these methods to make their work more effective, efficient, creative and fun; and 3) Share lessons learned, and efficiencies gained from the application of continuous improvement principles to medical education.

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Sustaining Curriculum Renewal: Leadership and Scholarship Lessons Learned

Michael Hosokawa, EdD, University of Missouri-Columbia

William B. Jeffries, PhD, Creighton University School of Medicine

Nehad I. El-Sawi, PhD, Kansas City University of Medicine and Biosciences

Friday, 1:30 – 3:00 p.m.

This session addresses issues and strategies for reform in medical education and lessons learned from three medical schools. The discussants provide an overview and present qualitative reflections of their respective experiences in reinforcing three newly adopted curricular models: Problem-Based (University of Missouri-Columbia); Hybrid (Creighton University) and Clinical Presentation Curricula (Kansas City University of Medicine and Biosciences).

The discussants set the context and give a short history of their programs. They comment on issues of leadership, governance, communication, faculty development, integration, instructional methods, student assessment and program evaluation. The session concludes with summary of lessons learned from the success and challenges of sustaining curriculum renewal and how it affects educational scholarship at the three institutions; providing opportunity for audience to share their institutional experience.

Using Interclerkships To Fill Gaps In The Clinical Curriculum

Bruce Houghton, MD, and Hank Sakowski MD

Creighton University School of Medicine

Saturday, 1:30 - 3:00 pm

During the third year of medical school, clerkships in the traditional specialties provide essential clinical experiences for students. The clinical clerkships emphasize the knowledge, skills and attitudes related to direct patient care in the specific specialty. However, other areas vital to patient care may be overlooked or only addressed marginally in the curriculum objectives of clerkships. At Creighton University, we implemented a novel course utilizing the interclerkship model to address several of these "orphan" topics (EBM, cultural competency, sexuality, alternative medicine, professionalism). This workshop will describe the interclerkship model and the teaching strategies that have worked well in this setting. Discussions will include the topics addressed, problems identified and lessons learned. In addition, we will brainstorm ideas on how best to utilize this teaching paradigm and other areas where it may be effective. Learning Objectives: After completing this workshop, participants will be able to: 1. Identify curricular topics that may be effectively taught in an interclerkship course; 2. Identify active teaching methods for use in interclerkships; 3. Discuss practical issues to be addressed prior to implementation. Agenda: Introduction/Objectives, Background, Small Group Discussion---curricular topics, Review of Small Group Activities, Course Development, Small Group Discussion---Teaching Strategies, Review of Small Group Activities, Course Review and Wrap Up.

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Investigation Of Students' Attitudes Toward And Confidence In Counseling Patients About Health Promotion Topics

Kathryn N. Huggett and Erica Cichowski
Creighton University School of Medicine
Saturday, 3:15 - 4:45 pm

Purpose: Significant modifications have been made to medical school curricula to ensure adequate coverage of prevention and health promotion topics, but there is limited information about students' perspectives to guide efforts. The purposes of this study were to identify students' attitudes regarding health promotion, assess their confidence in counseling patients about these topics, and investigate differences by year in medical school.

Methods: After IRB approval, second-, third-, and fourth-year students were invited to complete an online questionnaire. Three topics were investigated: exercise, diet, and smoking cessation. The questionnaire included items drawn from the literature and items specific to the school's curriculum.

Results: 181 surveys were obtained (50.14% response rate). Preliminary analysis indicates students in all classes believe they can have a significant impact on patients' future health, and although this attitude diminished between the M2 and M4 classes (95.4% v. 87.5%, the decrease was not significant ($p = .18$). For all topics, each class reported feeling more knowledgeable than the preceding class. All classes reported adequate curricular coverage of the significance of health promotion topics, but indicated inadequate coverage of specific strategies to foster improvement. Experiences outside of the formal curriculum were cited for providing positive learning experiences. Difficult encounters with standardized and actual patients decreased student confidence.

Conclusion: Time devoted to health promotion topics was deemed adequate, but students highlighted a need for instruction about counseling strategies and debriefing following negative patient encounters. Experiences outside the formal curriculum should be examined for their positive effects on student learning.

Computer-Based Assessment: Stories from the Trenches

Larry Hurtubise, MA, The Ohio State University College of Medicine
Darrin Cheney MS, University of Kansas Medical Center
William B. Jeffries PhD, Creighton University School of Medicine
Saturday, 10:15 - 11:45 am

This session will focus on the successes and challenges that medical schools face in planning and implementing computer based testing. The session will provide examples of the approaches used by three medical schools in implementing computer based testing across the curriculum. The session will also highlight the progression of how images and multimedia have been sequentially introduced into the exams and the software has matured to support the use of this material. Questions for Discussion: 1) Why do computer based testing? What are the advantages? What are the disadvantages? 2) What hardware, software and infrastructure are necessary to support computer-based exams? 3) How "secure" are the exams delivered via computer? 4) What are the issues involved in choosing software for computer-based assessment? 5) The great debate: In house developed software or commercially purchased programs: What should my medical school do? How the Discussion will be conducted: The 90-minute session will begin with a 5-minute overview of the issues involved in planning and implementing computer-based assessment, followed by 15-minute presentations by three medical schools regarding the design, development, and implementation of their computer-based assessment systems. A 40-minute discussion among all participants will conclude the session.

