Concurrent Sessions
Saturday, April 30
9:00 am – 12:00 pm

Workshop

MERC Workshop: Measuring Educational Outcomes with Reliability and Validity
Paul Wimmers, PhD, David Geffen School of Medicine at UCLA

This workshop introduces participants to the principles of score reliability and validity, using a combination of didactics and review of medical education research projects.

The workshop is divided into two parts with group exercises designed to reinforce understanding of the main principles. At the end of the workshop participants will be able to
- identify three types of reliability (inter-rater, test-retest, and internal consistency),
- match types of reliability with appropriate statistical measures,
- describe the relationship between reliability and validity,
- describe multiple forms of evidence for validity, and
- select an approach to reliability and validity assessment for a particular study.
Saturday, April 30  
10:00 am – 12:00 pm

Workshop

Using Curriculum Management Systems to Support Curriculum Oversight and Educational Research  
Terri Cameron, MA, Association of American Medical Colleges

In this workshop, participants will learn how to effectively
- use curriculum management systems to support Continuous Quality Improvement;
- use educational outcomes data for curriculum improvement and management;
- run curriculum management system reports to support educational research; and
- use CurrMIT Details of Instruction (Elements) to facilitate benchmarking, trend analysis, and other reporting.

The workshop will also include an update on AAMC’s new Curriculum Inventory Portal and LCME Database, and how these two systems will interact with institutional and vendor-developed curriculum management systems.
Workshop

Careers in Medicine Update
George V. Richard, Ph.D., Association of American Medical Colleges

Introduction
Join Careers in Medicine (CiM) staff to learn about additions to the program and results of recent research projects. Tour the recently released advisor resources and careers in academic medicine content, and get insight into the state of career-planning programs through the results of the CiM liaison survey. Also learn about communicating better with your students through the results of a series of focus groups on medical student communication preferences.

Methods
Demonstrations of web content and presentation of results

Outcomes
Participants will learn
• about the newest resources available for advisors and students on the CiM web site,
• what we’ve learned about CiM activities in U.S. medical schools, and
• what students are telling us about their social networking activities and preferences

Target Audience
Student affairs staff and Careers in Medicine liaisons
Saturday, April 30
2:00 pm – 3:30 pm

Workshop

RIME Workshop: Preparing a Competitive WGEA Mini-Grant to Support Your Educational Scholarship
Sebastian Uitdehaage, PhD, David Geffen School of Medicine at UCLA

Each year, the WGEA awards a total of $8,000 to support educational research carried out by novice or experienced investigators who are affiliated with a WGEA medical school. The call for proposals has been posted on the WGEA website at: https://www.aamc.org/members/gea/regions/wgea/

The objectives of the workshop are to
• describe the requirements for the WGEA mini-grant program,
• recognize the characteristics of a competitive grant proposal, and
• get started with developing a fundable WGEA grant proposal.

We are targeting faculty members and educators who have an interest in developing a research project and seek seed money to get started.
Welcome to NAAHP! Pre-health advising is an exciting field, but it can also be daunting when you’re new. If this is your first conference, or if you’ve been advising pre-health students for fewer than three years, you will want to attend this session. Our goals are to introduce you to WAAHP and what’s available at this conference, help you join a support network of advisors, and outline the fundamentals of pre-health advising. Topics will include an overview of health professions, basic steps in preparing students for professional schools, components of the job, and essential resources to get you started. Join us for a lively exchange of information and ideas about your new responsibilities!
Saturday, April 30  
1:00 pm – 4:00 pm

Workshop

**MERC Workshop: Searching and Evaluating the Medical Education Literature**
Lauren Maggio, MS (LIS), Stanford University

This workshop is intended for individuals, medical educators and clinician educators who want to learn how to effectively search the published medical education literature and to evaluate the value of those searches.

At the end of the workshop participants will be able to
- formulate an effective approach to searching the medical education literature,
- conduct a search using relevant MeSH headings,
- communicate effectively with a research librarian, and
- evaluate the search results using specific review criteria.
Saturday, April 30
2:30 pm – 4:00 pm

Workshop

AAMC Admissions Update
Stephen Fitzpatrick, Henry M. Sondheimer, Dawn Zhao
AAMC

The AAMC is currently undertaking a wide variety of projects relating to medical school admissions. These include the 5th Comprehensive Review of the MCAT (MR5), 2012 changes to AMCAS, the Holistic Review Project, the change from pre-medical courses to pre-medical competencies, and the search for new measures of pre-professional readiness.

Target Audience
Undergraduate advisors, admissions deans and staff and medical educators
Building Capacity Beyond Our Horizon: Four Approaches to Faculty Development Partnerships with International Health Science Institutions
Lauren Maggio, Stanford University; LuAnn Wilkerson, University of California, Los Angeles; Jan Carline, University of Washington; Patricia O’Sullivan, University of California, San Francisco

Introduction
Capacity building is a major, but challenging goal for many global health initiatives. Recently several WGEA institutions have partnered with institutions worldwide to tackle this challenge through innovative and sustainable approaches to medical education. These partnerships have emphasized the joint creation and implementation of unique culturally-appropriate faculty development programs to increase the number of skilled medical educators that can provide high-level guidance in medical education.

Methods
In this panel discussion each presenter will describe their institution’s approach to faculty development with their partner institution. Panelists will focus on the evolution of their expectations, the necessary flexibility of their strategies, aspects of working with international partners and lessons learned through both successes and failures.

Panelists and partner institutions include:
Lauren Maggio, Stanford University and partner University of Zimbabwe College of Health Sciences;
Jan Carline, University of Washington and partner China Medical University;
Patricia O’Sullivan, UCSF and partner Muhimbili University for Health and Allied Sciences, Tanzania;
LuAnn Wilkerson, UCLA and partner Zhejiang University School of Medicine, China

Following the presentation a moderator will guide a discussion between the panelists and the audience. The panelists will draw on considerable faculty development experience, both domestically and internationally which will contribute to a vibrant and applicable discussion.

Outcomes
We anticipate that attendees will gain an
• enhanced definition of faculty development,
• array of faculty development strategies that may be applicable locally and globally, and
• appreciation of the challenges and opportunities of implementing medical education initiatives abroad.

Target Audience
Educators interested in faculty development and global health.

References
Burdick WP, Morahan PS, Norcini JJ. Capacity Building in Medical Education and Health Outcomes in Developing Countries: the Missing Link. Education for Health 7 (online), 2007: 65.
Available from: http://www.educationforhealth.net
Creating Effective Learning Outcomes for Feedback, Remediation, and Program Improvement
Joseph York, Jane Rosenthal/University of Southern California

Introduction
Competency-based education is emphasized at every level in medical education and requires a focus on well-articulated learning objectives and assessment tools. But creating useful learning objectives can be an overwhelming process and does not always lead to the desired outcomes. This workshop focuses on best practices involved in the effective creation and implementation of learning objectives (outcomes). The presenters will demonstrate ways to create learning objectives that have a positive impact on teaching and learning in any environment (including didactic and clinical settings) and that are clear, measurable, and compliant with institutional and accreditation standards.

This interactive workshop will guide participants through a process for creating effective learning objectives (outcomes) in a competency-based medical education curriculum in any discipline or at any level. We will explore the fundamentals of good learning objective development, and will make the critical step of integrating learning objectives into practice, including teaching, assessment, remediation and program improvement.

Methods
Presentation, small group discussion, small group exercise

Outcomes
Upon completion of this workshop, participants will be able to
• describe the major attributes of competency-based education and how they affect the development and implementation of learning objectives;
• understand the major components for creating effective learning objectives;
• create learning objectives that can be used for guiding learners, feedback, assessment and remediation; and
• explore ways in which objectives can be used to make program improvement.

Target Audience
Clerkship directors, residency directors, basic and clinical science faculty, curriculum support staff

References
Small Group Discussion

Use of Mannequin Simulation in a 3rd Year Clerkship: “Breathing Life into Morning Report”
Jeffrey Chi, MD, Stanford University School of Medicine; John Kugler, MD, Stanford University School of Medicine

Introduction
Mannequin simulation has been increasingly used in post-graduate medical education but is less widely adopted at the clerkship level. Direct observation of medicine clerkship students can be inconsistent. To provide additional feedback and immerse students in patient care while maintaining a “safe” environment, we have introduced a mannequin simulation program to our internal medicine clerkship curriculum at Stanford Hospital. The objective of our program is to develop student clinical reasoning skills as they learn to approach patients with common signs and symptoms. Here we describe the implementation of this program, and perceived strengths and weaknesses.

Methods
We intend to briefly review the use of high fidelity mannequin simulation at the clerkship level and provide an overview of the MED 300 Internal Medicine clerkship, the curriculum, and rotation objectives. We will discuss the process of developing successful (and less successful) scenarios. Participants will be provided a hands-on demonstration of the SimMan 3G mannequin simulator, encompassing its capabilities and limitations. They will also be invited to participate in one of our scenarios and debriefings. The session will ultimately close with the opportunity for questions, feedback, and discussion regarding methods of evaluation, future direction and implementation at other institutions.

Outcomes
(1) Familiarize audience with mannequin simulation; (2) Identify key differences between simulation at the undergraduate and post-graduate level; (3) Identify strengths and weaknesses of using mannequin simulation with medical students; (4) Identify best practices and recommendations for implementation at outside institutions; (5) Discuss methods for evaluation; (6) Stimulate discussion for future direction.

Target Audience
Medical students, faculty, simulation staff.

References
Improving Pre-Clerkship Clinical Skills Courses
Preetha Basaviah, MD (Stanford); Matthew Mintz, MD (George Washington University)

Background
Though much has been discussed about the lack of change in undergraduate medical education since Flexner’s proposals over 100 years ago, the one major exception is the establishment of Pre-Clerkship Clinical Skills (PCCS) courses in medical schools. Though almost every US medical school has a PCCS course, their structure, organization, administration and curriculum vary widely. Data on PCCS courses in US is extremely limited. Finally, a national organization or forum for collaboration for PCCS course directors does not currently exist.

Objectives
Describe structure, organization, administration and curriculum of PCCS courses in US
Evaluate the advantages and disadvantages of various schools’ programs
Identify challenges for PCCS courses and PCCS course directors
Propose solutions to the major challenges faced by PCCS courses

Format
Didactic presentation, large group discussion, break out groups (90-minute interactive session)

After introductions from the presenters (10 minutes), we will review data from a national survey (unpublished) describing the structure, organization, administration and curriculum of PCCS course in the United States to the large group (10 minutes). The large group will then discuss challenges and best practices. After identifying the 3-4 major challenges to PCCS courses, we will break into 3-4 small groups to identify strategies and solutions to these challenges. (25 minutes). The small groups will then report their findings to the large group (15 minutes) and all will conclude by brainstorming ideas for collaboration at the national level.

Target Audience(s)
PCCS course directors, co-directors, curricular deans and other faculty and staff involved in PCCS courses (UGME/Preclinical)
Providing Effective Feedback
Kelley Skeff, MD, PhD; Georgette Stratos, PhD; Co-Directors, Stanford Faculty Development Center for Medical Teachers

Participants will be introduced to an educational framework for analyzing teaching. One of the categories from that framework, Providing Feedback to Learners, will be focused on in more detail through a mini-lecture and personal application exercises.
**Sunday, May 1**  
9:00 am – 10:30 am

**Small Group Discussion**

**Stereotype Threat: Mentoring Underrepresented Minorities in Academic Medicine**  
Ian Tong, MD, Stanford University

**Introduction**  
Academic Medical Centers pride themselves on recruiting the “best/most qualified” trainees for medical school and residency. However, many of these institutions struggle to achieve representative numbers of women or minority trainees. Renowned social psychologist Claude Steele has introduced a new evidence based rationale for redefining “best/most qualified” in higher learning. His work reveals the impact of negative stereotypes on cultural identity and academic performance. Medical Schools and residency programs can combat the effects of negative stereotypes connected to cultural identity through multiple evidence-based practices.

**Methods**  
30-45 minutes of didactic with 45-60 minutes of discussion and strategic planning for initiating institutional change. Participants will be introduced to multiple examples of stereotype threat. They will share their own experiences of the impact of cultural identity in small group discussion.

**Outcomes**  
- Introduce concept of Stereotype Threat  
- Provide rationale for altering metrics for women and minority applicants in academic medical centers  
- Discuss effective strategies to enhance diversity in academic medical centers

**Target Audience**  
Medical School Admissions Officers, Program Directors, Associate Program Directors, Academic Medical Center Faculty

**References**  
2. Steele, Claude (2010). Whistling Vivaldi and Other Clues to How Stereotypes Affect Us. New York
Sunday, May 1
9:00 am – 10:30 am

Workshop

Healthcare Workforce: What Advisors Need to Know
Tom Levitan, MEd, Vice President for Research & Application Services, American Association of Colleges of Osteopathic Medicine
Jennifer Athay, Pharm.D., Director of Student Affairs, American Association of Colleges of Pharmacy

Moderator – Linda Scott, Ph.C. Director of Pre-Health Advising, UC Davis

Changes in healthcare abound and the healthcare workforce, at all levels, must develop to meet those changes. These changes include the numbers and possible shortages or surpluses of healthcare providers across all of the professions, changes in scope of practice (who can do what in diagnosing and treating patients), changes in the type of education and training, and changes in compensation. All of these factors and more may significantly impact the interest of prospective healthcare providers in careers.
Multiple Mini Interviews in Selecting Medical Students

Review of MMI Literature and Rationale
Gabe Garcia

The session will provide a brief review of the modalities we currently use to assess applicants to medical school, including the personal interview and multiple mini interviews.

MMI Mechanics
Char Hamada

Challenges and opportunities encountered on implementation will be discussed.

Implementing MMI at UC Davis: A Qualitative Analysis
Julie Rainwater, PhD, Frank Sousa, MD, Stuart Henderson, PhD, and Mark Henderson, MD

Introduction: Medical schools have begun to explore ways to assess applicants’ qualifications beyond academic achievement. Multiple mini-interviews (MMI) employ multiple interviewers (or raters) and short, scripted stations in an attempt to capture Interpersonal and behavioral attributes necessary for success in medical school and ultimately, in clinical practice.

Objectives: Despite promising early reports, research on implementing MMI, applicant and rater satisfaction, and other process measures has been limited. This presentation explores the UC Davis School of Medicine experience implementing MMI from the perspectives of faculty and staff, MMI raters, and medical school applicants. The goal is to review lessons learned for medical schools that might be considering MMI.

Methods: All medical school interviewees (n = 460) received a 15-item questionnaire about their experience and satisfaction with the admissions process, MMI, and interview day. This data was compared to responses from previous applicants who participated in traditional interviews. MMI rater data was obtained through a 10-item survey and focus groups.

Results: Preliminary findings indicate that applicants and raters are satisfied with the MMI experience. Most applicants feel that it is more “fair” and “fun” than traditional interviews. There is a concern, however, that applicants are not able to fully express themselves or tell their story in the shorter (interview) format.

Discussion: Transition to the MMI interview process is time consuming and logistically challenging. Long-term outcome data is lacking. Benefits include expanded faculty and staff participation and high applicant and rater satisfaction. These findings are discussed in light of short-and long-term admissions objectives.

Target Audience: Undergraduate advisors, admissions deans and staff and medical educators
Sharing Learner Data Across the Continuum in Electronic Portfolios: The future is Around the Corner
Kevin Souza, UCSF, M. Brownell Anderson, AAMC, Patricia O'Sullivan, UCSF

Introduction
Electronic portfolios are increasingly used for learning and assessment. They have the potential to follow the learner from medical school through residency and into practice providing the learner with opportunities for lifelong monitoring and reflection on professional competence. The potential to connect existing e-portfolios and enable free movement of data to create a continuum of reusable information offers countless applications. The AAMC and NBME have a partnership to move the national work on an e-folio forward. We demonstrated interoperability among institutions in a pilot project with medical student data and are looking to expand participation in the EII and develop new projects.

Methods
The presenters will
• provide background on the E-folio Interoperability Initiative (15 min);
• review a Pilot on educational trajectory and lessons learned (15 min); and
• lead a group discussion on how an e-folio connector system might be used by learners, educational programs and data custodians answering key questions (60 min):
  o What additional information would be helpful to collect for a learner’s educational trajectory?
  o What educational achievement data evidence should be routinely collected by the e-connector system?
  o What is the local interest in this project?

Outcomes
Participants will be able to
• describe this project and the national work promoting e-folio interoperability,
• discuss the goals and progress of the EII and give feedback and explore future participation, and
• discuss opportunities for electronic data sharing across the continuum of medical education and practice with a focus on the next pilot for the exchange of education achievement data.

Target Audience
All audiences

References
None
How Scheduling Data Can Inform Strategic Decisions and Be Shared with Other Systems
Mary Ayers, Stanford University School of Medicine; Pauline Brutlag, Stanford University School of Medicine

Context
Simulation & EdTech (SET) at the School of Medicine collects large amounts of detailed scheduling data for every session in SET spaces. There is a range of tools that exist to help disparate information systems communicate with each other. If the tool that you want doesn’t exist, and you have the resources, you can build it.

Objectives
Show how we use Resource25 to inform budget development, equipment replacement planning and support staff utilization.
Show how we share data to: run our automated video capture system, pre-populate our course metadata and content management systems, and seed the curriculum database for LCME accreditation reports.

Key Message
Scheduling data provides a wealth of information that can be used to inform strategic decisions. The data repository is the system of record and is shared with other systems to streamline processes.

Conclusion
To demonstrate how using an enterprise-level scheduling system can bring added value to your institution.

Target Audience
Administrators, institutional planners, budget analysts, information technology, facilities, medical education.

References
Oral Presentation

A Standard-Guided E-Portfolio Implementation: The Students Perspective
Lee Atkinson-McEvoy, Patricia O’Sullivan, Chandler Mayfield, Joseph Crawford, Kevin Mack, Carol Miller

Introduction
While students are using portfolios to document competencies, the literature reveals that the implementation of the portfolio is critical to its success.

Objectives
Determine whether following literature-based standards for portfolio implementation enabled us to achieve a successful implementation from the perspective of the learners.

Methods
In fall 2009 medical students began using a portfolio to provide evidence and reflection around competencies. All first year students completed a questionnaire with open comments. We conducted a focus group from a random sample of students. Questionnaire items, written survey comments and focus group comments were mapped to 17 educational and technical standards identified from the literature.

Results
117 students completed the survey (76%), 69 students provided comments (59% of respondents). Students used the portfolio to assemble meaningful evidence and critically reflect on their professional development. They found the technical supports appropriate.

Using a triangulation process, we found evidence for 16 of the 17 standards. One standard required elaboration about enriching the curriculum with evidence of competence. We identified a new standard that the sequencing and integration of the portfolio into the curriculum needed to be addressed explicitly.

Discussion
Overall, we found that literature-based standards related to the issues that arise in implementation of an electronic portfolio, though student comments suggest the need to follow standards more closely than we did.

Target Audience
Medical Educators, Leadership

References
Podcast Usage in the Pre-clinical Curriculum: Frequency, Modes, and Outcomes
Sally Krasne / David Geffen School of Medicine at UCLA

Introduction
Many medical schools podcast lectures. We know little of their impact on student performance.

Objectives
This study examines the manner and degree to which students in the first curricular block of medical school have used podcasting and the relationship between exam performance, and frequency and mode of podcast usage.

Methods
Students filled out a survey which ascertained the frequency with which they used lecture podcasts and whether they used them in place of lecture attendance or to review lecture material. The survey was answered by 158 of the 160 students in the class. Usage frequency was also estimated from online records. The frequency and modes of podcast usage were compared with final exam (open-book, closed-book, and overall) scores.

Results
A little over half of the students (51.3%) said they viewed the podcasts frequently (i.e. for 60% or more of the lectures). Of the students who viewed podcasts, over 1/3 (36.7%) did so instead of attending lectures. About 1/5 of the students (19%) used podcasts in lieu of attending 60% or more of the lectures. Exam performance was independent of frequency of podcast usage per se, but students who frequently substituted podcast-viewing for lecture-attendance performed significantly worse on the final exam.

Discussion
Based on the data analyzed thus far, one cannot determine whether students with academic deficits chose to substitute podcasts for lecture-attendance a disproportionate amount of the time or whether a disproportionately high substitution of podcast-viewing for lecture-attendance tended to produce a lower level of learning than would attendance at lectures.

Target Audience
Curriculum planners; course chairs
Designing a Social Network for Reviews of Mobile Learning Applications
Joe Benfield, Stanford University School of Medicine; Brian Tobin, Stanford University School of Medicine

Introduction
In recent years, there has been a surge of smart phone and other mobile device adoption among medical students and keeping up to date with the most useful tools for learning has become somewhat difficult. Even if one is aware of the long list of “apps” that may be of potential help, the cost of many medical apps can often be a prohibitive barrier to experimentation and eventual adoption. Stanford has been developing a social platform for review of medical apps. http://med.stanford.edu/medapps

Session Structure
After a brief presentation of a social review platform developed for the Stanford School of Medicine community, attendees will participate in hands-on demos, break-out group activities and large group discussion and Q&A.

Outcomes
Spark curiosity and critical thought
Identify potential partners for continued development
Encourage community building
Explore design approaches and the curation of similar and shared resources.

Participants will receive an overview of Stanford’s pilot system for social app rankings and reviews, including planned feature sets, technical specifications and general design philosophies.
How to Integrate Medical Simulation Into All Four Years of the Medical School Curriculum in Six Months or Less
Suzanne Strom, MD, UC Irvine; Cecilia Canales, MPH, UC Irvine; Jamie Gould, BS, UC Irvine; Ryan Abrego, UC Irvine; Sharon Lin, MD, UC Irvine

Introduction
The availability of high-fidelity patient simulators has transformed medical education. Since the opening of the UC Irvine Medical Education Simulation Center in June 2010, we have successfully incorporated medical simulation into all four years of the required medical school curriculum. Simulation enhances medical student education by providing a standardized curriculum, refining diagnostic and procedural skills, reinforcing concepts in the pre-clinical years and clinical clerkships, and by providing opportunities for autonomy in decision-making without risking patient safety. We discuss the UC Irvine experience and provide an overview of how, why, and when to incorporate simulation into medical school education.

Methods
This session will present strategies in how to develop timely and effective simulation curricula to meet the educational objectives of medical students in various years of training. Participants will be presented with simulation scenario templates and sample curricula to provide a foundation for developing innovative simulation programs to supplement lectures, problem-based learning, and clinical experiences.

Outcomes
The primary outcomes are to highlight strategies to incorporate simulation training into block or systems-based medical courses, clinical foundations, clerkships, sub-internship rotations, and the transition to internship. By the end of this session, participants will leave with a practical knowledge of how to incorporate simulation into clinical foundations, physiology, pharmacology, anesthesiology, emergency medicine, family medicine, internal medicine, obstetrics, gynecology, pediatrics, psychiatry, surgery, and basic life support (BLS) and advanced cardiac life support (ACLS) courses. Finally, participants will be able to describe opportunities to further incorporate and develop simulation curricula at their own institutions.

Target Audience
Medical Educators

References
Sunday, May 1
10:30 am – 12:00 pm

Small Group Discussion

**UC PRIME: Impact and Inspiration**
Doyle – UC Los Angeles
Don Hilty – UC Davis
Charles Vega - UC Irvine
Lindia Willies-Jacobo – UC San Diego
Beth Wilson – UC San Francisco

**Introduction**
The University of California Programs in Medical Education represent the first expansion in student enrollment for UC medical schools in the last 30 years. These programs were designed specifically to train physician-leaders who can help to reduce health disparities, and each campus has chosen a different theme for its PRIME. As the programs have matured, each has made significant contributions to their campus as well as their surrounding community. This panel will highlight these contributions.

**Methods**
Our session will begin with a brief review of PRIME and its mission. As PRIME students are the most critical component of these programs, they will comprise the panel as each campus describes its unique recruitment and curricular elements. The unifying themes for these brief presentations will be diversity and community engagement and their impact on health disparities. There will also be a discussion of how PRIME contributes to the larger medical school community as well. The session will conclude with 20 minutes for discussion with the panel, PRIME Directors, and the audience regarding these themes.

**Outcomes**
Identify novel means to improve diversity and community engagement during medical training. Analyze the impact of PRIME and its curriculum on the medical school campus at large. Share best practices regarding training the next generation of physicians who will address health disparities.

**Target Audience**
This discussion is pertinent for anyone who works with medical students and is interested in training physicians to address health disparities.

**References**
Who Gives and Who Gets Effective Peer Feedback?
Jay Parkes PhD, University of New Mexico, College of Education
Sara Abercrombie, University of New Mexico, College of Education
Teresita McCarty MD, University of New Mexico School of Medicine

Introduction
Feedback is a very powerful learning tool yet often resource-intensive for faculty. While peer feedback is thus appealing, faculty and students alike question whether peers can give effective feedback. This raises the question: Are some peers better at providing effective feedback than others?

Objectives
Do demographics and academic performance predict peer feedback quality?

Methods
298 third-year students provided feedback to 287 randomly assigned, anonymous peers on clinical notes written after a videotaped SP encounter. Each student wrote and received three pieces of feedback on three assignments. Feedback was coded on a researcher-constructed scoring guide representing evidence-based best feedback practice. A 50-piece reliability sample demonstrated reliable scoring (G-coefficient = .75). Ratings were aggregated across the nine feedback occasions to create profiles of feedback giving and receiving. Multiple and logistic regressions used Phase 1 GPA, Step 1 USMLE scores, sex, and URM status to predict feedback characteristics.

Results
Giver GPA was positively related with longer, better feedback. Males and non-URM's praised more. Males received longer feedback, while receiver GPA was negatively related to learning-oriented feedback. URM status was unrelated to all characteristics except praise.

Discussion
URM status and sex had little impact on feedback characteristics, which implies that women and URM's provide and receive equally effective peer feedback. In general, academic performance explained feedback characteristics more than demographics.

Target Audience
WGEA

References
Cheaper by the Half Dozen: Group Reflection Promotes Efficient, Effective Video Review
Erika Schillinger, MD; Rika Bajra, MD; Eva Weinlander, MD; Tracy Rydel, MD; Margo Vener, MD, MPH

Introduction
Feedback on video-recorded clinical encounters helps enhance professionalism, interpersonal and communication skills among medical students. Unfortunately, video review with individual students is time-consuming for faculty; this may limit video usage.

Objectives
To evaluate two models for faculty-facilitated small group review of video-recorded student clinical encounters.

Methods
During 2010, we reviewed data for 80 clinical students participating in group video reviews at a public and private medical school. In one model, students were recorded with standardized patients, faculty selected positive moments, and video clips were reviewed in small groups. In the other model, students were recorded with actual patients, students selected challenging moments, and video clips were reviewed in small groups. Both small groups included five students and one preceptor. Sessions focused on professionalism, communication and interpersonal skills. Focus groups and open-ended surveys were used for qualitative thematic analysis.

Results
Students in both cohorts found video review valuable, citing improved communication strategies and agenda-setting as particular strengths. Students reported benefit from watching their peers. Preceptors found group debriefing effective and efficient, noting that respect and confidentiality were essential. Preceptors valued gaining insight into students’ professionalism and self-reflection. All found technological hurdles frustrating.

Discussion
Many schools struggle with how best to teach professionalism in a meaningful, time-efficient manner. Our study suggests that group video review provides an effective format for modeling professional skills, providing feedback, and discussion communication issues. Future studies should evaluate whether longitudinal video review sessions could add benefit for learning.

Target Audience
Faculty, students, staff

References
Nilson S, Baerheim A. Feedback on video recorded consultations in medical teaching: why students loathe and love it – a focus-group based qualitative study. BMC Medical Education. 2005 July. 5-28
The Humanscope: Adding a Dimension to MD-Patient Experience
Sara Hartley, MD UCB/UCSF Joint Medical Program

Context
Recent efforts, focused on improving medical students’ sensitivity and effective communications with patients, have made use of journal writing, humanities, actor-patients, situational categories, and guidelines for structuring interviews. A crucial dimension-supported by modern clinical and research findings has not been incorporated in clinical skills training. This involves the deciphering and use of emotional reactions during patient interviews. Most students are afraid that their true feelings are inappropriate or too ‘subjective’. In fact, their honest skillfully managed reactions are key to establishing rapport, empathy and an accurate history. Fostering this skill requires substantial scaffolding, with a didactic foundation as well as faculty modeling and support.

Objectives
Teaching medical students the interpersonal ‘acoustic’ essential for clinical interview requires a two-step approach:
Provide a foundation in interpersonal ‘basic science’ relevant to clinical encounters. This should include current models of brain development in the context of relational experience, attachment, mirror neurons and basic psychological concepts (e.g. anxiety, defense, resilience, etc). In class, observe each student interview an unknown patient (HPI and MSE) with specific attention to actual responses and their use in both enhancing the quality of relatedness as well as most accurately clarifying the patient’s experience. Feedback is directly in service of what is said to the patient and maximizing understanding of the patient both diagnostic and relational benefit. This approach to MD-patient communication can also enhance the physician’s experience, reduce error and burn out. (Examples will be provided)

Key Message
Self-reflection should become more than a private virtue; it is an essential element in developing a crucial ‘acoustic’ which serves to establish more meaningful engagement with patients. This is given formal shape by acknowledging the students’ feelings and how they can inform what is actually said in the interview. Their process is playfully referred to as learning to use the ‘humanscope’ which frames the counterintuitive notion that listening to oneself is an aspect of accurately listening to the patient.

Conclusion
Modern relational psychology can provide a foundation for expanding clinical skills. Both reading, faculty demos and supervised interviews with real patients are essential. The foundation for self-awareness and engagement has both a ‘basic science’ and experiential component. Both are necessary to enhance student competence managing interpersonal experience.

References
Branch-JAMA 2001
Charon- JAMA 2001
Novack- JAMA 1993
Remen- Med Ed 2005
Shatner-Arch Intern Med 2009
Evaluating the Selection and Training of the Next Generation of Physicians: UC Davis Rural-PRIME
Julie Rainwater, PhD, Stuart Henderson, PhD, Erin Griffin, PhD, and Don Hilty, MD/University of California, Davis School of Medicine

Introduction
As innovative training programs for medical school students are implemented and developed, it is important to develop a comprehensive, rigorous evaluation plan to assess student selection and program success.

Objectives
This presentation describes the evaluation of University of California, Davis Rural Programs in Medical Education (PRIME), a program designed to train medical students to practice in rural health, primarily primary care medicine. We share the evaluation toolkit developed for this program and describe challenges of evaluating innovative training programs.

Methods
Medical students in Rural-PRIME complete an annual survey about their experience and satisfaction with the program. The data is compared to a sample of students in the general medical student population. Additional data is obtained from bi-annual focus groups with the Rural-PRIME cohorts, visits and feedback sessions with preceptor sites, and notes from Rural-PRIME leadership meetings.

Results
The evaluation has led to important changes to the Rural-PRIME program, including refinement of selection processes and increased student involvement in decision-making and leadership. Students have shown positive progress in the program. Preliminary results suggest the combination of selection factors and educational experiences leads to fourth-year electives in rural areas and residency selection with rural programs. Residency and practice selection outcomes will be examined in future years.

Discussion
This presentation illustrates the opportunities and challenges of evaluating training programs and provides a model for future evaluations.

Target Audience
Education training, evaluation

References
Robinowitz HK, Diamond JJ, Markham FW, et al: Critical Factors for Designing Programs to Increase the Supply and Retention of Rural Primary Care Physicians. JAMA 2011;286(9):1041-47.
Sunday, May 1  
10:30 am – 12:00 pm

Workshop

The Medical School Interview
Jeremiah Fleenor, M.D. Professor of Emergency Medicine, University of Colorado School of Medicine

Moderator - David A. Kaiser, EdD, ATC, LAT, Director - Preprofessional Advisement Center, Brigham Young University

This presentation explores the six most common questions that arise in medical school interviews. Admissions officers are looking for specific characteristics in an individual based on their answers to these queries. This session provides suggestions regarding how to address each question and presents some sample answers for students who matriculated to medical school.
Sunday, May 1  
10:30 am – 12:00 pm

Workshop

Conceptual Frameworks and Their Use in Your Scholarly Work as a Teacher, Curriculum Developer, Assessor, Mentor, and Leader

Summers Kalishman, UNM; Patricia O’Sullivan, UCSF; Sebastian Uijtdehaage, UCLA; Lauren Maggio, Stanford; Lynne Robins, U Washington; Amanda Keerbs, U Washington; Raghu Mudumbai, U Washington

Introduction
A conceptual framework provides an organized perspective, model or theory for educational research or curriculum development. While educators implicitly use conceptual frameworks, many do not fully benefit from their explicit application in educational scholarship. Conceptual frameworks provide structure and insight into study design and methods, and guide thinking about the study results.

Objectives and Outcomes
At the end of this workshop, participants will be able to
• describe the need for conceptual frameworks in scholarly work,
• describe conceptual frameworks used in education,
• utilize search strategies to locate conceptual frameworks, and
• apply a conceptual framework to educational scholarship.

Methods
Following presentation of a definition of conceptual frameworks, two mentored junior faculty will describe how selected frameworks have been applied in educational scholarship, reflect on their own experience and perceptions of the value of using conceptual frameworks, and invite audience discussion. A health science librarian will demonstrate searching for conceptual frameworks. In small groups, participants will apply assigned conceptual frameworks to specific educational problems using a worksheet. Facilitators will join the small groups. Representatives from small groups will report their worksheet summaries to full group. This will be followed by a focused question and answer period. We will provide and review an annotated conceptual framework handout including tips on how to find a framework, and wise and unwise use of conceptual frameworks. We will conclude with final Q&A, thank you and workshop evaluation.

Target Audience
Educators: Medical students, residents, staff and faculty

References
Panel Discussion

Reinventing 21st Century Classrooms: Are Videotaped Lectures and Online Learning Changing How Medical Schools Think About In-Class Instruction?
Stanford: Jennifer Deitz, MA; Neil Gesundheit, MD, MPH; Andrew Nevins, MD; Brian Tobin, MA; Deepa Galaiya, AB, ScB
UCSF: Christian Burke; Marieke Kruidering, PhD; Student TBD
UC Irvine: Shahram Lotfipour, MD, MPH; Warren Wiechmann, MD

Introduction
Panelists from Stanford, UCSF, and UC Irvine will discuss the impact videotaped lectures and online learning are having on the way medical schools think about in-class instruction. Participants and panelists will be asked to share their views on whether videotaping adds or detracts from the learning climate and learning outcomes and ways in which videotape and online curriculum delivery is or is not meeting the educational needs of millennial learners. Participants and panelists are also encouraged to share ideas about new or innovative teaching and learning modalities designed to bring back students into the classrooms, reinvigorate teaching and learning communities, and optimize face-to-face time between students and faculty.

Methods
The session will begin by describing how videotaped lectures and online learning have changed policies and practices of curriculum delivery at many medical schools. A discussion will follow, inviting panelists and participants from each of the three medical schools to respond to the discussion topics described above.

Objectives/Outcomes
By the end of this session, participants will
- gain knowledge about policies schools have set regarding expectations for classroom attendance, appropriate use of videotaped lectures, and when and how students should be expected to participate actively in the curriculum;
- gain insights into how students make decisions about whether or not to attend live lectures or watch them on videotape, how students perceive those decisions in relation to their learning goals, and the impact of those decisions on learning outcomes; and
- understand how schools are (or are not) changing their approaches to curriculum delivery, teaching styles, and lecture format or content, to try to reinvigorate the learning environment in the classroom and encourage active participation.