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Addressing Reliability and Validity in Standardized Patient Assessments

Maurice Kavanagh, BA, Wayne State University School of Medicine

Linda Morrison MSW, Southern Illinois School of Medicine

Saturday, 11:00 am - 11:45 am

A key task for SP Educators in preparing and supervising standardized patients (SPs) in a testing situation is establishing and maintaining SP reliability for case presentation and checklist/rating scale completion (both H&P and communication/interaction). Maintaining the quality and consistency of SP performance is necessary to ensure that all students receive the same information/impressions, while SP checklist/rating scale accuracy critically impacts students' scores. A thoughtful and carefully-planned Quality Control procedure can help ensure successful results. Monitoring performance is a time-consuming activity, which can translate into extra costs, longer hours, and/or expanded tasks for program staff. This session will include presentation and discussion of strategies that can be used throughout the training and testing process to establish and maintain quality SP performances, with an eye toward using available funds and resources efficiently.

Is Admission to Medical School an Automatic MD? M-1 Remedial Programs Revisited: Is the student attrition rate high enough?

Susan M. Kies, Ed.D., Joseph Goldberg, MD / University of Illinois at Urbana-Champaign

Friday, 10:15 - 11:45 am

Ask any dean of students how they occupy their time and they will tell you they spend it dealing with problem students. Ask the dean how the faculty is involved with problem students and they will tell you they are engaged through their promotions committee and many hours are spent dealing with individual students who are not performing well. Ask the dean what they do to assist students and they will give a long list of programs and resources that are developed to address learning issues, time management, stress levels, study skills and a host of other problems students may encounter during medical school.

Some would blame the admissions standards of medical colleges, but it isn't that simple. Compounding the complexity of the problem, medical schools are faced with many constituencies who bring with them complex societal problems they want considered when selecting the students who will be admitted to medical schools. In response to those considerations, many schools have special programs to encourage, support and train students with a wide-variety of academic, social, geographic and ethnic backgrounds to address medical care deficiencies in various communities.

But in the end, all medical schools must counsel poor-performing students and address their problems to reach the goal of assisting these students in developing into competent physicians and the school must warrant that each student is prepared to enter a residency. And again, we must ask ourselves, "Is the attrition rate in medical school high enough?"

Another important consideration is the projection that in the upcoming decades there will not be enough physicians to implement the ever-increasing technological advances and care for the aging population if current admissions levels remain static. In order for medical schools to responsibly expand their enrollments in the environment of complex social issues, it is imperative that they look closely at the promotion standards for students.

Therefore, the goals of this presentation are to start a dialog to discuss medical school standards and gather information regarding:

- the ways in which medical schools in the central region of the United States deal with M-1 students with academic performance difficulties
- promotions policies standards
- examination pass levels
- availability of makeup examinations; deceleration programs; and repeat programs
- the use of USMLE as a gating mechanism, but have no standard for how many attempts students have at passing this examination.

Method of presentation: After a short presentation and definition of the problem, the group will divide into smaller units and attempt to deal with a student case, based on a selected program's policies. These will be presented to the larger group.

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Curriculum SIG: Student Input into the Design & Evaluation of Medical School Curriculum & New Student Innovations in Medical Education

Floyd Knoop, Ph.D.; Creighton University School of Medicine
Kathryn D. Huggett, Ph.D.; Creighton University School of Medicine
Rebecca Armendariz, Creighton University School of Medicine - MS II
Stephen Sittnick, Kansas City University of Medicine and Biosciences - MS II
Divya Patel, Kansas City University of Medicine and Biosciences - MS IV
Jamie Frey, Creighton University School of Medicine MS-IV
Saturday, 1:30 – 3:00 p.m.

This Curriculum SIG panel presentation and discussion will explore two critical dimensions of student participation and leadership in medical education: 1) the role of medical students in the design and evaluation of the medical curriculum and 2) student-initiated innovations in medical education. The Liaison Committee on Medical Education (LCME) accreditation standard ED-33 states “There must be integrated institutional responsibility for the overall design, management, and evaluation of a coherent and coordinated curriculum” and “an effective central curriculum authority will exhibit faculty, student, and administrative participation.” This session will introduce student representatives from two medical schools who will describe the methods used at their respective institutions to involve students in the administration and evaluation of the curriculum. They will provide specific examples of contributions made by students to improving the educational experience.

In addition to providing valuable insight into the strengths and weaknesses of the curriculum and offering recommendations for change, medical students also enrich the educational experience by developing co-curricular innovations that complement the school’s educational goals. Many of these initiatives require significant student leadership and coordination, address important needs in the larger community, and extend learning beyond the classroom. The activities of medical students in clinically-oriented projects, as Abraham Flexner (1910) stated, play an important role in “learning how.”

This session will offer examples of student-initiated innovations at two medical schools, describe challenges and opportunities of student-led initiatives, and provide ample opportunity for audience discussion of proposed or potential projects.

Generalizability Theory: A Workshop

Clarence D. Kreiter, Ph.D., and Kristi J. Ferguson, Ph.D.
University of Iowa Carver College of Medicine
Friday, 3:15 - 4:45 pm

Rationale: Generalizability Theory can be applied to address several issues in medical education. Goal is to generalize from a sample of behavior to the score the person would receive if observed under all possible conditions. An important advantage is that it allows researchers to determine multiple sources of measurement error in a single analysis. Another benefit is that it allows researchers to tailor measurement conditions to maximize reliability. Examples for its use include determining the number of evaluations needed or the number of cases needed for a standardized patient exam in order to achieve a stable and reliable estimate of performance.

Objectives for the workshop include the following: At the conclusion of the workshop, learners will be able to: (1) Identify advantages and disadvantages of generalizability theory; (2) Identify appropriate uses of generalizability theory in medical education; (3) Understand terminology used in generalizability studies; (4) Work through an example of data generated from a generalizability study; and (5) Identify problems in their own work that might benefit from applying this particular approach.

Methods/Session Format: The session will begin with a brief introduction about the advantages of Generalizability Theory. We will work through a sample case, then group members will be asked to apply the concepts to the case being presented. We will then conclude with an overview of recent studies that have used generalizability theory in medical education.

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Beyond "Cultural Competence:" Critical Consciousness and Multicultural Pedagogy in Medical Education

Arno K. Kumagai, MD, and Monica Lypson, MD
University of Michigan Medical School
Friday, 1:30 - 3:00 pm

To train physicians to meet the needs of a diverse society, medical schools have developed "cultural competency" curricula, i.e., activities to acquire knowledge of attitudes, practices and health beliefs of diverse patient populations and a skill set for working with these populations. While important, these activities often lead to an over-emphasis on "check list" approaches to complex situations without attention to learners' underlying attitudes and biases. In order to begin to address fundamental health care disparities in the U.S. and worldwide, we must couple the acquisition of skills and knowledge with the development of critical consciousness, i.e., an awareness of social injustice in the world in which medicine is practiced, as well as the impact that one's own values, perspectives, and biases have in the delivery of effective, compassionate care.

Pedagogy aimed at the development of critical consciousness has several underlying premises: (1) disparities based on race, gender, sexual orientation, and socioeconomic factors exist; (2) addressing these disparities is of central importance in medical education; and (3) medical students-and faculty-are adult learners developing ever-evolving views of self and society.

This interactive workshop is designed to explore approaches that foster the development of critical consciousness. The format for this type of learning is student-centered, engaged small group discussions of ethics, race, gender, sexual orientation, and socioeconomic status in the context of medical care. The workshop will model small group facilitation and will present key pedagogic theories underlying approaches that stimulate engaged discussions and the development of critical consciousness among adult learners.

Building Clinical Leadership: Something to SMILE About

Paul Lewis, M. S., Rush University Medical Center
C. Kirstin and B.S. Phelps, University of Illinois (Champaign-Urbana)
Paul Jones, MD, Rush University Medical College
Kevin M. Lewis BS, University of Illinois (Champaign-Urbana)
Friday, 2:15 pm - 3:00 pm

The medical education of the 21st century includes an expanding scientific and technical curriculum. This curriculum poses a difficult challenge in fulfilling the growing need to train physicians with the non-technical skills of working in a dynamic, patient-oriented healthcare team. As seen in the literature, many resident programs have designed extra-curricular leadership training experiences to fulfill this need; there is however, a lack of information on such experiences for undergraduate medical education programs. The purpose of this lecture/discussion is to present an elective 3-day leadership program for pre-clinical undergraduate medical students. In doing so, the lecture will review the required staff, preferred timing and facilities to host a leadership program, the philosophy and organization behind a sustained leadership program for medical students, and the steps in creating and maintaining a leadership program. At the end of the lecture, participants will be able to articulate the key concepts of an established leadership training program for medical students (i.e., the logistics), recognize what aspects were most and least beneficial to the student leaders (i.e., content) and discuss what were the basic leadership competencies covered in that program (i.e., general curriculum). Additionally, participants will be able to recognize the likely challenges they will encounter while establishing or maintaining a program at their institution.

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Computer-based Virtual Patient Cases: Multi-institutional Perspectives on Goals, Implementation and Evaluation

Kathryn L. Lovell, PhD, Michigan State University
Scott Elliott, BS, University of Iowa Carver College of Medicine
Heather Hageman, MBA, Washington University School of Medicine
Kelly Noll, BS, Washington University
Friday, 10:15 - 11:45 am

There is increasing interest in the use of computer-based virtual patient cases to meet institutional goals for student learning and assessment in the pre-clinical and clinical curriculum. These goals include teaching and evaluation of clinical reasoning in a cost-effective manner in the context of current constraints on patient encounters and faculty teaching time. As a teaching tool, computer-based virtual patient cases can be used to help medical schools meet LCME requirements for ED-2 ("the objectives for clinical education must include quantified criteria for the types of patients (real or simulated), the level of student responsibility, and the appropriate clinical settings needed for the objectives to be met"). The cases can also be designed to allow assessment of the students' abilities and provision of feedback on their strengths and weaknesses. This session will summarize the development and use of several types of virtual patient cases in undergraduate medical education, both for course/school objectives and to meet LCME requirements. Presentations will include features of effective computer-based virtual patient cases, curricular benefits, the choice of platform, issues in student assessment and feedback, barriers to implementation, and strategies for faculty development. Audience participants will be asked for feedback on their school experiences and to share ideas on the features of effective computer-based virtual patient cases used for specific purposes.