Target Audience
Faculty, Administrators, Staff, and Students interested in online learning, new methods of curriculum delivery, and promoting learning communities in a medical school environment.

References
Using Headspace Theater to Simulate Professionalism Dilemmas
Ann Morrison MD, Teresa Anderson MD MA, Teresita McCarty MD, Peter Barnett MD, Kathleen Kennedy MD (University of New Mexico School of Medicine).

Introduction
Clinical training occurs in a highly complex environment where trainees are often called on to balance conflicting expectations and values. Developing competency in professionalism requires students to understand, interpret and apply professionalism precepts in the context of clinical medicine. The role of faculty is to support students’ ability to recognize and respond to these dilemmas. Role modeling and reflection are two educational tools often cited to aid faculty in this task. In this workshop we introduce a simulation technique to promote dialogue and reflection around professionalism dilemmas.

Methods
After a brief literature-based review of professionalism challenges faced by medical students, participants will engage in a scripted role-play, based on an innovative technique, Headspace Theater, to simulate tensions on a clinical team. A structured debrief of the exercise will highlight professionalism principles and present a model for examining professionalism dilemmas with students.

Outcomes
As a result of this workshop participants will
• describe professionalism challenges for medical students,
• use a specific role-play technique for simulating professionalism dilemmas, and
• debrief a professionalism dilemma.

Target Audience
WGEA

References


Inui, TS. A flag in the wind: educating for professionalism in medicine. AAMC, 2003


**Workshop**

**Matching the Right Teaching Strategy With Your Learners Needs**  
Tatum Korin & Paul Wimmers, UCLA School of Medicine

**Introduction**  
Knowing the best teaching strategy for the many different learners, situations, and tasks encountered by faculty and medical educators can be a daunting task. Not only is it important to know how learners think at different stages in their medical training but knowing which strategy to use from a growing repertoire of validated teaching strategies is vital to teachers and learners. This workshop will introduce participants to several different teaching strategies and how these are placed on a continuum from teacher focused to student focused. Each teaching strategy has benefits and limitations. Many of each of these strategies, such as, *The One-Minute Preceptor, SNAPPS,* and *Activated Demonstrations*, can be used immediately to effectively target individual learner needs.

**Methods**  
This workshop will engage participants in discussions about various teaching strategies appropriate for different learners, context and content. During the workshop we will practice several of these strategies, and draft an initial plan to support and develop your own individual teaching style. The workshop is highly interactive and will make use of case studies, video demonstrations, and role-plays.

**Outcomes**  
Participants will leave with a solid overall understanding of the different teaching methods for learners at all levels of training; the ability to describe the role of the learner, content, and context in creating an effective teaching strategy; the ability to describe benefits and limitations of commonly used teaching methods; ability to rank order commonly used teaching methods from passive to active.

**Target Audience**  
Anyone who works with medical students or residents.
Comprehensive Review of MCAT: The MR5 Project
Dawn Zhao, PhD; Richard Lewis, MD; Ricci Sylla, MD
Association of American Medical Colleges

Introduction
In October 2007, the Association of American Medical Colleges (AAMC) began a comprehensive review of the Medical College Admission Test (MCAT). This review represents the fifth time that the MCAT exam has been reviewed since it was first administered in 1928. The review is being conducted by a 22-member committee appointed by the AAMC. Included on this committee are: current and former medical school deans; admissions, educational affairs, student affairs, and diversity officers; basic and clinical sciences faculty; pre-health advisors and other baccalaureate faculty; and one medical student.

Methods
The committee is tasked with reviewing the current MCAT exam and recommending changes that keep pace with advances in medical education and practice. In so doing, members will consider the knowledge, skills, and other characteristics that admissions committees look for in their applicants, and the state of the art and professional standards in admissions testing.

Outcomes
During the beginning phases of the review, they have begun developing and implementing plans to solicit broad input about the current and future tests, gather relevant data and research, and regularly communicate about their progress. Though it is premature to say how long this review will take, a new test will be introduced no earlier than 2014.

Target Audience
Our intended audience includes any of the aforementioned stakeholders with a vested interest in the competency base of incoming medical students. Presumably this would include basic and clinical science faculty, course directors, medical educators, and instructional technologists.
Sunday, May 1
2:00 pm – 3:30 pm

Panel Discussion

Findings of a Faculty Learning Community on Millennial Students (and Faculty) in the Health Professions
Kenneth E. Wolf, PhD, Laurie Richlin, PhD, Homero del Pino, PhD, Sylvia Merino, MBA, MPH, Magda Shaheen, MD, PhD, MPH, MS
Charles R. Drew University of Medicine and Science

Introduction
The panelists are members of a multi-generational, multi-disciplinary, and multi-cultural Faculty and Professional Learning Community (FPLC) on Generational Issues in Medical & Health Profession Education that has met since August 2010.

Methods
Each panelist will present an overview of a particular challenge and encourage audience contributions to the discussion.

Kenneth Wolf: If Medical School is a Privilege, Why are We Apologizing?
Generational differences are forcing faculty to reconsider the ways they deliver the curriculum. How much do the preferences of learners and teachers determine the delivery of the curriculum?

Sylvia Merino: Dress Codes and Other Rules Millennials Don’t Understand
Before we get angry about their ignoring the rules, let’s understand the differences that set their generation apart from all others.

Homero E. del Pino: Getting Ahead of the Curve: Here Come the iGens
How can we prepare to teach in a post-Millennial fashion and stay ahead of the curve in ways we need to?

Laurie Richlin & Magda Shaheen: It’s Not Just the Students Anymore
It is expected that the first Millennials will become medical school faculty members by 2013. Changing a campus culture takes 3-5 years, so this is the moment for administrators and faculty members to consider how to prepare.

Outcomes
Participants in this session will be able to
• describe differences among multi-generational medical school students, faculty members, and administrators;
• describe how they have addressed the issues raised by Millennial medical students; and
• describe how they will plan for Millennial faculty members.

Target Audience
Medical Educators, Medical School Administrators, and Medical Students
iPad Implementation in Stanford University School of Medicine MD Program
Brian Tobin, Jennifer Deitz, Clarence Braddock, Todd Ferris, Michael Halaas, Cynthia Irvine, Sharie Kumaishi, Lauren A. Maggio, Glenn Peacock, Peter Seliga, Christine Solari, Jenn Stringer, Andrew Wasklewicz, Sue Willows
Stanford University School of Medicine

Introduction
During the 2010-2011 academic year, Stanford University School of Medicine distributed iPads to all 1st-year MD students. We made the decision for the following reasons:
1) information literacy and mobile access will be an important skill in future practice of medicine
2) “going green” and replacing paper syllabi and content with digital access
3) tech-savvy students will have the skills to take advantage of a portable device
4) flexibility of the iPad platform allows learners to view, annotate, and take notes with course content
5) new LKSC building’s technical infrastructure supports fast WiFi and content distribution

Methods
The iPad Implementation Team was comprised of representatives from the Office of Medical Education, Simulation & EdTech, Lane Medical Library, Information Security, Desktop Support, and Networking. The team laid the groundwork for the multi-year pilot project through weekly meetings to discuss
• project goals,
• technical setup for students and faculty,
• training and workshops for students,
• faculty development efforts,
• wireless infrastructure,
• printing options, and
• evaluation approaches.

Outcomes
Attendees at this workshop will learn the following about implementing new mobile initiatives:
key factors an institution should consider
unexpected policy, technical, and educational issues need to be addressed
Stanford’s preliminary evaluation data on student and faculty iPad usage

Target Audience
Administration, faculty, and students interested in mobile initiatives in medical education.
Sunday, May 1
2:00 pm – 3:30 pm

Oral Presentation

New Horizons for Integrating Library/Informatics Skills into Medical School Curricula: A Report of the 2010 LiME Research Study
Jonathan Eldredge (University of New Mexico); Karen Heskett (University of California, San Diego); Terry Henner (University of Nevada); Josephine Tan (University of California, San Francisco).

Introduction
The WGEA Librarians in Medical Education (LiME) group asked the authors to conduct a study on the state of librarians’ involvement with medical schools during its 2009 meeting in Santa Fe.

Objectives
To describe practices, identify patterns, and glean “lessons learned” from librarians currently involved in teaching library/informatics skills to students in western US medical schools

Methods
Phase One:
The authors’ inspections of public-facing websites hosted by accredited western US medical schools and their libraries generated questions for a survey.

Phase Two:
The authors invited all health sciences libraries serving accredited western US medical schools to complete the 15 question survey during the spring of 2010. Librarians at 13 of the 17 eligible institutions completed the survey for a response rate of 77%. The authors developed a list of interview questions for clarifying and supplementing survey responses.

Phase Three:
The authors interviewed all survey respondents beginning in the fall of 2010.

Results
A total of 13 institutions participated in the study. Responses revealed both similarities and distinct differences across the institutions. This session will report on general patterns, promising innovations at some institutions, and lessons learned from the experiences of the respondents.

Target Audience
Medical educators, who collaborate with health sciences librarians to provide relevant library/informatics training for medical students. Health sciences librarians involved in curricular integration at medical schools.
PBL & the Embedded Librarian: Assessing the Continuation of Instruction Beyond the Lecture
Karen Heskett, MSI, UC San Diego

Introduction
Embedded librarians are relatively new in medical education, but are a growing trend; they differ from traditional relationships as librarians and resources are more accessible. A revision in the SOM curriculum provided one librarian an opportunity to participate in PBL activities providing online instruction and search assistance, and highlighting key tools using an online guide.

Objectives
Determine if the students used the guide and resources. Did the instruction and resources on the guide help the students find and use quality resources for their PBL look-up activity?

Methods
Simple visit and use statistics are available within the program (LibGuides). Citation analysis of student's cited references will be used to determine the resources referenced and compare to the suggested resources. Additional usage data from subscribed tools provides a comparison of the current quarter's use with previous year's use.

Discussion
Students were charged with citing at least two references with each PBL write-up and many students used more than that, providing a little insight into the resources they found useful. Full citation analysis will highlight other trends in resources used. Preliminary patterns showed that a fair number of students visited the weekly updated PBL pages but most returned to the static pages on the guide. Citations styles varied throughout. Many students cited properly, but a high number of students do not cite correctly and often miss attributing images and graphics used.

Target Audience
Librarians, medical educators

Selected References
Design and Implementation of an Evidence-Based Practice (EBP) Interactive Storyboard Tutorial for the Undergraduate Medical Education Curriculum: An Innovative Approach
Linda Suk-Ling Murphy, MLIS; Stephen Clancy, MLS; Cathy Palmer, MLS
University of California, Irvine Libraries

Introduction
We describe the development of an interactive web-based tutorial that introduces learners to the basis of evidence-based practice (EBP) and that may assist in the use and application of scientific evidence in clinical practice.

Target Audience
The target audience is medical students.

Objectives
The tutorial was designed to reduce in-class instruction by giving students an opportunity to review the EBP process at their own convenience prior to in-class instruction.

Methods
Using an innovative storyboard approach, the tutorial includes interactivity, graphics, self assessment and voice-over narration to engage students. The tutorial (http://www.lib.uci.edu/how/tutorials/EvidenceBasedPractice/) is structured around an illustrative pediatric case scenario on Otitis Media. The case actively guides learners through the EBP process: constructing a focused clinical question in therapy, researching articles in PubMed, finding the evidence from a selected Randomized Controlled Trial, and briefly appraising the evidence to determine if the selected study is relevant to the question.

Results
Limited classroom time is allowed for EBP instruction in the undergraduate medical education curriculum. This tutorial is an innovative method to offer instruction outside the classroom. It provides a resource that can be assigned or reviewed throughout the medical education programs and promotes lifelong learning in medical information literacy.

Discussion
We will address the design and implementation of the tutorial, the collaborative efforts between the Libraries and the campus Distance Learning Center, and what we have learned throughout the collaborative process. Examples from the tutorial, usage data and suggestions for future tutorial designs will also be discussed.

References
1. UCI Libraries Find Evidence-Based Practice Information http://www.lib.uci.edu/how/tutorials/EvidenceBasedPractice/ . Access date: 02/02/2010.
Medical Student Wellness: Barriers and Creative Solutions
Andreea L Seritan/ University of California, Davis

Introduction
Medical student wellness is a very important aspect of the professional development of physicians. Medical students have a higher incidence of anxiety, depression, and suicidal ideation than their age-matched peers.\textsuperscript{1,2} Multiple aspects of student wellness are correlated with the learning climate quality; for example, student burnout is associated with being on a hospital ward rotation or a rotation requiring overnight call.\textsuperscript{3} On the other hand, student burnout may contribute to lower empathy,\textsuperscript{4} desire to leave school,\textsuperscript{5} or professionalism lapses.\textsuperscript{6}

Objectives
To improve students’ access to confidential support services and to optimize their mental health.

Methods
In July 2009, a new student wellness program was established at UC Davis School of Medicine.

Results
In the academic year 2009-10, 80 students (20% of total enrolled) were supported by this program, in addition to the free mental health services available to students, where a high number of students (32% of total enrolled) were seen as well. An improved learning climate is noted, based on student and faculty feedback. Wellness program scholarly products consisted of 3 posters and 2 papers.

Discussion
To date, positive impact has been noted. Longitudinal follow-up is needed in order to establish the full benefit of this new program.

Target Audience
Faculty, medical school administrators, medical students, residents, and staff.

References
Lesbian, Gay, Bisexual, and Transgender Curricular Content: Medical Student Experiences and Perspectives
Stanford University School of Medicine Lesbian, Gay, Bisexual, & Transgender Medical Education Research Group (LGBT MERG)

Introduction
LGBT individuals face significant barriers to accessing safe, appropriate, and comprehensive medical care. Educating future physicians to meet the needs of LGBT persons may reduce disparities these individuals confront. Students’ exposure to and experience of LGBT-related curricular content is currently unknown.

Objectives
To assess student exposure to LGBT content, perspective on LGBT content, and comfort and preparedness in caring for LGBT patients.

Methods
MD and DO students were recruited from all medical schools in Canada and the US via electronic mailing and Facebook to complete a web-based survey. Focus groups were conducted with students at 8 medical schools.

Results
There were 7,276 survey respondents. LGBT topics taught varied greatly between institutions. The most common exposures to LGBT content were during required pre-clinical instruction and interactions with LGBT-identified patients. 28.3% rated their LGBT content as “good” or “very good,” 33.6% as “fair,” and 34.3% as “poor” or “very poor.” Most students felt more prepared as a result of their medical school training, but comfort level was most commonly reported as unchanged.

Discussion
We identified extensive variation in LGBT medical curricula. Furthermore, comprehensive medical training that augments preparedness and comfort in caring for LGBT people is lacking. These results may suggest opportunities to develop standards for LGBT curricula and to create resources for institutions and their students to achieve these standards.

Target Audience
Medical school administrators, instructors, and students, as well as national medical professional organizations and accreditation bodies.

References
Impact of Student-Run Clinics on Preclinical Students' Sociocultural and Interprofessional Attitudes: A Prospective Cohort Analysis

Leslie C. Sheu, BA1, Cindy J. Lai, MD2, Anabelle D. Coelho, MS3, Lisa D. Lin, MS1, Patricia Zheng, BS1, Patricia Hom, BA1, Vanessa Diaz, BS1, Patricia S. O’Sullivan, EdD3
1 School of Medicine, University of California, San Francisco
2 Department of Medicine, University of California, San Francisco
3 School of Pharmacy, University of California, San Francisco

Introduction
Descriptive studies suggest that student-run clinics (SRCs) positively impact preclinical students' sociocultural and interprofessional attitudes. However, rarely have studies included students from multiple professions, previously validated instruments, and a control group.

Objectives
To systematically evaluate the impact of SRCs on sociocultural and interprofessional attitudes.

Methods
Using a pre-post control group design, we conducted a prospective cohort study of first-year medical, nursing, and pharmacy students who participated in one of three SRCs and those who did not. SRCs focused on providing care to three distinct underserved populations: Latino(a), Asian/Pacific Islander, and the urban underserved community. At the beginning and end of the year, students completed surveys consisting of demographics, validated measures on sociocultural awareness (SAM1) and readiness for interprofessional learning (RIPLS2), and open-ended questions.

Results
Of all participating students, 77% (n=274) completed the post-survey, with 68% (n=182) having matching pre-post surveys. Students held positive attitudes in sociocultural and interprofessional domains. After adjusting for baseline scores, attitudes did not differ significantly based on SRC participation. In the qualitative analysis, 99% reported reinforced or increased commitment to working with the underserved. Fifty-eight percent reported a positive impact on interprofessional attitudes.

Discussion
Although we found no quantifiable effect of SRC participation on sociocultural or interprofessional attitudes, students perceived benefits in both domains, suggesting that the SAMI and RIPLS may not be sensitive enough for measuring the effects of SRCs. Further studies are needed to assess the long-term impact of preclinical SRCs.

Target Audience
Medical educators, medical students
The Stanford Medical Student Influenza Prevention Program: A Model for Vaccine Education and Clinical Experience for Medical Students
Jessica W. Tsai, B.S., Tamara K. Montacute, B.S., M.P.H., and Walter S. Newman, Jr., M.D.
Stanford University School of Medicine

Introduction
Each year in the United States, nearly 20,000 people die as a result of influenza. Stanford medical students have shown a commitment to administering influenza vaccines to the community to ameliorate this statistic.

Objectives
The Stanford Medical Student Influenza Prevention Program, also known as the Stanford Flu Crew, serves as a model for other institutions to provide unique medical student opportunities and leadership experiences while simultaneously positively impacting local communities and providing patient education.

Key Message
Each year, first year Stanford medical students are educated about the pathophysiology of the influenza virus and its associated epidemiology. Students receive supervised hands-on training in proper vaccine administration and bedside manner. With this training, students are equipped to provide thousands of vaccines to rural farm workers in five Northern California counties.