Treating Professionalism Lapses as a Form of Medical Error

Catherine Lucey, MD, Cynthia Ledford, MD, and Carol Hasbrouck
The Ohio State University College of Medicine
Friday, 10:15 - 11:45 am

Participants will: (1) Apply a medical error analysis paradigm to professionalism lapses; (2) Understand how systems contribute to professionalism lapses; (3) Use root cause analysis of a professionalism lapse to develop educational strategies. Despite widespread attention, effective strategies to teach and evaluate sustainable professionalism are elusive. Many medical organizations have responded by re-publicizing existing professionalism tenets. Unfortunately, physicians who exhibit professionalism lapses (PL) often do so in spite of knowledge of the abstract rules. The development of an effective education and evaluation strategy requires a deeper understanding of the nature of professionalism challenges, the causes of PL and the skills needed to respond professionally even when difficult. Many similarities exist between PL and medical errors. Both can occur in even the most diligent physician. Both can negatively impact patient health, doctor-patient relationships and physician well being. Both can be facilitated or mitigated by the systems in which we work. Both have frequently been blamed on irremediable character flaws. Drawing on the study of medical errors, this workshop will teach educators to apply the tool of root cause analysis to observed PL. After an initial didactic presentation, participants will break into small groups to review and analyze challenging professionalism scenarios. Discussion will focus on identifying conflicts, professionalism 'near-misses' and professionalism errors. Participants will use the analysis to identify the skills needed to face the challenges professionally. Strategies from medical education, psychology and business will be introduced to help participants move from this needs assessment to a professionalism curriculum.

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Meeting the ACGME Competencies: Not more work, A Shift in Perspective.

Monica Lypson, MD, Scott D. Gitlin MD, and Stanley J. Hamstra PhD

University of Michigan

Saturday, 3:15 - 4:45 pm

Residency program directors and faculty involved in resident education have been charged with assessing and developing educational tools that measure the ACGME competencies. Programs have struggled with various ways to implement this "unfunded mandate" within their programs. We will provide an experiential workshop for interested faculty to bring their evaluation and assessment tools. The format for this type of workshop will be interactive. We will spend 5-10 minutes on each tool presented to the group. Our intention is to provide a model for residency program directors & administrators to facilitate internal review procedures and interactions. Intended Audience: This workshop is intended for educators involved in resident teaching & evaluation. With the skills and consultation gained from this workshop, participants will be better able to develop, share and understand the fundamental aspects of creating a residency outcome program that meets various RRC requirements and require minimal additional effort. Learning Objectives: 1. Explore the aims of the ACGME's Outcome program 2. Review & share various assessment tools amongst workshop participants 3. Discuss obstacles and possible solutions facing the implementation of competency based assessment 4. Explore a novel approach to the institution's internal review process. Format/Methods: The workshop is designed to provide consultation and review of faculty and program directors evaluation tools. We will facilitate a discussion directed to residency educators and meeting their immediate needs. If participants would like consultation, they should bring one overhead transparency of their tool and 20 copies.

Clinical Skills Curriculum - Development

Anna Maio, M. D.

Creighton University

Friday, 3:15 - 4:45 pm

The approach to teaching clinical skills varies across medical schools. There appears to be little standardization regarding the acquisition, evaluation and remediation of skills. Society wants to be confident that as a profession we can all perform certain tasks. AAMC has initiated this discussion and this workshop would add to that effort. Discussion needs to initially center on what constitutes a clinical skills curriculum and a review of the literature regarding the development of a clinical skills curriculum. Educators need to carefully examine what skills a graduating senior should be able to perform and understand. Innovation of the curriculum needs to begin without fear of boundaries. Teaching of skills may need to be placed in different parts of the curriculum or reinforced frequently. Simulators or OSCEs could be used to supplement skills obtained from patients. Evaluation and remediation are also a critical part of the curriculum. We would hope this format would allow the participants to go back with some new and innovative ideas for revision of their clinical skills curriculum.