Moreover, in collaboration with Stanford University Employee Health and Vaden Student Health Center, Stanford medical students have provided free vaccines to thousands of faculty, staff, and students on campus. These vaccines are administered in student dining halls after dinner and various convenient work-sites throughout the fall season. In addition, on November 2, 2010, the first medical student-initiated Vote and Vax provided vaccinations at two polling booths in Santa Clara County.

Conclusion
The Stanford Medical Student Influenza Program provides a unique, positive, and early clinical experience for medical students that could easily be replicated at other medical schools across the country. Equally important, the program has reduced the burden of influenza in the community.

Target Audience
Medical students and faculty
Sunday, May 1
2:00 pm – 3:30 pm

Workshop

Effecting a Change in the Under-Representation of Ethnic Minorities in the Health Sciences
Thomas Landefeld, Ph.D., Professor and Pre-health Advisor, CSU Dominguez Hills
Francisco Castellan, M.S., Assistant Director/Health Professions Adviser, University Academic Advising Center, Northwestern University

Moderator - Carol Itatani, Ph.D., Faculty Director Health Professions Advising Office, Cal State University, Long Beach

The number of ethnic minorities, i.e. Black, Hispanic, Native American and Pacific Islanders have always been under represented in the health sciences, not only as matriculants in the various health professional schools/programs but also, not surprisingly, in the health professions. Moreover, now, considering the changing demographics of the country, i.e. these groups comprising over 30% of the U.S. population coupled with the increasing prevalence of minority health disparities, this problem is reaching epidemic proportions. Although there are multiple factors that contribute to this issue, some of which are at the K-12 education levels, pre-health advisors can play a meaningful role in addressing this problem, and, this, in fact, will serve as the basis for the discussion of this presentation. Some examples include: 1) more of an awareness of the issues facing these students and, as a result, more individualized and personalized mentoring; 2) providing more specific information about the processes involved in the preparation for applications for admission to the programs; 3) providing more information about all of the opportunities in the health professions; and 4) exposing the students to successful minorities in the field through workshops, meetings, seminars, etc. Failure to address this problem in a timely and almost draconian way truly threatens the future of the entire health care system.
Engaging in Population Health: New Curricular Initiatives
Cora Hoover, UC Berkeley-UCSF Joint Medical Program
Marina Martin, Stanford University Medical School
Candice Wong, UCSF; Ann Banchoff, Stanford University Medical School
Amin Azzam, UC Berkeley-UCSF Joint Medical Program and UCSF
Neil Gesundheit, Stanford University Medical School

Objectives
Increase participants’ knowledge and understanding of
The importance of including population health in medical school curricula
Promising strategies to integrate population health teaching
Strategies to optimize population health teaching

Introduction
Medical schools are seeking to incorporate population health teaching into their core curricula, in response to a growing awareness that physicians must understand population health determinants and expand their concept of professionalism to include prevention, health promotion, advocacy and community engagement. The UC Berkeley-UCSF Joint Medical Program (JMP) and the Stanford School of Medicine have developed innovative approaches to teaching these concepts.

Methods
Faculty from each institution will describe the goals and evolution of their population health curricula. Faculty at the JMP developed and implemented a Problem-Based Learning (PBL) case that begins with a patient visit in a community clinic, progresses to examination of county- and city-level surveillance data, and culminates in participation in a neighborhood health meeting represented by advocacy groups, community-based organizations and the local health department. At Stanford, each medical student carries out in-depth investigation of a population health topic, and engages in community-based activity to address current needs in their area of interest. Evaluation data at both institutions have measured student understanding of population health concepts and approaches, and informed curricular refinements. After brief presentations of these strategies to integrate population health principles into medical education, the audience will be invited to participate in discussions on how to optimize effective population health teaching.

Outcomes
Both the JMP case and the Stanford experiential curriculum increased student understanding of key population health concepts, as well as students’ ability to apply these concepts in their approach to clinical problems.

Target Audience
Undergraduate medical educators

References
Professional schools seek out multiple attributes when identifying students they wish to admit to their programs. These include not only curricular qualifications and standardized examination scores, but also numerous extracurricular activities and personal characteristics. Additionally, the scope of practice and practice trends are dynamic. This session allows representatives from each of the health professions to address these issues and assist advisors in preparing students for the application cycle and the demands of professional education.

**Moderator – Jennifer Orchard, Utah Valley University**

**Kathy Candito - Dental**  
Associate Dean of Student Services  
University of the Pacific  
Arthur A. Dugoni School of Dentistry

**Valerie Dzubur - EdD FNP-C - Graduate Nursing**  
Associate Professor, School of Nursing  
Samuel Merritt University

**Gregory Wintz PhD OTR/L - Occupational Therapy**  
Department Chair, Occupational Therapy Dept.  
Eastern Washington University

**Jennifer Athay, Pharm D - Pharmacy**  
Director of Student Affairs  
American Association of Colleges of Pharmacy

**Linda Wanek, PT, PhD - Physical Therapy**  
Professor and Director  
Graduate Program in Physical Therapy and  
Clinical Laboratory Science Internship Program  
San Francisco State University

**Margo Colalancia - WICHE**  
Director, Student Exchange  
Western Interstate Commission for Higher Education (WICHE)
Redesigning, Repurposing and Rethinking Existing Learning Spaces in Medical Education
Chandler Mayfield (UCSF) - Moderator
Christian Burke (UCSF)
Josh Jacobs (National University of Singapore)
Michael Quirk (UCSF)
Brian Tobin (Stanford)

Introduction
Emerging educational strategies in medical education such as team-based learning, multimedia electronic portfolios, simulation and social learning are forcing schools to reexamine their existing learning spaces ability to support these new modalities. Meanwhile, limited and shrinking budgets are hampering schools ability to create new learning spaces or dramatically scaling back their capital improvements. In response, schools are becoming more creative in redesigning, repurposing and rethinking their existing learning spaces to support innovative curricula. This session will provide participants with an opportunity to learn about recent or in progress learning space redesigns.

This panel was adapted from the GEA/GIR/GIP “Virtual Tours: Educational Innovations in Old or New Learning Space” session at the 2010 AAMC Annual Meeting.

Methods
This session will showcase different approaches to redesigning or repurposing an existing learning space.

Each panelist will present:
• the purpose of the learning space.
• a description of the educational innovation,
• what was needed to develop and implement this space, and
• lessons learned or next steps.

After the presentations, the audience will be engaged in a discussion on issues in renovating existing learning spaces including: training, support, measuring impact and success and potential costs savings.

Outcomes
Showcase educational innovations of existing learning spaces
Describe lessons learned and best practices for redesigning learning spaces including: policies and resource considerations, technologies, tools and trainings

Target Audience
WGEA/CRIME - This session will benefit educators, school leadership and technologists who oversee or participate in the support, development, design and planning for learning spaces.
Small Group Discussion

An Interprofessional Healthcare Education (IPHE) Learner Developed and Centered Curriculum
Amber Fitzsimmons (Physical Therapy), Breanne Cisneros (Nursing), Stella Kim (Dentistry), Gene Lowry (Medicine), Jennifer Rosenbaum (Medicine), Jennifer Samore (Pharmacy), Renee Courey, Joanne Spetz; University of California, San Francisco

Introduction
Increased patient safety requires interprofessional collaboration, now critical given rising healthcare costs (1), an aging population (2-4), and physician shortages (5). Current scholarship calls for further study of the impact of interprofessional learning on collaboration and points to the efficacy of student leadership in successful creation and deployment (6).

Objectives
To create and assess the impact of student-generated IPHE curriculum on communication, knowledge, and perceived relevance of collaboration among 1st-year learners in medicine, physical therapy, dentistry, nursing, and pharmacy

To expand the leadership and scholarship competencies of IPHE student curriculum developers

Methods
An interprofessional team of students, participants in previous IPHE curriculum, developed and executed a yearlong curriculum for 480 first year learners from all UCSF professional schools, including events and longitudinal online curriculum centered on increased knowledge of professional roles

The curriculum was designed to be student-centered, driven by student needs at point of training as indicated by previous years' assessments

2010-11 participants were engaged co-producers of subsequent curriculum via online discussion forums

Assessment of participant views of their own and other professions using a modified “Readiness for Interprofessional Learning Survey” (RIPLS) and Interdisciplinary Education Perception Scale questions (IEPS) administered before and upon completion of the curriculum. Event satisfaction surveys generate quantitative and free-response feedback.

Intended Outcomes
Sustained small-group and cohort-wide IPHE; high learner satisfaction with relevance of curriculum to training and career; enhanced IPHE scholarship and leadership skills among interprofessional student developers

Target Audience
Deans and health professions educators

References
Small Group Discussion

Medical Education: The Next Generation
Neera Ahuja, MD., Stanford University School of Medicine

Introduction
Academic medical centers comprise a diverse group of teachers and learners spanning at least four generations across eight decades. To ensure effective communication amongst the four generations, it is important to understand each generation’s core values and attitudes that define their style of teaching and their motivation for learning. In addition to intergenerational teaching that occurs between faculty, housestaff and medical students, intragenerational teaching amongst housestaff and medical students is becoming more important as a source of learning, particularly as we enter an era of work hour limitations in which attending faculty often have to forgo teaching sessions in order to be compliant with ACGME duty hour regulations.

Objectives
• To highlight the defining learning and teaching styles that are representative of each of the 4 generations in academic medicine
• To identify methods in which each generation can effectively maximize teaching opportunities for the newest generation of learners in medicine
• To utilize the small group format to solicit input on creative ways for educators to continue to evolve to the changing styles of our learners in academic medical centers.

Conclusion
Inter- and Intra- generational learning is currently a very relevant topic as medical schools are actively redesigning their didactic and clinical curricula to incorporate technologic advances with learning style that Generations X and Y benefit most from. Hence, recognizing and adapting to the diversity in teaching and learning styles amongst the different generations in academic medical centers is essential to ensure that we continue to optimize the education of our physicians.

Target Audience
Medical educators in academic medicine

References
Starting at Step Zero: Fostering Clinical Inquiry
Lauren Maggio, MS (LIS) Stanford University
Nancy Tannery, MLS University of Pittsburgh
Ryan Steinberg, MSI Stanford University
Keith Posley, MD Stanford University

Introduction
The steps ask, acquire, appraise and apply characterize Evidence Based Practice (EBP). However, recent research on physicians’ ability to self-assess knowledge gaps¹ as well as our own inpatient experiences indicate that clinicians may never get to Step 1: ask because they fail to recognize the knowledge gaps that trigger clinical questions. This workshop will focus on Step 0: recognition of knowledge gaps, and provide participants with strategies to encourage and facilitate inquiry in practice and teaching.

Methods
The workshop will include
  • introducing inquiry and its role in patient care and lifelong learning,
  • brainstorming and reflecting on uncertainty in participants’ practice and what factors lead to or discourage action,
  • small group work focused on case vignettes that introduce opportunities for encouraging clinical inquiry,
  • reflecting on opportunities at participant’s home institutions to embed clinical inquiry
  • instruction on forming answerable clinical questions, and
  • hands-on literature searching using tools designed to facilitate question formation and expedite high-quality information retrieval.

Objectives
Raise awareness of opportunities to embed inquiry in practice and training
Demonstrate clinical search tools
Empower participants to pose and communicate answerable clinical questions

Outcomes
Participants will gain:
An increased awareness of opportunities to foster clinical inquiry
Knowledge of and access to two clinical search tools
Clinical question formation skills

Target Audience
Clinicians, librarians, students and educational technologists

References
Introducing Undergraduate Premedical Students to Careers in Medicine
Hilary Lin; Jennifer Wang; Kevin Tran; Patricia Y. Lewis, MA; David Fetterman, PhD; Neil Gesundheit, MD, MPH

Introduction
Shadowing of physicians is commonplace for medical students; however, premedical undergraduates often have little exposure to clinical practice before deciding to pursue a medical career. The Stanford University Immersion in Medicine Series (SIMS) has developed a streamlined process to meet regulatory requirements and allows premedical students to shadow and develop mentor-mentee relationships with practicing physicians.

Objectives
• To describe the organization of an undergraduate physician-shadowing program
• To analyze the effectiveness of formalized shadowing experiences in promoting an understanding of medical careers

Methods
SIMS was offered quarterly as a 1-unit course for Stanford premedical sophomores, juniors, and seniors. Participants were accepted by application, paired with physicians based on student preferences, and provided with a streamlined training program in HIPAA and professional expectations. Students were required to shadow at least four times/quarter and submit a reflective essay. A survey was administered before and after the shadowing quarter to assess changes in student perceptions and understanding of medical careers.

Results
Among the 71 Stanford premedical students who completed the spring 2010 survey, greatest increases were seen in students’ familiarity with physician responsibilities (33% pre-, 67% post-) and their understanding of physician-patient interactions (51% pre-, 84% post-). Other positive changes were noted in students’ desire to perform the duties of a physician and the belief that shadowing was beneficial for the exploration of a medical career.

Discussion
Physician shadowing by premedical undergraduates appears to enhance student understanding of physician roles and challenges in the workplace. Having more formalized shadowing experiences as undergraduates would be expected to help premedical students make informed decisions about their careers.

Target Audience
Undergraduate medical educators and career counselors; medical school career advisors.

References
WGSA Sponsored Workshop: Undergraduate Premedical Experience

“So, You Want to be a Doctor?”: A Model for Physician Involvement in Undergraduate Premedical Advertisement
James V. McKinnell, MD, University of New Mexico School of Medicine

Context
Advisement of undergraduate premedical students is particularly challenging in that, ideally, it requires traditional academic advisors as well as faculty members/professionals who can serve as mentors, providing students with insights into the profession. There is evidence that both the timing and the nature of advisement can effect student retention as well as student success. In some professions, this need for multi-dimensional advisement has been addressed with the creation of “career exploration” courses.

Objectives
Audience members will be able to
• describe a course designed for premedical students integrating elements of both traditional academic advisement and mentoring,
• understand the unique contributions made by physicians engaged in academic advisement/mentoring roles with undergraduate premedical students through involvement in career exploration-type courses, and
• consider the benefits to students of relationships developed over a 16-week period in a learning community setting with individuals working in professional fields of interest.

Key Message
Optimal premedical advisement must be thorough and started early in students’ undergraduate careers. Beyond optimizing students’ chances of successfully applying to medical school, it should include strategies to allow students to gain enough insight into the profession to decide if it is an appropriate career choice.

Conclusion
Physicians have practical insights into the process of undergraduate premedical education and professional school applications, as well as access to resources through professional contacts, which make them uniquely qualified to function as premedical advisors/mentors. Ways may exist for campuses with health sciences centers to better integrate medical faculty into the undergraduate experience.

Target Audience
Undergraduate academic advisors, medical educators
The Patient Advocacy Program: A Service-Learning Approach to Understanding the Health Safety Net

Jocelyn Ko, Anand Habib, Ann Banchoff, Courtney Burks, Gabriel Garcia

The Patient Advocacy Program is a year-long service learning course that meets intersecting needs in the community and at Stanford University:

- The need among area clinics for reliable, trained volunteers to enhance patient care
- The demand among students for substantive clinical and community-based experiences with underserved populations
- The need to build a diverse and culturally competent healthcare workforce

The Patient Advocacy Program vision is to sustain a reliable corps of trained student volunteers at area free and community clinics with minimal impact on the partner clinics’ resources. A description of the learning goals, syllabus, community service projects and evaluation will be presented.

Target Audience: Undergraduate advisors and medical educators
WGSA Sponsored Workshop: Undergraduate Premedical Experience

Student-Initiated Service Learning Course: “Alternative Spring Break - Rural and American Indian Health Disparities”
Rebecca Stellato, Shane Morrison, Krishnan Subrahmanian, Gabriel Garcia/ Stanford University School of Medicine

Context
Alternative Spring Break courses create service-learning opportunities for students seeking immersion in emergent social issues. In the first Alternative Spring Break course offered at Stanford Medical School, students travel to the Rosebud Reservation in South Dakota to learn about the health issues affecting the community with the lowest life expectancy in the United States.¹ This quarter-long course—also open to undergraduates—connects the classroom to the upstream factors that lead to health disparities and then engages in service projects that directly address these factors.

Objectives
Students will:
• understand health disparities that exist in rural and American Indian communities;
• explain how social determinants affect health care among American Indians;
• articulate and apply learned methods in community-based participatory research in collaboration with community partners at Indian Health Services, Habitat for Humanity, and Sinte Gleska University; and
• undertake substantive community work that addresses social determinants of health.

Key Message
Service learning provides a unique opportunity for medical students to understand health issues facing specific populations. Applying the forethought, reflection, and sustainability of an Alternative Spring Break course to medical service projects equips future physicians with the tangible experience of working with communities to improve health disparities.

Conclusion
The Alternative Spring Break course format could be a valuable way to inspire and educate future physicians in delivering effective and culturally competent care to specific populations.

Target Audience
Medical school faculty, pre-med faculty, student leaders, community health agents

References
Monday, May 2
10:00 am – 11:30 am

Panel Discussion
Teaching, Remediating, and Refining Clinical Reasoning
Peter Rudd, MD/ Stanford University School of Medicine (Medicine)
Elizabeth Stuart, MD/ Stanford University School of Medicine (Pediatrics)
Gurpreet Dhaliwal, MD/ UCSF School of Medicine (Medicine)

Introduction
Three presenters on panel for related topics about Clinical Reasoning training

Methods
What guidance does clinical reasoning give us in teaching medical students the critical compiling function? (Peter Rudd, MD)
Evolving investigation over several decades confirms that expert clinicians employ both pattern recognition and analytic processing to arrive at correct diagnoses. The most relevant concepts include semantic qualifiers, forceful features, problem representation, illness scripts, and compare-and-contrast. We shall review the origin and application of these concepts for teaching.