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Designing a Patient Safety and Quality Outcomes Medical Curriculum

David Mayer, MD, Deb Klamen MD, MHPE, and Reed Williams PhD

Southern Illinois University Medical School

Friday, 3:15 - 4:45 pm

Patient safety and quality care have emerged as major concerns in society and major drivers for improving the United States' well being. The Institute of Medicine's (IOM) report entitled, "To Err is Human; Building a Safer Health System," led to considerable discussion in both the public and private sectors on the need to align the current medical education system to meet these growing concerns. This past summer, experts in the fields of patient safety, quality care, curriculum innovation, informatics, risk management, legal, and simulator science met to begin discussions on the planning and implementation of patient safety education into UGME and GME. The multidisciplinary roundtable had representation from nursing, pharmacy, medical, public health and patient advocacy groups. We would like to share the outcomes of this roundtable with CGEA members and pose a series of questions for small group discussion and breakout work that help generate curricular design, toolkits and modules that can be made available to other educational leaders looking to incorporate patient safety into UGME and GME. Curricular areas that small group breakout work will focus on interdisciplinary training, teamwork, interpersonal communication and team-based simulation and will incorporate elements used by other safety-conscious industries including aviation and nuclear energy.

Evolution of a Large and Longstanding Service Learning Project

M. Eileen Mehl, BS, Firuzan Sharp MA, and Cedric Pritchett BS,PA-C

The Ohio State University College of Medicine

Saturday, 1:30 - 3:00 pm

Community Service has been a requirement for our first year medical students since 1988. Our Community Project has evolved over time from an "extra" part of the Medical Humanities curriculum to a core component of the current Patient Centered Medicine course. Students were originally randomly assigned to agencies to learn about (1) the psychosocial aspects of health care and (2) the economics and context of community health care and social services delivery. Changes to the Community Project over the years include moving from assigning students to agencies to student choice of project; instituting a Community Fair to facilitate choice; receiving a \$5000 grant to examine our connections with Community Agencies; adding Web Based Learning for reflection and assessment and having a "student Community Project committee" as part of our Project Professionalism. First year medical students contributed almost 4000 hours of service in 2003-2004 and received top university honors for the last 2 years for individual hours volunteered (9 students: over 100 hours each). Dr. Franklin Banks, PhD., Community Project Director, received the 2003-2004 University Faculty Award for Excellence in Community-Based Teaching. Working in community agencies develops the professional attributes of a physician in training. Clearly, altruism, responsibility, respect, integrity, excellence and compassion are components of service. Through service students develop those attributes, shaping professional characteristics that are difficult to teach but essential to the practice of medicine. The unique evolution of service learning at our institution has components that could be adapted to many other medical schools.

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Teaching Population Health from a Health Disparity Perspective: Curricular Resources and Tools

Karen Peters, DrPH, University of Illinois College of Medicine, Rockford

Margaret Gadon, MD MPH, American Medical Association

Carol Krohm, MD MPH, Illinois Foundation for Health Care Quality

Genevieve Werner, MS, and Eric Henley, MD MPH

University of Illinois College of Medicine, Rockford

Saturday, 3:15 - 4:45 pm

The topic of health disparity has become an increasingly important focus in the areas of public health, health care provision and health policy. Each of these areas rely on a population health perspective. Likewise, the issues involved in understanding and addressing health disparity also can be approached from a population health perspective. The purpose of this session is to present and discuss some strategies for teaching and learning about population health from the perspective of the societal imperative to address health disparity. Curricular resources and tools will be shared from the interdisciplinary panel. Implications and recommendations for how to include a population health perspective into medical education will be discussed with an expectation for active audience participation.

The Human Patient Simulator In Medical School Orientation

D. Peterson, D. PhD, Margaret Wilson D. O., and David D. Patterson B. S.

A. T. Still University

Saturday, 10:15 - 11:00 am

Objective. Human Patient Simulators were used during orientation for the Class of 2009 to generate excitement and anticipation about the education that they were about to undertake. **Methodology.** Students were required to dress professionally and to treat the simulator as a real patient. Five different commonly encountered disease scenarios were developed from actual patient cases. Students, in groups of five or six were given a 5 minute history of their case by 3rd and 4th year students in a conference room. They then were escorted to consult at the "patient's" bedside where they joined a clinician and basic scientist to identify the disease condition. They were asked to get vital signs, to read monitored traces and to keep a patient chart. The expectation was not to be diagnostically successful but rather that they appreciate the process. After 15 minutes at the bedside they returned to the conference room where the experience was discussed with basic science faculty. **Results.** Student feedback indicated that 97% felt the exercise was a positive motivator for medical school. Written comments indicated they felt overwhelmed and unprepared to care for the needs of their patient but were excited about beginning the process whereby they would become prepared. **Conclusion.** Students were excited by the opportunity to function in a physician role at the bedside of an ill patient. Still, they also recognized that there will be an important educational process before they are ready to adequately fulfill that role.

Educational Implications of Electronic Health Records

David Resch, MD, Regina Kovach, MD, and Terri Cameron MA
Southern Illinois University School of Medicine
Stuart Speedie PhD
University of Minnesota Medical School
Michael Zaroukin MD, PhD
Michigan State University
Friday, 1:30 - 3:00 pm

While much has been written about the impact of electronic health records on patient care and the implications for practicing physicians and graduate medical education programs, little information has been provided regarding the impact that EHRs have on the education of medical students or the development of clinical reasoning processes. In its policy statement regarding the value of the EHR and information technology in the future of healthcare, the AAMC made no mention of medical education. Also, the Foundation for eHealth Initiative has no working group on medical education among its five groups. None of the goals of the strategic framework identified by the National Coordinator for Health Information Technology identify medical education as an issue in implementation of EHRs. (<http://www.os.dhhs.gov/healthit/goals.html>). In addition, the reminder systems built into many EHRs are dependent upon maintaining currency in medical knowledge and continually updating the evidence-based rules that support patient safety initiatives and the reminder systems. Many practitioners, residents and students are not aware of the processes involved in this system. This session will allow participants to begin a dialogue and establish networking contacts to address the opportunities and challenges the implementation of EHRs brings to medical education.

Developing Faculty Development Activities that Respond to the Needs of Community-based Preceptors

Jane Riddle, MD, University of Illinois at Chicago College of Medicine
Marcy Rosenbaum PhD, University of Iowa College of Medicine
James H. Shropshire MD, University of Wisconsin Medical School
Friday, 1:30 - 3:00 pm

Community-based health care settings are important sites for learners to practice key clinical skills and to become exposed to settings in which they are likely to work in the future. Community-based preceptors are often volunteers, who enjoy interacting with learners and find fulfillment in teaching. These preceptors are typically geographically dispersed. They may have little training in effective precepting skills and often face increasing clinical and non-clinical workloads. In order to provide support for volunteer community-based preceptors, faculty developers need to have strategies to assess and meet the needs of those preceptors. In this small group discussion, participants will discuss preceptor needs assessments using preceptor surveys and interviews. Other sources of needs assessment data will be considered including student course evaluations, preceptor evaluations of students, faculty development program evaluations and the curricular goals of community-based clerkships. Participants will apply the PRECEDE (predisposing-enabling-reinforcing) planning model to discussion and critique of preceptor development programs. Examples of activities typically included in preceptor development programs - handbooks, office visits (academic detailing), websites, workshops, reminders - will be presented with attention to the use of those materials by community-based preceptors and evidence for the effectiveness of those activities.

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Using Human Patient Simulators and Standardized Patients to Integrate Professional Behavior Assessment within a Medical School Basic Science Course

Neil Sargentini, PhD, Julia E. McNabb DO, FAAFP, Dena Higbee BA
David Patterson B. S. E., and Neal R. Chamberlain PhD
A. T. Still University - Kirksville College of Osteopathic Medicine
Friday, 3:15 - 4:00 pm

Objective/Purpose: In an effort to integrate basic science and professional objectives in a clinical scenario, we developed a medical school infectious diseases laboratory exercise to integrate and assess patient centered care, interpersonal and communication skills, professionalism, leadership, and teamwork along with standard medical knowledge objectives in a basic sciences course. **Methods/Materials:** We developed 16 unique pneumonia cases (predisposing conditions, agents, etc) for 175, 2nd year medical students in four-member teams to perform assigned roles of Standardized Patient (SP) Examiner, Human Patient Simulator (HPS) Leader, Subject Objective Assessment Plan (SOAP) Note Writer and Microbiology Person. Student contact time was 1 hour for the team aspects of this exercise. Several days were allowed for development and writing of the SOAP note and microbiology report. **Results:** Data was analyzed for 175 students and include SP feedback to students, comments on leadership and teamwork, comments on SOAP notes, assessment of video tapes of SP and HPS encounters, microbiology reports, student surveys and self-reflection statements. Student self reflections indicate that immediate oral feedback from the SP, peer observation and support, working as a team, and thinking within a realistic situation were strong aspects of this exercise. **Conclusions:** Overall student feedback was positive during this first attempt at this exercise. All objectives were realized, although improvements are being considered. A plan is being developed for a series of similar exercises to assess and coordinate professional development and include pathology objectives during our next two-course sequence (medical microbiology and infectious diseases).

Using a Curriculum Database to provide longitudinal integration in medical education

Haraldine Stafford, PhD, MD, Kathryn Skhal M. S.
Kristi Ferguson, PhD, and Helen Damon-Moore PhD
University of Iowa Carver College of Medicine
Friday, 2:15 - 3:30 pm

The University of Iowa Medical Curriculum Database contains the content of course syllabi of the medical curriculum, including PowerPoint presentations and handouts, in a single, searchable resource. While searching by individual words and keywords provides flexibility, it can be a time-consuming process. The original purpose of the database was to allow faculty to review what had been taught about their topic in earlier courses, but it has also become an important study resource for students. The course director of the Foundations of Clinical Practice (FCP) IV course initiated a project to make this database more accessible and usable for both faculty and students. Hardin library staff members have created curriculum database link pages for all FCP IV lectures. The link pages are arranged by discipline and provide a history of relevant lecture material. To generate links, keywords are chosen from FCP IV PowerPoint presentations from the previous year. They are used to generate searches of the medical school curriculum database. A link page is generated that lists curriculum content relevant to each lecture. The sources of these reference lectures, as well as the lecturers' names and departments, are listed on the link page. Faculty liaisons and the course director provide quality control by reviewing link pages prior to their posting. Link pages are password-protected but are accessible to all faculty and students. The success of this tool will be assessed by measuring the number of times each site is accessed. Desired outcomes include better articulation between lectures within and between disciplines and more transparency of the medical curriculum for all students.