What techniques are most useful to address students with suboptimal performance in clinical reasoning? (Elizabeth Stuart, MD)
Transitioning to clerkships requires a move from gathering and reporting clinical data to interpreting, synthesizing, and prioritizing information. Some students transition easily; others need coaching and deliberate practice.
After a review of common problems with clinical case presentations (e.g. Unfiltered Data Dump, Missing Assessment, Silo Differential, Frozen Differential), we shall demonstrate simple exercises designed to promote effective reasoning (e.g. Reverse Presentation, Highlighter Exercise, Persuade the MD, Script Sorting).

What resources are available to assist individual learners, pre-clerkship teachers, and clinical preceptors in building clinical reasoning performance? (Gurpreet Dhaliwal, MD)
Getting from “good” to “great” is a challenge in any field; it always involves dedicated focus and practice. For clinical reasoning, the challenge entails progressive problem-solving and reinvestment, deliberate practice, and regular feedback. We will consider the forms these methods can take for the trainee who is seeking continuous improvement in clinical reasoning.

Question and Answer (all presenters)

Outcomes
Improved knowledge, awareness, and confidence in teaching clinical reasoning

Target Audience
medical students, pre-clerkship and clerkship teachers, curriculum evaluators, and remediators

References
Creating Change or Preaching to the Choir? A Third-Year Underserved Track Matches More Students into Primary Care Residencies than the Traditional Model
Margo Vener, MD, MPH; Elisabeth Wilson, MD, MPH; Anna Loeb, MS 3, Julia Bruckner, MS 3, Nili Sommavilla, MS 3, Nicole Gomez, MS 3, Kate Chomsky-Higgins, MS 3, Ben Howell MS 3, Margaret Wheeler, MD, University of California, San Francisco

Introduction
The US faces a primary care physician shortage, especially in underserved communities. (1). Students trained in underserved programs have more positive attitudes toward underserved patients (2) and higher intentions of practicing in underserved communities (3). We developed an innovative 6-month underserved track for third-year students. Students complete three semi-integrated clerkships in underserved settings, follow continuity patients, and work in community health.

Objective
To evaluate whether our underserved track increases the number students matching into primary care and/or underserved residencies.

Methods
Using match data from 2007-10, we compared specialty and program choice of graduating students completing the underserved track (59) versus graduating students who had not participated (600). We also evaluated match results from 2004-6, before underserved track implementation.

Results
Compared to non-participants, underserved-track students have higher rates of matching into primary care residencies (66% vs. 38%), and/or programs in underserved communities (37% vs. 18%). Compared to the three years before implementation of the underserved track, this represents an increase in the rate of matching into primary care for the total graduating class (40% vs 30%) but not an increase in underserved programs (19% vs 20%).

Discussion
Students in our underserved track match more frequently into primary care and/or underserved residencies than non-participants. This increase is significant in training new primary care physicians; since our underserved track began, the rate of total graduates from our school matching into primary care has increased. Further research should clarify what curricular factors most profoundly impact students’ decisions.

Target Audience
Students, Residents, Faculty

References
1. Center for Workforce Studies, Recent studies and reports on physician shortages in the U.S., AAMC, August 2007.
Four Primary Care Residencies Develop Leadership, Cultural Competency, Community Advocacy and Partnership Curricula Through Collaboration

Katy Hicks, MD, Associate Program Director, Primary Care Residency, Alameda County Medical Center; Steve Roey, MD, Program Director, Santa Clara Valley Medical Center, Craig Keenan, MD, Program Director, University of California at Davis; Sharad Jain, MD, Program Director UCSF/SFGH

Context
Primary care residency programs must evolve rapidly to teach trainees to meet the coming challenges for primary care physicians. In this abstract we describe a collaboration between four Primary Care Medicine Residencies based at safety net sites to develop new curricula on leadership, cultural competency and community advocacy and partnership. Support was provided by The California Endowment.

Objectives
The collaboration focused on developing a comprehensive curriculum for medicine residents to learn topics in cultural competence, leadership and community advocacy and partnership. The process required the collaboration to (1) perform an assessment of current curricula being delivered at each residency program and compare these curricula with the literature and national guidelines, (2) implement curricular design to facilitate delivery at programs with wide variations in schedules and logistics, and (3) document the impact of these curricular innovations on resident physicians’ knowledge, skills, and attitudes.

Key Message
Collaboration in the setting of specific objectives provides a valuable method for rapid development and introduction of relevant curricula to meet the needs of training primary care physicians to practice in underserved settings to address health disparities.

Conclusion
Four primary care medicine residency programs have successfully collaborated to implement and evaluate effectiveness on new curricula on leadership, cultural competency and community advocacy and partnership. This collaboration resulted in rapid implementation of the new curricula in each residency program. Evaluation of the effectiveness of the new curriculum is ongoing.

Target Audience
Program directors and core faculty.
Primary Care Clerkships – Is Longer Better? Comparing Three Different Models for an Outpatient Clerkship
Margo Vener, MD, MPH; Julia Bruckner, MS 3; Nili Somavilla, MS 3; Arianne Teherani, PhD, University of California, San Francisco

Introduction
Continuity has value as an organizing principle in medical education (1); however, block rotations inherently limit continuity. In longitudinal outpatient rotations, students value continuity with patients and preceptors (2,3). To explore innovative 3rd-year models, our institution offers the required Family Medicine clerkship in three formats — a 6-week block rotation, 6-month longitudinal rotation, or 12-month longitudinal-integrated experience.

Objectives
To determine which model provided the most optimal primary care learning environment

Methods
We assessed course evaluations, written exams, clinical practice exam (CPX) scores, and residency match results for 2008-2010. We also evaluated student responses to open-ended surveys.

Results
Our analysis revealed no difference in written exams or CPX scores for any group. On course evaluations (1=poor; 5=excellent), 12-month students reported the highest teaching quality (block=4.25; 6-month=4.21; 12-month=4.46). Longer clerkship length correlated with students reporting better feedback on clinical skills (block=3.77; 6-month=3.90; 12-month=4.29). Overall clerkship ratings increased in longer models (block=4.11; 6-month=4.24; 12-month=4.32). Students in either longitudinal model were more likely to describe continuity relationships with patients and preceptors/role models as strong positive influences on their medical education. For 2008-2009, 6-month students matched into Family Medicine at a higher rate than other students.

Discussion
Both the 6-month longitudinal and the 12-month longitudinal integrated model seem to offer better feedback, positive continuity experiences, and more highly-rated clerkship experiences than the traditional model. However, longitudinal models are also more resource-intensive. Any discussion of which model is optimal should include consideration of outcomes as well as resource use.

Target Audience
Students, Faculty

References
Examining the Relationship between Clerkship Continuity and Third Year Medical Students’ Perception of Professional Climate
Laura Hill-Sakurai, University of California, San Francisco

Introduction
Research notes that third year medical students perceive unprofessional behavior in the clinical environment. Experts suggest that “continuity”-- increased opportunities to work at the same clinical location, with the same attendings and the same patients--could help students witness challenging clinical situation with a more nuanced view, thereby improving their perception of professional climate. Currently UCSF medical students may do their required third year clerkships in a traditional format or in an integrated program with continuity of setting, attendings and patients across one year.

Objectives
To examine whether students in an integrated clerkship program perceive a more professional clinical learning environment than traditional clerkship students.

Methods
A validated instrument assessing medical students’ perception of the professional climate was administered to students completing Family Medicine, Internal Medicine and Pediatrics at the same clinical sites within the integrated clerkship program and the traditional clerkships. Students’ ratings were compared using the unpaired T-test.

Results
Students in the integrated clerkship rated their professional climate higher than students in the traditional clerkships. Mean ratings on the 5-point Likert scale were 3.6 (n=16) and 3.2 (n=18) (p<0.01) in Family Medicine; 3.6 (n=16) and 3.3 (n=9) (p<0.01) in Medicine and 3.6 (n=16) and 3.3 (n=10) (p<0.01) in Pediatrics.

Discussion
Although there are confounding differences between the groups, these results suggests our students in an integrated clerkship noted more favorable professionalism compared to traditional clerkship students. Further research should examine clerkship structure as a possible means to enhance professionalism within clerkship settings.

Target Audience
Medical educators

References
Monday, May 2  
10:00 am – 11:30 am  
WAAHP Concurrent Sessions I

**MD/PhD and MSTP Presentation**  
Jana Marie Toutolmin, Co-Chair, AAMC MD-PhD Section Communications Committee, Administrative Director, University of California, San Francisco  
Olaf Andersen, M.D., Ph.D., MSTP Director, Weill Cornell/Rockefeller/Sloan-Kettering  
Brian Sullivan, M.A., M.B.A., MSTP Administrative Director, Washington University in St. Louis  
Lorie Langdon, Administrative Director, Stanford University  

Moderator - Rita Osborn, Associate Director, Utah Center for Rural Health and Southwest Utah Area Health Education Center, Southern Utah University

AAMC MD-PhD Section, Communication Committee WAAHP Session  
Please join us for this session with seasoned MD-PhD Program Directors and Administrators who handle the daily operations of these programs and actually read the applications of your students. We will provide you with the current deadlines and trends to help you coach your students. Our goal is to advise and educate Pre-Med Health Advisors regarding the MD-PhD Pathway. We have created a Training Guide which is posted on the AAMC Website, in addition to this Advising Panel for nationwide events. It is 30 minutes in length and we provide 30 minutes for questions. We will talk about general issues related to MD-PhD (what students need to be competitive, the admissions process, and what the graduates pursue, etc). We do not discuss our individual programs, rather the common denominator. Our 2010 sessions at ABRCMS yielded an audience of over 450 students and at SACNAS 250+. The applicant pool is increasing! Have the latest data available to help you advise your students.

**Rescuing Students**  
Charlie Ferguson, Ph.D., Associate Professor, Department of Integrative Biology, University of Colorado, Denver  
Joseph Nika, Ph.D., Assistant Professor, Director of Pre-Health Advising, University of Nevada, Las Vegas  

Moderator – James Bedard, Ph.D., Assistant Professor of Biology, Adams State College, Alamosa, Colorado

Many students that pre-health advisors work with struggle academically, particularly at the inception of the undergraduate career. In most cases, the academic deficiency does not stem from a lack of intellectual ability, but rather a lack of necessary study skills as the effort required for academic success in college is substantially greater compared to high school. While the process may be slightly longer, students in such situations may build a competitive application to professional school with proper guidance from an effective mentor. This session presents case studies of students with academic deficiencies and how experienced advisors worked with them to facilitate their acceptance to professional school.

**Dental School Admissions**  
David B. Koenecke, D.C., Director of Admissions, A.T. Still University of Health Sciences  
Christine C. Ancajas, D.D.S., Director of Admissions, UNLV School of Dental Medicine  

Moderator - Chere Pereira, Chief Premedical and Predental Advisor, Oregon State University

Abstract – Students often over focus on curricular qualifications (GPA and standardized examination score) at the expense of personal growth. They often view humanitarian service
and clinical exposure as obligatory experiences that must be engaged to gain acceptance to dental school. In addition to this misconception, students that struggle academically often look to extracurricular activities to offset curricular deficiencies. This session focuses on what admissions officers seek in attractive candidates and addressing student perceptions and possible misconceptions.

**Naturopathic Medicine**
Dr. Deborah Lantz, N.D., Associate Dean, Bastyr University

Sheila Nielsen-Preiss, Ph.D., Director - Health Professions Advising, Montana State University

Naturopathy (also known as naturopathic medicine or natural medicine) is an alternative medical system on natural remedies and the body's vitalistic to heal and maintain itself. Naturopathic philosophy favors a holistic approach and minimal use of surgery and drugs. Naturopathic practitioners are split into two groups, traditional naturopaths and naturopathic physicians. Naturopathy comprises many different treatment modalities ranging from standard evidence-based diet and lifestyle advice, to homeopathy. Naturopathy is practiced in many countries.

**Veterinary Medicine**
Diane McClure, DVM, PhD, DACLAM, Western University Health Sciences College of Veterinary Medicine

Moderator - Ginger R. Fisher, Ph.D., Lecturer and MBS Coordinator, School of Biological Sciences, University of Northern Colorado

Veterinary medicine is the branch of science that deals with the application of medical, surgical, public health, dental, diagnostic, and therapeutic principles to non-human animals, including wildlife and domesticated animals, livestock, working animals, and companion animals. Practitioners of veterinary medicine are known as veterinarians. Veterinary science helps human health through the monitoring and control of zoonotic disease (infectious disease transmitted from non-human animals to humans, and veterinary scientists often collaborate with epidemiologists. This presentation delves into the various fields of veterinary medicine and delineate how they each integrate into the emerging integrative healthcare system.

**Chiropractic Medicine**
Chiropractic is a health care discipline and profession that emphasizes diagnosis, treatment and prevention of mechanical disorders of the musculoskeletal system, especially the spine, under the hypothesis that these disorders affect general health via the nervous system. It is generally categorized as complementary and alternative medicine (CAM). The main chiropractic treatment technique involves manual therapy, including manipulation of the spine, other joints, and soft tissues; treatment also includes exercises and health and lifestyle counseling. Traditional chiropractic assumes that a vertebral subluxation or spinal joint dysfunction interferes with the body's function and its innate intelligence. This presentation discusses the various chiropractic philosophies and how they pertain to administration of healthcare.

**Preparing Health Professional Students for Patient Centered Collaborative Care**
Sherree J. Aston, OD, PHD; Susan Mackintosh, DO, MPH, Julie W. McCurdy, MED & Ligaya Sanchez Chan, BA

Moderator - Penelope (Penny) Bennett, PhD(c), MPH, CNM, Preprofessional Advising Office, University of Colorado at Boulder
There is a growing interprofessional education (IPE) movement, which will positively impact the practice patterns of future health care professionals. Western University of Health Sciences (WesternU) will present a workshop that will include a discussion of a comprehensive and innovative IPE model involving nine health professional programs. Attendees will additionally participate in an interactive facilitated IPE case based session. The session will also include a debriefing on the Western U IPE program and the case presentation, and a question and answer session will be offered for any unresolved questions regarding the IPE model or integrated case based course.

Identifying the Best Type of Enhancement Post-Baccalaureate Program to Help Your Pre-Health Student

Gerald Soslau, PhD, Panel Chair, Senior Associate Dean, Office of Professional Studies in the Health Sciences, Drexel University College of Medicine
Jodi Olson, MA, Director of MS in Medical Science, Western University of the Health Sciences
Barry S. Rothman, PhD, Chair, Health Professions Advising Committee and Director Pre-Health Professions Certificate program, San Francisco State University

Moderator - Bill Wingard, Professional & Graduate School Advisor, Career Services Center, University of California, San Diego

The growing number and types of enhancement post-baccalaureate programs available to help students improve their credentials for application to health professional schools leave both student and advisor wondering what is the best program to pursue. A three member panel will discuss programs in three major programmatic categories: Special Masters programs, thesis and non-thesis graduate level post-baccalaureate programs, and; undergraduate post-baccalaureate programs. The session chair will give a brief overview and introduction to the broad spectrum of programs and then he and the panelists will speak about each group of programs, their pros and cons in a generic sense with little, if any, “selling” of their institutional programs. Questions would be welcomed throughout the session and time would be allotted at the end for further questions.
Monday, May 2  
1:00 pm – 2:30 pm  

Small Group Discussion  

**Dilemmas: Making Sense of Trainee and Faculty Use of Digital Media**  
Discussant: Michael D. Prislin MD  
Dr. Prislin is Associate Dean Student Affairs at the University of California Irvine, School of Medicine.  
Discussant: Donna Elliott MD, MSEd, EdD.  
Dr. Elliott is Associate Dean Student Affairs at the University of Southern California, Keck School of Medicine.  
Discussant: Neil Parker MD  
Dr. Parker is Senior Associate Dean for Admissions & Student and Resident Affairs at the David Geffen School of Medicine at UCLA.  
Discussant: Meredith Szumski BA  
Ms. Szumski is Director of Student Affairs at the David Geffen School of Medicine at UCLA. She is currently completing her EdD, and her research focus is in the area of assessing the impact of digital electronic media on student and faculty interactions.  
Discussant: David Henderson MS III  
Mr. Henderson is a third year medical school student who has participated extensively in the digital electronic media research project at UCLA.  

**Summary**  

A 2008 study found that nearly 50% of medical trainees, and almost two thirds of medical students at the University of Florida used Facebook (1). The use of digital social media by medical trainees in 2011 is likely nearly ubiquitous. The use of such media by medical educators is not known but is also likely to be quite prevalent (2). A 2009 survey reported that 60% of schools reported having knowledge of students posting “unprofessional on line content.” Yet only 38% of schools had policies in place that addresses the on line behavior of their trainees (3). A recent commentary noted that interactions of trainees via digital social media may have both positive and negative implications with respect to medical education, and that there is little or no evidence available to inform efforts to prevent or respond to misuse of such media(4). Others have noted that interpretations of conduct on such media may be influenced by other factors, most particularly “generational differences” in perception (5). In the words of the commentary “It’s complicated.”  

This session will be devoted to a discussion of this “complexity.” Attention will be directed toward  

- varying perceptions of the appropriateness of digital media content,  
- the use of digital media derived information in the process of trainee selection,  
- faculty use of social networking sites, and  
- the process of developing policies regarding the use of digital media.  

The session will be of interest to those who work with medical school applicants, medical students, and residents.  

**References**  
Monday, May 2  
1:00 pm – 2:30 pm  

Workshop

Criteria for the Evaluation of Educators: What is Needed and What Will Work  
Patricia O'Sullivan, UCSF, Craig Timm, UNM, M. Brownell Anderson, AAMC

Introduction
While educators have defined scholarship in education\(^1-7\) and clarified high quality educational scholarship\(^4,5,6,7\), educators at many academic health centers are disadvantaged in formal processes of recognition and reward due to lack of this knowledge by others. The AAMC Task Force on Educator Evaluation aims to construct a flexible framework with resources allowing for rigorous evaluation of the educational contributions of faculty. To this end the Task Force needs member input.

Methods
Following a discussion about how current standards for documenting and evaluating activities of educators affect recruitment, advancement and retention, presenters will share a resource intended to help “users” in assessing the work of educators. (10 min)
Activity 1: In small groups, participants will discuss the content of the introduction section of the resource. The groups will reconvene for a facilitated discussion. (10 + 10 min)
The presenters will share criteria and sources of evidence for evaluation of educators as teacher, curriculum developer, assessor, mentor/advisor and leader. (10 min)
Activity 2: Each small group will analyze one domain and answer if the templates provide information needed at their institutions to make decisions about the performance of educators. (15 + 15 min)
After reports, participants will discuss the usefulness, challenges and potential local adoption of this resource in the “real world”. (20 minutes)

Outcomes
Participants will:
Discuss evaluation criteria for promotion and advancement of educators
Analyze the usefulness of proposed resource.
Critique and provide feedback about the adoption of the resource

Target Audience
educators and those who evaluate them

References
Baldwin C, Chandran L, Gusic M. Guidelines for Evaluating the Educational Performance of Medical School Faculty: Priming a National Conversation. Teaching and Learning in Medicine (in press)
Monday, May 2  
1:00 pm – 2:30 pm

Panel Discussion

LGBT Issues in Medical Education  
Sebastian Uijtdehaage, Lee Jones, Shane Snowdon, Allison Diamant, Stanford LGBT rep (tbd)

Introduction  
Lesbian, Gay, Bisexual and Transgender (LGBT) individuals are a vulnerable group for whom health disparities continue to exist. Commonly, curricula in medical education insufficiently address the needs of LGBT patients, leaving future physicians unprepared to care for this population. Furthermore, medical schools must provide a safe and inclusive environment for LGBT students, residents, and faculty. In this panel discussion, we will explore how medical schools can improve LGBT climate and curriculum.

Methods  
The panel discussion will begin with four 15-minute presentations:  
Dr. Lee Jones will report on the First National Summit On LGBT Issues in Medical Education, recently convened at UCSF.

The Stanford LGBT Medical Education Research Group will present data on a national survey on LGBT curricula in undergraduate medical education.

Dr. Allison Diamant will present a cross-sectional survey on the attitudes and knowledge of medical students across the four years at UCLA regarding LGBT issues.

Shane Snowdon will present perspectives on improving medical school environment for LGBT students, staff, residents, and faculty.

In the remaining 30 minutes, we will explore with the audience the implications for UME and GME.

Outcomes  
This panel discussion will highlight the extent in which LGBT issues are covered in medical education and will help educators and administrators set the agenda for curriculum development and for improving LGBT climate in medical school.

Target Audience  
Educators across the medical education curriculum, administrators involved in student affairs, and anyone interested in LGBT curriculum and climate.
Monday, May 2  
1:00 pm – 2:30 pm  

Panel Discussion  

Teaching Cultural Competence and Reducing Health Disparities Across the Trainee Continuum: A Multi-Institutional Perspective  
Kambria Hooper, M.Ed; Preetha Basaviah, MD; Clarence H Braddock, MD, MPH; Elizabeth Stuart, MD; Shashank Joshi, MD; Charles Vega, MD (UC Irvine)  

Introduction  
Our objective is to share best practices in integrating cultural competency and health disparities education along the continuum of medical training. We have opportunities for learners to participate in reflection and small group exercises that demonstrate both the value and techniques of cultural competency and health disparities education. Our intention is to provide focused learning experiences to form a strong foundation so that each participant is able to evolve their program/institution’s cultural competency and health disparities curriculum.  

Methods  
In this module, we will review background of health disparities and cultural competency. Participants will hear four presentations where they can experience, as the learner, various cultural competency tools and techniques to reduce health disparities. Each presentation has learning objectives for a particular challenging learner situation involving cultural competency and/or reducing health disparities.  

Evaluation tools that promote self-awareness about cultural attitudes (pre-clerkship)  
Resources to teach cultural competence (pre-clerkship)  
Standardized Patient encounters & other forms of case-based teaching for skill-building in cross-cultural communication (clerkship)  
The Health Education and Language for Latino Community (HEAL-LC) Initiative at UC Irvine (residency)  

Outcomes  
At the end of this presentation, participants will be able to:  
Describe key concepts of cultural competence and health disparities  
Understand strategies to teach cultural competency and health disparities  
Describe models of longitudinal cultural competency and health disparities curriculum  
Practice reflection to evolve curriculum in cultural competence and health disparities  

Target Audience  
Medical Educators, Residency and Clerkship Directors, those interested in cultural competence techniques.  

References  
TBD
Monday, May 2  
1:00 pm – 2:30 pm  

Panel Discussion  

Outcomes (aka Competency) Based Education—Best Practices  
Pamela Schaff, MD/ UGME Section Chair (Keck School of Medicine, USC); Joseph York (Keck School of Medicine, USC); Clarence Braddock III, MD (Stanford University); Jan Carlile (University of Washington)  

Context  
The 2010 call for reform of medical education commissioned by the Carnegie Foundation emphasizes four themes: standardizing learning outcomes and individualizing the learning process; integrating formal learning with clinical experience; developing habits of inquiry and improvement; and forming professional identity. Competency-based education (CBE) resonates with these themes, and might serve us well as we strive to realize the vision put forward in the Carnegie Foundation report. While much has been written about CBE in recent years, there remains much uncertainty as to what is meant by the term. The first systematic review of published definitions proposes the following: “Competency-based education is an approach to preparing physicians for practice that is fundamentally oriented to graduate outcome abilities and organized around competencies derived from an analysis of societal and patient needs. It deemphasizes time-based training and promises greater accountability, flexibility, and learner-centeredness.”

Objectives  
Identify key themes that form the fundamental concepts of competency-based education.  
Recognize the opportunities and unique challenges of competency-based education in undergraduate training.  
Discuss “best practices” in competency-based education in WGEA, and consider potential implications for their home institutions.

Key Message  
Even before implementation of ACGME/ABMS core competencies, some medical schools had introduced undergraduate competencies, and today, many schools align core undergraduate objectives with ACGME competencies. But the “fit” isn't always perfect; the ACGME competencies do not exactly match our expectations for beginning medical students, and a greater focus on formative assessment is required in undergraduate medical education. We propose a session geared to UGME educators to explore the “best practices” in competency-based education taking place in the WGEA.

Target Audience  
WGEA, UGME

References  
Monday, May 2
1:00 pm – 2:30 pm

Workshop

Holistic Review
Amy Addams, AAMC Project on Holistic Review; Henry Sondheimer, AAMC Project on Holistic Review; David Acosta, Associate Dean for Multicultural Affairs, University of Washington School of Medicine

Does holistic review really take place at medical schools? How? How do admission officers engage others on the medical school campus and those in the pre-medical community to make holistic review a shared experience, develop best practices and have students fully reviewed in the best possible light?

Target Audience
Undergraduate advisors and medical educators
Small Group Discussion

How Prepared Are Third Year Students for Choosing a Specialty?
Anita D. Taylor, M.A. Ed. and Molly Osborne, M.D. Ph.D.
Oregon Health & Science University School of Medicine

Introduction
Is the advice to “Keep an open mind about your specialty options” still valid? Is this message meaningful for the new generation of medical students? With the reality of increasing class size and stagnant residency slots, how early do students need to test and cement specialty decisions? Do pre-med advisors need to provide more resources about specialty choices for students applying to medical school? Increasingly, there are career development activities at Orientation and students may be matched with advisors in their specialty of interest. In some schools Scholarly Concentrations are chosen and students are advised to do research the summer after their first year if they intend to apply to the more competitive specialties. At OHSU students are urged to select a Residency Advisor in February of their third year to advise them about their 4th year schedule. How ready are students to make a lifetime decision in their third year of medical school?

Methods
Presentation of OHSU’s four-year Careers in Medicine program and how it aims to meet the needs of the current medical students.
Presentation of data from a Class of 2011 and 2012 questionnaire giving a self-report of student preparation and constraints in specialty/residency selection. The OSR students from OHSU will comment.
Small Group discussion of how to best prepare students to choose a specialty.

Outcomes
Share ideas on how to help pre-med and medical students explore specialties.
Learn about programs to help students choose specialties
Learn about student perspective

Target Audience
WGEA, WGSA, WOSR, WAAHP

Reference:

Abstracts:
Monday, May 2
1:00 pm – 2:30 pm

Oral Presentations

Personal Genotyping Improves Medical and Graduate Student Learning in Genomics and Personalized Medicine
Keyan Salari, PhD, Department of Genetics, Stanford University School of Medicine
Kelly Ormond, MS, Department of Genetics, Stanford University School of Medicine
Louanne Hudgins, MD, Department of Pediatrics, Stanford University School of Medicine
Stuart Kim, PhD, Department of Developmental Biology and Genetics, Stanford University School of Medicine

Introduction
A decade after sequencing the human genome, nearly 1000 genome-wide association studies of over 150 human traits have been conducted, setting the stage for a new era in how genetics may impact clinical medicine [1]. The potential of genetics and genomics to provide new paradigms for prevention, diagnosis, and treatment of disease is immense; thus, medical schools must provide trainees fundamental education in genomics and personalized medicine [2]. An emerging debate in academic medical centers is not about the need for this education but rather the most effective educational models that should be deployed [3-4]. At Stanford School of Medicine, we recently developed a novel genomics course for medical and graduate students that incorporated the option for students to undergo personal genotyping.

Objectives
We tested whether there were differences in knowledge and attitudes about genomics and personalized medicine between students who did, compared to those who did not, undergo personal genotyping.

Methods
Before and after the 8-week course, we administered a questionnaire that assessed knowledge and attitudes of medical and graduate students. We analyzed responses from 34 students who missed no more than 2 out of 8 class sessions and either elected to undergo genotyping (n = 26) or elected to use publically available genotype data (n = 8). Each student’s pre-course and post-course scores from the knowledge assessment portion of the questionnaire were paired, and improvement in performance was analyzed by paired t-tests.

Results
Eighty percent of students who planned to undergo personal genotyping before the course started ultimately chose to undergo testing. Fifty percent of students who were initially unsure about the decision decided to undergo genotyping while the other 50% did not. Among students who did not undergo genotyping, knowledge scores increased an average of 1.4% from pre- to post-course (p = 0.84, paired t-test). In contrast, students who elected to undergo genotyping demonstrated a 30.1% increase in scores (p < 10^-5, paired t-test). Score improvements were significantly greater among students who underwent genotyping, compared to student who did not undergo genotyping (p = 0.003, Student’s t-test). In reflecting on the experience, 85% of students who underwent genotyping stated that they were pleased with their decision, and 70% stated that they felt they had a better understanding of human genetics on the basis of having undergone genotyping.

Discussion
Our study suggests that including personal genotyping in the curriculum can significantly enhance learning of genetics and genomics as they pertain to personalized medicine. We believe that it is imperative that medical students are well educated about this rapidly emerging area of medicine and science. With careful incorporation of optional personal genotyping, we can better educate our students and the medical community about the interpretation, limitations, and impact of genetic data in clinical settings.

Target Audience
Medical education administrators and medical students

References
Monday, May 2
1:00 pm – 2:30 pm

Oral Presentations

Patient-Provider Communication for Patients with Communication Disorders
Thomas McNalley, MD, MA, University of Washington
Carolyn Baylor, PhD, University of Washington
Michael Burns, MA, University of Washington
Megan Morris, PhC, University of Washington
Kathryn Yorkston, PhD, University of Washington

Context
Communication disorders place patients at higher risk for adverse medical events and may lead to lower satisfaction with healthcare [1-5]. While many medical schools train physicians in effective patient-provider communication, few programs focus on patients with speech, language or cognitive-communication impairments. Prior studies suggest that training can improve the effectiveness of healthcare providers in communicating with this population [6, 7]. We have developed an innovative short course, “Patient-Provider Communication for Patients with Communication Disorders (PPC-PCD)” to meet this educational need. PPC-PCD is a 3-hour seminar consisting of lecture, videos, and interactive demonstrations. The presentation describes the course, and explores our preliminary data regarding attitudes and confidence of students towards working with these patients.

Objectives
• Identify and adopt innovative strategies to teach students to communicate with these patients.
• Discuss best practices for teaching medical students how to minimize effects of a communication disorder.
• Identify approaches to integrating similar instruction into existing curricula.

Key Message
Preliminary research suggests that participation in the PPC-PCD significantly improves students’ self-reported attitudes, confidence and knowledge of communication strategies when interacting with patients with communication disorders.

Conclusion
To our knowledge, PPC-PCD is unique in teaching students skills to improve communication with this vulnerable population. Despite requiring only 3 hours of teaching time, it employs a variety of content delivery including interviews with standardized patients with communicative impairments. It also represents an educational partnership between medical students and allied health professionals. PPC-PCD can be a model for other educators to improve medical students’ and residents’ communication skills.

Target Audience
Medical student and resident educators administrators.

References
**Monday, May 2**

1:00 pm – 2:30 pm

Oral Presentations

**Standardizing Neuroanesthesia Education for Anesthesiology Residents: University of Washington Experience**

Deepak Sharma MBBS, MD, DM,
University of Washington, Seattle, WA

**Introduction**
Providing effective subspecialty education to anesthesiology residents in a time constrained framework is challenging. Following a formal needs assessment, a new curriculum was introduced for Neuroanesthesiology rotation at University of Washington.

**Objectives**
To assess the effectiveness of the new curriculum by assessing performance of residents on standardized pre- and post-tests standardized oral exams and by assessing resident evaluation of the curriculum.

**Methods**
The residents received introductory emails prior to start of Neuroanesthesiology rotation. The information provided included: goals and learning objectives, “dance cards” (containing list of selected topics that the residents are expected to self-read and then discuss in one-on-one setting with attending Neuroanesthesiologists everyday), reading material, organization of rotation (including expectations and information regarding the required pre-test and post-test and a standardized oral exam at the end of rotation). The effectiveness of new curriculum was assessed by: comparing the scores of pre and post-tests using students “t”-test, number of residents passing the oral exam and resident satisfaction score.

**Results**
Seventeen residents underwent the rotation. Mean post-test score was significantly higher than the pre-test (82.9±9.2% versus 62.3±19.8%, p=0.001). Post-test scores of 12(70.6%) residents were higher than their respective pre-test scores. While only 9(53%) residents passed the pre-test, all 17(100%) passed the post-test and 15/17 (88.2%) passed the oral exam. Analysis of resident satisfaction is awaited.

**Discussion**
Structured subspecialty rotation with focused, individualized teaching helps residents score higher on standardized tests and pass oral exams. Use of similar models for all rotations may be useful to provide effective teaching despite time constraints.

**Target Audience**
WGEA

**References**
Baker K. Clinical teaching improves with resident evaluation and feedback. Anesthesiology. 2010 Sep;113(3):693-703.
Professional schools seek out multiple attributes when identifying students they wish to admit to their programs. These include not only curricular qualifications and standardized examination scores, but also numerous extracurricular activities and personal characteristics. Additionally, the scope of practice that each profession may engage varies from year to year as additional privileges are granted and others revoked. This session allows representatives from each of the professional schools to address these issues and assist advisors in preparing students for the application cycle.

**Moderator – Lisa Shipley, University of Wyoming**

**Henry M. Sondheimer, MD - Allopathic Medicine**
Senior Director
Student Affairs and Student Programs
Association of American Medical Colleges

**Gina M. Moses, Med - Osteopathic Medicine**
Associate Director of Application Services
American Association of Colleges of Osteopathic Medicine

**Deborah Lantz, ND - Naturopathic Medicine**
Associate Dean, School of Naturopathic Medicine
Bastyr University

**Moraith G. North - Podiatric Medicine**
Executive Director
American Association of Colleges of Podiatric Medicine

**Sharon T. Joyce - Optometry**
Director of Admissions and Student Affairs
UC Berkeley - School of Optometry

**Colleen Schierholtz - Physician Assistant**
Director of Admissions
Oregon Health and Science University
Physician Assistant Program

**Karen Hutton-Lopez - Veterinary Medicine**
Director of Admissions
College of Veterinary Medicine &
Dept. of Physical Therapy Education &
Dept. of Physician Assistant Education
Western University of Health Sciences
Monday, May 2  
2:30 pm – 4:00 pm  

**Workshop**

**Teaching the Millennials: Win-Win Solutions for Members of All Generations**  
Tracy Bumsted, MD, MPH; Jennifer Gilhooly, RN, CPNP; Joseph Gilhooly, MD. Oregon Health & Science University

**Introduction**  
A typical academic medical center has great generational diversity in its workforce and learners. This diversity can lead to significant conflict when the values shared by each generation are incongruent. Understanding generational attributes, behaviors, and values is only the first step toward a more successful work and educational environment. A far more difficult task is translating this into practice by offering effective solutions to generational challenges that arise in everyday situations. By viewing conflicts that arise through a generational lens, medical educators will be better equipped to actively design productive and satisfying educational experiences for every member of the multigenerational team.

**Methods**  
This interactive workshop will begin with an overview of the common characteristics and values of all four generations, followed by a particular focus on teaching members of the Millennial generation. Next, small group breakouts will allow participants to view and discuss three provocative trigger tapes. Large group discussion will highlight successful solutions as well as common pitfalls in teaching, and ensure participants will leave with practical tools to improve the educational environment.

**Outcomes**  
At the end of the workshop, participants will be able to  
- describe common characteristics and values of the four generations represented in a typical academic medical center,  
- describe the impact of generational differences on medical education, and  
- design a generationally-friendly educational environment for learners at all levels which improves the satisfaction of both learners and faculty.