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Structural Knowledge and Clinical Skill

R. Brent Stansfield, PhD, University of Michigan
George Bergus, MD, University of Iowa Carver College of Medicine
Saturday, 10:15 - 11:45 am

Purpose: To explore the relationship between clinicians' diagnostic reasoning and their performance on a simulated patient (SP) case.

Methods: 41 M4s and first-year residents examined a SP (graded) and completed a questionnaire about the case (ungraded). The questionnaire involved likelihood judgments about six disorders given 22 hypothetical symptoms. Factor analysis and multidimensional scaling (MDS) yielded interpretable individual differences in clinical reasoning. These were compared to clinical and communication scores on the simulated patient case.

Results: Participants clustered into 4 types based on likelihood of six disorders. Types differed in clinical but not communication SP scores. MDS results show qualitative differences between the 4 types in their clinical judgments of the relative likelihood of the disorders.

Conclusions: Clinical skills as measured by the SP exam are related to a clinician's understanding of how various symptoms and situations affect the likelihood of disorders. Some understandings are better than others and can be modelled using pen and paper measures.

Enhancing Empathy in Medical Students using Flex Care Training

Carla Stebbins, PhD, Des Moines University
Saturday, 1:30 - 3:00 pm

There are numerous benefits to patients, the health care system, and even to physicians themselves when physicians are equipped with the ability to empathize with their patients. Four specific areas most impacted by a physician's ability to communicate empathically are addressed in the literature: patient compliance, patient satisfaction, patient autonomy or shared decision making, and physician career satisfaction. Overall, the ability of a physician to develop an empathic relationship with patients enables more efficient and effective interactions between patients and their physicians, providing relief to many of the problems confronting the U. S. health care system. Various oversight, credentialing, and accrediting bodies (i.e., Association of American Medical Colleges, Institute of Medicine, Accreditation Council for Graduate Medical Education, Association of American Colleges of Osteopathic Medicine, etc.), as well as the administration and faculty from medical schools around the world, have called for increased research in the development (and testing) of curricular interventions that enhance empathy and interpersonal communication skills among today's medical students. In 2004, a research study was launched to determine if the Flex Care communication training, a program based on psychological type theory, could enhance medical student empathy scores. Results of the study suggest that the training program did produce a significant result in the enhancement of the behavioral domain of clinical empathy. This workshop will expose participants to key experiences of the Flex Care training program while also sharing the effects of the program on study participants. Current plans to integrate this innovative program into the formal medical school curricula will also be provided.

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The Impact of Librarian/Faculty Partnerships on Medical Education

Gerri R. Wanserski, MLS, University of Wisconsin-Madison
Gurpreet K. Rana, MLIS, Taubman Medical Library, University of Michigan
Larry Gruppen, PhD, University of Michigan Medical School
Cindy Gruwell, MLS, University of Minnesota Bio-Medical Library
Bradley J. Benson, MD, University of Minnesota Medical School
Saturday, 3:15 - 4:45 pm

Librarian/faculty collaborations from undergraduate to graduate medical education are becoming increasingly successful as faculty recognize that the specific skills sets of librarians are an integral part of building professional expertise. Today, the skills required to become a successful physician include information management, critical appraisal (including evidence based medicine), and the use of information technologies. These trends create a specific niche for medical librarians in medical education and have the potential to play a significant role in modeling future physicians as lifelong learners.

The University of Michigan and University of Minnesota medical schools represent institutions where significant partnerships between faculty and librarians have developed at all levels of medical education. These partnerships have resulted in a spectrum of educational initiatives, including: orientation of first-year medical students to medical information resources; course electives for second-year medical students; informatics seminars with first-year residents; an EBM journal club, morning report consultations, and development of active learning curriculums to assist in primary care clerkships, residencies and fellowship scholarly activities.

This facilitated panel session will invite audience participation as attendees discuss models of librarian/faculty partnerships from both the faculty and librarian perspectives. Emphasis will be placed on best practices for fostering librarian/faculty partnerships, methods to evaluate their success, the evolving role of librarians in medical education and active approaches for exploring collaborative efforts with medical faculty. Time for questions, discussion and shared ideas will be provided during the session to solicit ideas for the role the SIG and librarians can play in medical education.

Perception Of The Impact Of Sleep Deprivation On Performance By Surgical Residents

S.I. Woodrow and J. Park, University of Toronto
B.J. Murray, Sunnybrook and Women's College Health Sciences Centre.
C. Wang, M. Bernstein and R.K. Reznick, University of Toronto
S.J. Hamstra, University of Michigan
Saturday, 3:15 - 4:45 pm

Purpose. Duty hour restrictions have been mandated largely out of concerns that sleep deprivation compromises physician performance and patient care. However, individuals' ability to recognize the effects of sleep deprivation has not been well studied and may have important clinical and educational implications for the medical profession. This study examined the perceived impact of sleep deprivation on performance amongst different groups of medical trainees.