**Target Audience:** Anyone involved in medical education.

**References**

*Books:*

*Periodicals:*
- Working with Medical Students  

*Working with Residents*


*Working with Faculty*


Teaching Procedural Skills: It’s More Than See One, Do One, Teach One.
Sandrijn van Schaik and Anna Meyer, University of California San Francisco

Introduction
Many disciplines in medicine require acquisition of procedural skills, traditionally taught using the simplistic adage of “See one, Do one, Teach One”. Current expertise literature improves upon this model with the concept of deliberate practice: repeated practice guided by feedback and reflection. In this workshop, participants will learn to apply this concept to procedural skills teaching, and will learn to utilize Kern’s six steps to curriculum development to make procedure teaching effective. Participants will explore the challenges associated with teaching procedures, whether at the bedside or in a simulation environment.

Methods
The workshop starts with a needs assessment among participants, exploring challenges encountered during procedure teaching (15 minutes). Next, we will review the theoretical framework, including Kern’s 6 steps to curriculum development as they apply to the teaching of procedural skills and the concept of deliberate practice (25 min). Then, participants will learn and teach how to make balloon animals, with exercises that demonstrate the specific challenges of procedure teaching in various settings (40 min). The workshop ends with a summary of useful approaches.

Outcomes
At the end of this workshop, participants will be able to
• translate the 6 steps of curriculum development into procedure teaching,
• describe the conceptual framework of deliberate practice as it applies to teaching procedures, and
• demonstrate the conceptual framework by simulating procedure education.

Target Audience
Faculty and trainees engaged in teaching of procedural skills, from intravenous line placement to surgical skills, whether as part of a formal curriculum or at the bedside.

References
Monday, May 2
2:30 pm – 4:00 pm

Small Group Discussion

Design Principles for Creating Mobile Learning Apps
Jesse Friedman (University of California, San Francisco)
Joseph Benfield, Jamie Tsui (Stanford University School of Medicine)

Introduction
A recent survey of Stanford University School of Medicine students shows that three out of four students have a smartphone. We know students are accessing course materials on mobile devices at the gym, on public transportation, and sometimes alongside their laptops. Rather than simply translate course materials to a mobile screen, our goal is to discuss and present design principles for creating mobile learning applications with added value of touch interface, sensors, and ubiquitous access to the internet.

Methods
Presenters will show examples of some successful mobile applications they have created, give an overview of how they were constructed, and discuss design principles that they consider when creating mobile apps.

Outcomes
Attendees will
• see examples of some mobile applications for medical education,
• participate in discussion about design principles for mobile apps, and
• understand the basic building blocks of types of mobile apps.

Target Audience
Instructional technologists, administration, and faculty interested in developing mobile learning experiences.

References
none
Monday, May 2
2:30 pm – 4:00 pm

Workshop

Using Arts and Humanities to Enhance Small Group Learning Environments in Medical School
Judith A. Kitzes, MD, MPH, Associate Professor, Palliative Medicine, Department of Internal Medicine and Office of Undergraduate Medical Education, University of New Mexico School of Medicine

Introduction
Small groups promote active learning in many medical school contexts including development of clinical/communications skills, problem based learning, team based learning, laboratory sessions, and clinical rounds. The topics incorporated in ethics, professionalism and end of life care are fertile grounds for using small groups to incorporate arts and play in engaging learners to develop their metacognitive skills.

Objectives
The participants will be able to
- demonstrate the use of common game playing to facilitate self-reflection;
- create a personal visual image that illuminates a self-directed learning issue; and
- facilitate an open, narrative writing process to promote metacognition.

Methods
The workshop will be a facilitated, participatory opportunity to experience the use of writing, creating visual images, and game playing in promoting learning around an authentic medical school experience. The topic will be End-of-Life learning issues, noting that these techniques are very suitable for use with other topics.

Methods will include facilitated whole group interaction, and paired participants involving the following activities:
- “5 Wishes” card game that allows participants to play with others regarding choosing cards from others to obtain 2-3 priority cards that list preferences for end of life wishes. (40 minutes)
- Open narrative writing using a trigger “cartoon” that will encourage participant to write without regards to grammar, syntax, spelling their self-observations reflecting an authentic dying or death experience as a provider, friend or family member. (20 minutes)
- Creation of a visual image related to experience. (20 minutes)
- Summary discussion of experience using these methods in small group learning. (15 minutes)

Target Audience
Open to all educators interested in incorporating arts, humanities and game playing into small group sessions.

References
Monday, May 2
2:30 pm – 4:00 pm

Workshop

A Five-Step Integrated Paradigm of Best Practices in Clinical Teaching
Steven Lin, M.D., Erika Schillinger, M.D., and Grace Yu, M.D.
O’Connor Family Medicine Residency Program and Stanford University School of Medicine

Introduction
Teaching medicine is highly gratifying yet enormously complex. Many useful models of clinical teaching have been proposed, but few paradigms exist that integrate these best practices into an easy-to-remember and practical tool that is robust across diverse settings, and can be rapidly applied in the daily education of students and residents. We created an integrated paradigm of best practices in clinical teaching that builds upon the work of leaders in the field of medical education. The five pillars that make up our paradigm are as follows: (a) objectives, (b) setting and the learning climate, (c) learner-centered teaching, (d) evaluation and feedback, and (e) reflection. Its utility as a paradigm is being investigated as part of the O’Connor-Stanford Leaders in Education Residency Pathway.

Objectives
• To describe a five-step integrated teaching paradigm.
• To demonstrate how to apply the “One-Minute Preceptor” and the “Ask-Tell-Ask Feedback Sandwich” in daily teaching.
• To share teaching pearls in a skill-oriented, interactive environment.

Methods
Interactive presentations, demonstrations, buzz groups, and cliff-hanger role plays.

Outcomes
Participants will be able to (1) describe the five-step integrated teaching paradigm, (2) apply the “One-Minute Preceptor” and the “Ask-Tell-Ask Feedback Sandwich” in their daily teaching, and (3) share teaching pearls with fellow medical educators.

Target Audience
Medical teachers, including attending physicians and residents in any field.

References
Monday, May 2
2:30 pm – 4:00 pm

Oral Presentation

Building Medical Knowledge From Clinical Experience: A Curricular Pilot of Pre-Clerkship Student-Directed Problem-Based Learning (PBL) Based on Real Patient Encounters
Garlin, AB/UCB-UCSF Joint Medical Program; Baudendistel, TE/Kaiser Permanente, Oakland; Azzam, AN/UCB-UCSF Joint Medical Program

Introduction
Recent calls in medical education advocate early learning experiences that integrate clinical and basic science learning.¹ For knowledge retention and developing clinical reasoning, exposure to real cases has been reported to be superior to the paper cases commonly used in pre-clerkship PBL.²,³,⁵ Research on clinical PBL has focused either on medical knowledge acquisition or on emotional and identity development.⁴,⁶,⁸

Objectives
To evaluate a curricular pilot in which real cases generated content for student-directed classroom learning.

Methods
We piloted a one-week inpatient immersion for 16 highly PBL-experienced second-year medical students, integrating clinical experience with student-directed PBL. After participating on clinical teams, students presented real cases to each other, identifying case-based learning issues. They completed a course evaluation.

Results
Students produced learning objects covering clinical, basic science and social science topics. Students reported valuable insights into roles, relationships and systems in the clinical context. Students judged clinical PBL to be less effective for medical knowledge acquisition, citing constraints of the clinical setting and the overwhelming emotional impact of the immersion experience.

Discussion
The results of this pilot should inform the design of future integrated learning experiences. Emotional growth, orientation to setting, and identity development will inevitably occur in clinical PBL. Attention to these processes is necessary for them to enhance rather than detract from medical knowledge acquisition.

Target Audience
curriculum developers

References
“You Heard What?” - Introduction of the Ventriloscope® to an OSCE
Ann Morrison MD/University of New Mexico, Teresa Anderson MD, University of New Mexico, Teresita McCarty, University of New Mexico

Introduction
Difficulty simulating abnormal auscultatory sounds limits the use of standardized patients to assess clinical reasoning competence. The ventriloscope® plays recorded auscultatory findings through a simulated stethoscope. Added to an OSCE case it allows assessment of students’ ability to interpret clinical findings and insight into how students use clinical data in diagnostic reasoning.

Objectives
• Assess student ability to accurately describe auscultatory findings.
• Evaluate contribution of clinical findings to students’ diagnostic reasoning.

Methods
At the end of the 3rd year, 71 medical students evaluated a simulated infant presenting with fever, cough and respiratory distress. Students interviewed the standardized grandmother, watched a video and demonstrated physical exam maneuvers using a ventriloscope®. The video and the heart and lung sounds were recorded from an infant with bronchiolitis. Students were then given 10 minutes to write a clinical note. Faculty reviewed heart and lung findings and diagnostic hypotheses documented in the students’ notes, and compared them to faculty standards.

Results
• 23% of students correctly documented lung crackles.
• 40% listed appropriate “top 3” differential diagnoses.

Discussion
The ventriloscope® permitted assessment of students’ ability to describe and interpret abnormal auscultatory findings in a pediatric simulation. A number of students misidentified crackles as a “wheeze” or a “rhonci” and sometimes the differential did not fit students’ interpretation of the physical findings.

Target Audience
WGEA

References
A Randomized Trial of Reflective Learning Guidelines and Feedback Among Third Year Medical Students
Louise Aronson, Brian Niehaus, Laura Hill-Sakurai, Cindy Lai, Patricia O’Sullivan; University of California, San Francisco

Introduction
Educators are increasingly incorporating reflection into their teaching. Review of medical student reflections revealed anecdotes with few of the educational components described in the literature. We hypothesize that learners do not reflect in an educationally useful way because we have not trained them to do so.

Objectives
To assess the impact of reflective learning guidelines and feedback, individually and together, on the reflective ability demonstrated by medical students in written reflection exercises.

Methods
In this randomized, controlled trial, all third year medical students wrote reflections on professionalism after their 1st, 3rd and final clerkships. In a 2x2 design, half received reflective learning guidelines and half did not, and half in each group received feedback on both reflective skill and reflection content and half received content-only feedback. Trained raters (r= 0.89) scored reflections using a validated 0 – 6-point rubric. We conducted an analysis of covariance using 1st scores as the covariate and final scores as the dependent variable.

Results
Mean reflection scores were 3.81 (sd=1.9) with guidelines and 2.22 (sd=.89) without (p<.001) and 3.35 (sd=1.2) for those receiving both reflection and content feedback and 2.67 (sd=1.26) for content feedback only (p=.01). There was no interaction between groups with and without guidelines and feedback (p=.24)

Discussion
Reflective learning guidelines, like clinical practice guidelines, improved performance. Feedback improved performance when receiving feedback on reflection. There was no synergy between guidelines and feedback. This study raises questions about dose, type, context and timing of guidance to improve learners’ reflective ability.

Target Audience
Medical educators
The Quality of Clerkship Experiences and the Effect on Clinical Performance
Paul F Wimmers, PhD & Ming Lee, PhD
UCLA School of Medicine

Introduction
Individual learning experiences of students in their clerkship rotations vary considerably. The value of the clinical experience is dependent on the richness of the learning environment. Good supervision and proper feedback are important components for shaping the richness of the learning environment. The variation in the quality of clinical experiences can effect clinical performance.¹²

Methods
Patient log data of 3rd year medical students (N=152) of 2009-2010 was used. Web logs contain information about the number of patients, degree of responsibility (low-moderate-full), supervision (faculty-resident-none), observation (history-taking (Hx), physical examination (Px)) and received feedback (diagnoses, Hx, Px, write-up). At the end of Y-3 all students participate in an 8-station clinical performance exam (OSCE). The four components measured during the clinical performance exam are: Hx, Px, information sharing, and communication. Regression analysis is used for studying the effect of clerkship experience on OSCE performance.

Results
The number of patients seen by each student varies considerably (M=321; SD=211). The degree of responsibility was respectively, 15.4%, 26.2%, and 51.4% for low, moderate, and full. Most encounters are supervised (49.2% by faculty and 36.6% by resident). Overall, students receive feedback in 74.1% of the encounters: 29.3% for case presentation, 29.0% for diagnoses, 14.5% for Hx, 15.6% for Px, and 24.2% for write-up. The received feedback was considered useful in 52.1% of the encounters. The number of patients seen, supervision, and received feedback had no direct effect on OSCE performance.

Discussion
Clerkship experiences vary for each individual student. This variation in quantity and quality does not reflect on their clinical performance exam.

References
Monday, May 2
2:30 pm – 4:00 pm

WAAHP Concurrent Sessions II

Pharmacy – What Can You Do With a Pharmacy Degree?
Liz Heffernan, Director of Student Services, College of Pharmacy, University of Hawaii – Hilo

Moderator – Phillip Scharf, Director, Pre-Professional Advising, Arizona State University

Retail pharmacy is the most visible field of the pharmaceutical healthcare industry for most laypersons. Many pre-pharmacy students are not aware of the vast array of careers that are available following completion of the Pharm.D. degree. The potential specialty fields include but are not limited to Academic, Clinical, Community, Compounding, Consultant, Drug Information, Home Health, Hospital, Industrial, Informatics, Locum, Military, Nuclear, Oncology, Regulatory Affairs, Veterinary, and Clinical Pathology pharmacy. This session discusses the various options available to individuals who earn the Pharm.D. degree and how to enter each profession.

Physician Assistant vs. Nurse Practitioner – what can each do? How are each limited?
Pam Malloy, RN, MN, FPCN, ELNEC Project Director, American Association of Colleges of Nursing

Moderator - Francisco Castillo, M.S., Coordinator - Health Professions Advising Office, California State University, Long Beach

Many individuals are aware of the fields of Physician Assistant and Nurse Practitioner and have a rudimentary understanding of the role that each fulfills in the healthcare industry. Pre-professional students are aware that they engage in many of the same practices compared to physicians but do not understand the differences that go into pursuing these professions. This session is intended to delineate the path that leads to either Nurse Practitioner or Physician Assistant in addition to discussing the similarities and differences regarding the scope of practice that can be engaged in with either degree.

Physical Therapy
Arlene McCarthy PT, DPT, MS, NCS, Director –Kaiser Permanente Neurology PT Residency

Moderator - Barbara Huntington, Director – Pre-professional Health Advising, San Diego State University

Physical therapy or physiotherapy, often abbreviated PT, is provided by physical therapists or physiotherapists. Physical therapy is a dynamic profession with an established theoretical and scientific base and widespread clinical applications in the restoration, maintenance, and promotion of optimal physical function throughout the lifespan. Physical therapists diagnose and manage movement dysfunction and enhance functional abilities; restore, maintain, and promote not only optimal physical function but optimal wellness and fitness and optimal quality of life as it relates to movement and health; and prevent the onset, symptoms, and progression of impairments, functional limitations, and disabilities that may result from diseases, disorders, conditions, or injuries. This includes providing services in circumstances where movement and function are threatened by aging, injury, disease or environmental factors. Most individuals are aware of the profession as it pertains to injury management, prevention and wellness, and rehabilitation, but are not aware of the areas of board specialization that are associated with the
profession. Current Board Specialties include Cardiovascular & Pulmonary, Geriatrics, Neurology, Orthopedics, Pediatrics, Sports, Clinical Electrophysiology, and Women’s Health. This session discusses each option and how they fit in to the emerging integrative healthcare system.

**Podiatric Medicine**
David Tran, D.P.M., Assistant Professor, Samuel Merit College of Podiatric Medicine

Moderator – Ruby Mason, Senior Academic Advisor, Stanford University

Abstract for Podiatric Medicine and Surgery Session:
Podiatric Medicine and Surgery is a vibrant and pathology rich subspecialty of medicine often overlooked by prospective students and advisors due to lack of knowledge of the scope and depth of practice of the profession. This presentation will attempt to provide the advisors with the fundamentals of what a typical day of practice of a podiatric physician may entail (which may range from reconstructive foot/ankle surgery through the spectrum of sports medicine, biomechanics to dermatological manifestations). This presentation will also address the growth potential of the profession, the increase need for podiatric medicine in integrative medical health in light of society's higher incidences of diabetes and obesity, as well as the financial and personal rewards. At the end of the presentation, the advisors should be able to advice their students as to why podiatric medicine and surgery may be a good career choice to pursue based on the student's ability, goals and aspirations.

**Occupational Therapy**
Greg Wintz, Ph.D., OTR/L, Eastern Washington University

Moderator – Ruth Bingham, Ph.D., Director of Pre-Health/Pre-Law Advising Center, University of Hawaii, Manoa

Occupational therapy promotes health by enabling people to perform meaningful and purposeful occupations. Occupation can be defined as "active process of living: from the beginning to the end of life, ... occupations are all the active processes of looking after ourselves and others, enjoying life, and being socially and economically productive over the lifespan and in various contexts". These include (but are not limited to) work, leisure, self care, domestic and community activities. Occupational therapists work with individuals, families, groups, communities and organizations to facilitate health, well-being and justice through engagement in occupation. Occupational therapists are becoming increasingly involved in addressing the impact of social, political and environmental factors that contribute to exclusion and occupational deprivation. Occupational therapists use careful analysis of physical, environmental, psychosocial, mental, spiritual, political and cultural factors to identify barriers to occupation. Occupational therapy draws from the fields of medicine, psychology, sociology, anthropology, and many other disciplines in developing its knowledge base. A new discipline of occupational science has been developed to enhance the evidence base of the profession.

**WHY DO? – An overview of osteopathic medical principles and practices**
Greg Wintz, Ph.D., OTR/L, Eastern Washington University
Occupational therapy promotes health by enabling people to perform meaningful and purposeful occupations. Occupation can be defined as "active process of living: from the beginning to the end of life, ... occupations are all the active processes of looking after ourselves and others, enjoying life, and being socially and economically productive over the lifespan and in various contexts". These include (but are not limited to) work, leisure, self care, domestic and community activities. Occupational therapists work with individuals, families, groups, communities and organizations to facilitate health, well-being and justice through engagement in occupation. Occupational therapists are becoming increasingly involved in addressing the impact of social, political and environmental factors that contribute to exclusion and occupational deprivation. Occupational therapists use careful analysis of physical, environmental, psychosocial, mental, spiritual, political and cultural factors to identify barriers to occupation. Occupational therapy draws from the fields of medicine, psychology, sociology, anthropology, and many other disciplines in developing its knowledge base. A new discipline of occupational science has been developed to enhance the evidence base of the profession.