Methodology. A survey investigating work hours, sleepiness, and daily functioning was mailed to all medical, surgical and psychiatry residents at a large urban medical school. The mailing also included a previously-validated instrument of sleepiness (the Epworth Sleepiness Scale), and a new Sleep Deprivation Impact (SDI) scale, a 12-item Likert-type scale designed to measure self-perceived performance impairment resulting from sleep deprivation.

Summary of Results:

Overall, 95/152 (62. 2%) surgical and 194/326 (59. 6%) non-surgical residents completed the survey. Surgery residents reported (1) working longer hours per week (83. 1 versus 61. 9, $p < 0. 01$), (2) scored higher on the Epworth sleepiness scale (12. 8 versus 9. 2, $p < 0. 01$), and (3) scored significantly lower than others on the SDI scale (45. 1 versus 51. 5, $p < 0. 01$). Internal consistency of the 12-item SDI scale was 0. 89.

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Conclusions. Surgery residents reported working significantly more hours per week than those in other specialties. Despite valid evidence of greater sleepiness, self-perceived impairment due to sleep deprivation was lower amongst surgery residents than non-surgical trainees. We are currently investigating whether these findings represent actual resilience to sleep deprivation or misperception within a self-selected group.

SESSION ABSTRACTS

Using Task-Trainer Models for Instruction and Assessment

Rachel Yudkowsky, MD, MHPE

University of Illinois at Chicago College of Medicine

Sandy Cook, PhD, and Kris Slawinski MA

The University of Chicago Pritzker School of Medicine

Dena Higbee, A. T. Still University of Health Sciences/Kirksville College of Osteopathic Medicine

Saturday, 1:30 - 3:00 pm

Task-trainer models are low-to-medium-tech simulators for performing isolated tasks such as suturing, drawing blood or inserting an IV. As task-trainer models become more available, and students' access to patients more restricted, Health Science educators are increasingly incorporating task-trainers in their instruction and assessment toolbox. Task-trainers offer many advantages for both learners and patients. The experience of performing a procedure for the first time can be stressful and error-prone; task-trainers allow students to learn procedures in a safe, controlled and low-stress environment. Students may have limited opportunities for practicing skills in the clinical setting; task-trainers provide multiple opportunities for perfecting skills. Finally, task-trainers afford the assessment and documentation of competency, consistent with the requirements of the LCME, ACGME and AOA. This symposium/panel discussion will present a conceptual model and several practical approaches to teaching, learning and assessing with task-trainers, as exemplified by the University of Illinois at Chicago, the University of Chicago Pritzker School of Medicine, and the A. T. Still University of Health Sciences/Kirksville College of Osteopathic Medicine. In particular, we will address appropriate uses for task-trainer as opposed to bio-simulator models; how to design successful learning experiences and effective assessments using task-trainer models; how to set up a task-trainer lab that works efficiently for instructors and learners; and ways to combine task-trainers and standardized patients. There will be plenty of time for discussion.

Communicating Evidence: the Final Frontier

Laura Zakowski, MD, University of Wisconsin

Shobhina Chheda, MD, MPH, University of Wisconsin

Saturday, 10:15 - 11:45 am

Since Evidence Based Medicine came on the scene, there has been significant emphasis on the steps of EBM that include framing an evidence-based question, retrieving and appraising the evidence, and understanding the results. However, the real challenge may lie in the clinician's ability to communicate research evidence to patients to help patients make informed decisions. Unfortunately, there is little known about how to most effectively communicate evidence to patients. In 2004, Epstein and colleagues published a systematic review that identified original research in this area but their search yielded only a few potentially relevant articles (1). Though research in evidence-based communication is at an early stage, some medical schools are teaching evidence-based communication skills as part of their larger curriculum efforts in EBM. A new emphasis on teaching students the skills required to explore patient values and translate research evidence to patients is critical. This workshop will focus on innovative methods to teach and evaluate students EBM communication skills. These activities were developed and implemented for second year medical students. Workshop attendees will observe and discuss videos of students performing a recently implemented EBM communication OSCE assessment station. (1) Epstein RM. Alper BS. Quill TE. Communicating evidence for participatory decision making. JAMA. 2004;291:2359-66.

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Sustaining Curriculum Renewal: Leadership and Scholarship Lessons Learned

Michael Hosokawa, EdD, University of Missouri-Columbia

William B. Jeffries, PhD, Creighton University School of Medicine

Nehad I. El-Sawi, PhD, Kansas City University of Medicine and Biosciences

This session addresses issues and strategies for reform in medical education and lessons learned from three medical schools. The discussants provide an overview and present qualitative reflections of their respective experiences in reinforcing three newly adopted curricular models: Problem-Based (University of Missouri-Columbia); Hybrid (Creighton University) and Clinical Presentation Curricula (Kansas City University of Medicine and Biosciences).

The discussants set the context and give a short history of their programs. They comment on issues of leadership, governance, communication, faculty development, integration, instructional methods, student assessment and program evaluation. The session concludes with summary of lessons learned from the success and challenges of sustaining curriculum renewal and how it affects educational scholarship at the three institutions; providing opportunity for audience to share their institutional experience.