“Closing the Loop”
David Shearn, M.D., Director of Physician Education and Development, Kaiser Permanente

As premed advisors, we have formulated our own concepts of what attributes we believe are consistent with being a good physician/dentist/etc. What attributes are going to be valued when our students eventually are seeking employment. What do physician staff leaders, for example, look for in a physician? What attributes do they avoid? Are there attributes or behaviors that we, as advisors, are not thinking about and may need to foster more (or pay more attention to) in our undergraduates? This session delves into these questions and will be followed by a question and answer session.
Simulation Curriculum for Teaching Obstetrics to Family Medicine Residents
Deborah Donlon, MD and Lisa Ward, MD, MSPH, MS
Santa Rosa Family Medicine Residency

Background
Resident physicians at the Santa Rosa Family Medicine Residency complete 5 months of Obstetrics rotations during residency training. They provide continuity care to low risk and high risk patients that requires competency in a variety of labor and delivery skills early in their residency careers. It is ideal for residents to learn routine obstetric care as well as management of emergencies using a patient simulator. We have developed a simulation curriculum for teaching obstetrics to family medicine residents, appropriate to each year of training. This project is a collaboration between residency faculty physicians and labor and delivery nurses.

Objectives
• To describe an innovative teaching tool using patient simulation that is graduated in complexity: first-year residents are taught basic skills (fetal monitoring, vaginal delivery), while senior residents learn emergency management (cord prolapse, vacuum delivery, shoulder dystocia and postpartum hemorrhage).
• To evaluate: data collected from first year residents shows that the training significantly improves both knowledge and confidence in the short term. The next step is to assess long-term measures of learning.
• To explore applicability of simulation teaching to other disciplines and levels of training: This includes teaching medical students, interdisciplinary team training, and various areas of medicine (neonatal resuscitation, adult medicine, and critical care).

Target Audience
Students, residents and physician educators

Reference
Ward, Donlon and Doolittle: Kaiser Simulation Lab: Use for training residents in obstetric practice, UCSF Colloquium 2010
Workshop

Developing a Competency Based Sexual Orientation and Gender Identity Themed Curriculum
Hendry Ton, MD; Shane Snowdon; Mark Robinson, MSW; Shelley Henderson, PhD

Introduction
LGBTIQ (lesbian, gay, bisexual, transgendered, intersex, queer, questioning) patients experience significant health disparities such as barriers to access, higher risk for cancer, mental illnesses, and other diseases due to factors such as low rates of health insurance coverage, high rates of stress due to systematic harassment, and discrimination. A recent survey of Medical Education Deans shows that virtually no U.S. or Canadian medical school has an adequate curriculum addressing LGBTIQ health issues. The UC Davis School of Medicine Cultural Competency Committee has developed a four year competency based Sexual Orientation and Gender Identity (SOGI) curriculum during a retreat attended by 30 educators, LGBT content experts, medical students, and residents.

Methods
The workshop consists of lecture components to highlight the disparities experienced by LGBTIQ patients, followed by a small group exercise to explore strategies and pitfalls for implementing a competency based SOGI curriculum.

Outcomes
At the end of the workshop, participants will be able to
- describe health disparities experienced by LGBTIQ patients,
- define a strategic process for developing a competency based SOGI themed curriculum,
- address key challenges to this process and how to overcome them,
- identify key stakeholders and collaborators, and
- identify curricular resources to assist in development of learning material.

Target Audience
Educators

References
Association of American Medical Colleges. Tool for Assessing Cultural Competence Training (TACCT) http://www.aamc.org/meded/tacct/start.htm

Workshop on the STANFORD25: A Program to Enhance Housestaff Bedside Skills
Charlton B, Kugler J, Chi J, Cotter B, Ozdalga E, Verghese A, Department of Medicine, Stanford University

Summary
We propose a workshop to demonstrate the nature of the Stanford25, a technique-based course that enhances house staff skills at the bedside. Most observers agree that in the era of the EMR, bedside examination skills have suffered. We have instituted sessions where we emphasize technique in twenty-five technique dependent physical diagnosis maneuvers (for example, cerebellar testing, or the ankle reflex in a bedridden patient) to enhance overall appreciation of technique and skill at the bedside. The target audience for the proposed workshop is practicing physicians or teachers, and the objective is to 1) enhance actual skills 2) experience a method of teaching used at Stanford 3) provide feedback and discussion. The hour long workshop would be limited to fourteen active participants, though it will accommodate observers.

Using standardized patients, the workshop method will focus on technique in 1) The reflex exam 2) The percussion of the chest. The preceptor will first do a demonstration, then participants are paired up and are required to execute the maneuver while being watched by several preceptors, and then participants demonstrate teaching the technique to their partner. The session closes with a feedback and discussion session.

Reference
Small Group Discussion

“Maintaining an Open Diversity Pipeline: Academic and Emotional Support for Underrepresented and Disadvantaged Students in Medical Training”
Charles Vega and Jose Rea – UC Irvine.

Introduction
The Association of American Medical Colleges has called for increasing diversity in the healthcare workforce. At UC Irvine, an increased focus on establishing pipeline programs for these students into medical school, as well as the expansion of the Program in Medical Education for the Latino Community, have increased the number of underrepresented and disadvantaged students.

As we enjoyed this success, we have also encountered some of the challenges documented in the literature regarding academic and emotional support for these students.

Methods
Our session will begin with a brief review and some of the academic and emotional challenges faced by students from underrepresented and disadvantaged backgrounds. To engage the group and share best practices across campuses for overcoming these challenges, the remainder of the session will focus on a case-based discussion of specific common scenarios which affect the performance of these medical students. We will sum up the findings from our discussion and provide a summary for the audience. We will also disseminate these findings online.

Outcomes
- Distinguish the challenges faced by medical students from underrepresented and disadvantaged backgrounds.
- Evaluate tools to help these students.
- Apply best practices for supporting these students in your institution.

Target Audience
This discussion is pertinent for anyone who works routinely with students from underrepresented and disadvantaged backgrounds.

References
Tuesday, May 3
9:00 am – 10:30 am

Oral Presentation

Mapping Year I and II Content to the USMLE Step I Subjects Outline
Jack Dexter, PhD; Gail Kosland, PhD; and Amy Waer, MD; Darla Anderson; MLS, The University of Arizona College of Medicine, Tucson Arizona

Introduction
Assessing the completeness of subject coverage in medical curricula is not possible because no standard for completeness can be established. However, with some modification the USMLE Step I Exam Subjects Outline may provide a baseline for assessing comprehensiveness.

Objectives
To devise a computer-aided system by which content expressed in a medical curriculum may be searched and then compared to a nationally-accepted subjects baseline.

Methods
The project involved three phases: (1) The USMLE Step I subjects outline was deconstructed and translated into equivalent MeSH terms; (2) A retreat of faculty and others ensured the MeSH-translated list was accurate and complete; and (3) The curriculum database, to which all content is encoded with MeSH terms, was searched and compared to the USMLE-MeSH outline.

Results
The frequency and locations of each matched MeSH term were graphically reported for all Years I and II courses. Limitations revealed that accuracy is dependent upon the comprehensiveness by which topics are coded to MeSH terms in the database, as well as by the MeSH descriptors selected to fill out the expanded USMLE outline.

Discussion
This effort proved valuable in that: 1) Results assured faculty and students that all subject areas contained in the USMLE outline were thoroughly covered in the curriculum. 2) Faculty were able to visualize easily where content was being expressed across Years I and II; 3) The review retreat provided faculty a structured means to assess curricular content; 4) Graphical content mapping is seen to be a useful tool for course planning and oversight.

Target Audience WGEA

References
The Effects of a Novel Technology on Learning Strategies in the Anatomy Lab
Chandler Mayfield, Peter Ohara, PhD, Patricia O’Sullivan, EdD, Jesse Friedman, Christian Burke, Dana Rohde, PhD, University of California San Francisco School of Medicine

Introduction
Learners will use technology in the anatomy laboratory, but most laboratories cannot accommodate such equipment around a dissection table. The iPad overcomes some barriers.

Objectives
To determine differences in student behaviors and perception of those using and not using iPads.

Methods
We developed a custom iPad-manual with existing image and video resources interspersed with standard instructions for a two hour anatomy lab. We deployed three iPads at three tables for two identical sessions. Three control tables were monitored at the other end of the lab. Students completed pre and post perceptions surveys. Control and experimental observers recorded use of resources at 2 minute intervals (20 observations/table). We analyzed data using descriptive statistics and ANCOVA.

Results
Twenty-one control and twenty-two experimental students participated; one student per group did not complete the pre-survey. Compared to controls, we found iPad students reported significantly less reliance on paper and instructor resources, greater ability to achieve lab objectives and clarity of role of dissection in learning anatomy. iPad students indicated the iPad helped them in dissection.

We observed iPad students more on task (93% vs. 83% of the time) and less likely to be seeking an instructor (2% vs. 32%). The groups received similar attention from instructors (33% vs. 37%).

59% of the time at least one student was looking at the iPad. Groups clustered around the iPad a third of their time.

Discussion
The iPad aids learner engagement and achieving objectives. We anticipate this technology can enhance the effectiveness and efficiency of dissection education.

Target Audience
Faculty, students
Technology Support for Team-Based Learning
Matthew Cunningham, Michael Campion, Jason Reep, University of Washington

Context
Team-Based Learning (TBL) has seen increased adoption in medical education over the past several years. Students arrive in class prepared to complete individual and group readiness assurance tests and to apply that knowledge in team-based assignments. The traditional approach to TBL features reading assignments, Scantron/bubble sheets, and Immediate Feedback–Assessment Technique (IF-AT) scratch-off sheets—all paper-based technologies. During a pilot of team-based learning in two courses, the University of Washington School of Medicine enhanced the traditional TBL approach with pre-recorded mini-lectures and web-based administration of readiness assurance tests and team-based assignments.

Objectives
At the end of this presentation, participants will be able to
• determine the right mix of technologies for a team-based learning initiative at their own institution,
• ask key questions of information technology professionals to minimize disruptive technology failures, and
• identify areas for future technology development and exploration in support of team-based learning.

Key Message
Like many educational technologies, online support of team-based learning provides opportunities as well as challenges. The extent to which faculty or institutions adopt the technologies will depend on the willingness of faculty, students, and administrators to experiment with new approaches and persevere through the inevitable glitches.

Conclusion
Although careful consideration must be given to issues of wireless network access and configuration of online readiness assurance tools, technology support can make TBL even more relevant for students and more efficient for faculty to administer.

Target Audience
Faculty, educational technologists, and testing professionals considering team-based learning as a pedagogical approach, or educators who have experience with traditional team-based learning and are contemplating alternatives to paper-intensive TBL.

References
A Socioeconomic Status Profile of Medical School Applicants and Matriculants
Douglas Grbic and Gwen Garrison, Association of American Medical Colleges

Introduction
A socially diverse medical student population not only enhances the educational experience of all medical students but is also necessary for a physician workforce to meet the health care needs and disparities of an increasingly diverse society. Socioeconomic status (SES) is one of many dimensions of social diversity that the medical school admissions community seeks information about.

Objectives
This paper therefore describes the SES profile of applicants and matriculants by various characteristics – sex, race/ethnicity, type of college attended, and academic achievement. In particular, through this lens we explain where social diversity is being gained and/or lost.

Methods
Data come from the 2002 to 2010 American Medical College Application Service. To capture individuals’ SES background, we use applicants’ parental education and occupation information to present a straight-forward indicator of SES.

Results
First, the U.S. medical school applicant pool is increasingly skewed toward those from higher SES backgrounds. Second, the SES background of applicants differ greatly by race/ethnicity and type of college attended. Third, the ability to increase socioeconomic diversity is severely hampered by the academic achievement gap between those from the lowest and highest SES groups.

Discussion
Recent trends, including those presented here, showing that medical students are increasingly drawn from higher SES groups is largely due to the changing nature of the applicant pool. Findings therefore suggest that policy solutions also need to be targeted toward ensuring a diverse pool of medical school aspirants.

Target Audience
The target audience is the admissions community, but also the broader academic medicine community.
GSA Sponsored Financing Medical Education Panel Discussion

External Sources of Funding: The National Health Service Corps
W. Gary Hlady

Both the American Recovery & Reinvestment Act (ARRA) of 2009 and more recent federal healthcare reform legislation greatly improve the potential for rural health clinics to recruit and retain healthcare professionals. Dr. Hlady will present an update on the programs available through the National Health Services Corps (NHSC), followed by questions and answers.

Participants will be able to describe the following aspects of federal healthcare scholarship and loan repayment programs:

- Eligibility Requirements
- Benefits
- Employer Responsibilities
- Limitations

Target Audience: Undergraduate advisors, and admissions and financial aid deans and staff
Mastering Cardiac Examination: The Virtual Patient Experience
Ian Tong, MD, Jasminka Criley, MD

**Introduction**
Medical student and resident trainees lack confidence and proficiency in cardiac examination skills. While formal instruction in cardiac examination has increased from 33% of residency programs in 1993\(^2\) to 66% in 2003\(^3\), skills have not improved. A simple explanation for this well-documented observation is that instructors are no more skilled in cardiac examination than their students or trainees\(^4\). Today, medical students continue to rank confidence levels lower than other physical examination skills\(^5\). Virtual cardiac examination, developed from audiovisual recordings of actual patient encounters, is an important tool to counter the deterioration of cardiac examination skills through both integration and critical reinforcement\(^6\).

**Methods**
Participants will learn to engage trainees through virtual patient examinations. They will experience the learning process as they integrate visual and auditory stimuli with their knowledge of cardiac physiology. A computer animated curriculum will prompt participants to identify systolic and diastolic murmurs; differentiate arterial from venous pulsations and compare/contrast findings for classic valve abnormalities. Finally, they will be able to “test drive” an evaluation tool used at several teaching programs to test cardiac examination competency. Participants will be asked to bring a stethoscope.

**Outcomes**
- Improve participant cardiac examination skills
- Improve cardiac examination skills training

**Target Audience**
Clinicians, Educators, Students

---
\(^{5}\) Practice of Medicine Course Evaluation summary Stanford University (2010).
Remediation as Opportunity: How Medical Schools Can Identify and RemEDIATE Clinical Skills Deficiencies and Graduate Competent Physicians

**Stanford:** Jennifer Deitz, MA (moderator), Andrew Nevins, MD  
**UCSF:** Anna Chang, MD  
**USC:** Win May, MD  
**UC Davis:** Malathi Srinivasan, MD

**Introduction**

Panelists from Stanford, UCSF, USC and UC Davis Irvine will share in a discussion about successes and challenges in identifying and remediating students with deficiencies in clinical skills, as indicated by performance on the Clinical Performance Exam (CPX), a standardized patient exam administered to all students at the eight medical schools in California. Topics to be addressed during this session include: strategies and policies schools have developed to systemize and structure their remediation programs; the role of longitudinal mentors and other faculty in providing training and support for students in remediation; finding funding and institutional support for remediation efforts; how remediation programs are tailored to meet specific student needs; scheduling, timing and types of remediation activities; and how schools develop and administer follow-up assessments to ensure clinical skills competency.

**Methods**

Panelists from each school will provide a brief overview of how they approach clinical skills remediation for students with low scores on the CPX exam and describe key successes and challenges in their efforts. A discussion will follow with panelists and participants being encouraged to share insights and experiences related to the discussion topics described above.

**Objectives/Outcomes**

By the end of this session, participants will

- understand how medical schools in California are using a state-wide standardized patient exam (CPX) to establish benchmarks for clinical skills competency and identify students with clinical skills deficiencies;
- gain knowledge and insights on best practices for identifying and remediating students with clinical skills deficiencies, including use of video review, self-assessment or reflective exercises, longitudinal mentorship, and the development of individualized learning plans; and
- understand how medical schools are overcoming traditional challenges to remediation efforts, including issues around funding for programs, faculty involvement, scheduling, and assessment.

**Target Audience**

Faculty and administrators interested in clinical skills training, clinical skills remediation, and medical school curricula.

**References**


Workshop

Discovering New Horizons in Medical Education with Student Peer Assessment
Jon Eldredge, University of New Mexico

Introduction
Student Peer Assessment (SPA) requires students to assess the knowledge or skills possessed by their fellow students. Some of the most common applications of SPA include assessing fellow students’ oral presentations, written text, group process, clinical protocol, patient interaction, team communication, or Evidence-Based Medicine (EBM) skills. The facilitator has used SPA with medical students for the past decade in Problem-Based Learning sessions. During the past five years the facilitator has used SPA more intensively and with a more structured approach in teaching EBM to medical students.

Methods
This interactive workshop will utilize the following approaches:

- Large group brainstorming exercise
- Group matrix construction
- Facilitator instruction
- Individual reflection exercise
- Small group exercise
- Simulated SPA immersion session
- Paired exercises

Outcomes
At the completion of this 90 minute workshop, each participant will be able to

- describe the key defining features of Student Peer Assessment (SPA),
- identify the appropriate contexts for utilizing SPA as a teaching strategy,
- explore adapting SPA techniques to teaching in her or his institutional context, and
- possess an action plan for applying SPA to her or his instructional activities.

Target Audience
Educators who want to integrate more active and experiential learning techniques within their curricula. Participation will be limited to 30 attendees.

References
Tuesday, May 3
10:30 am – 12:00 pm

Panel Discussion

**MMI 101: The Reality of Implementing the Multiple Mini Interview**
Cunningham/University of Arizona, Phoenix; Hall/University of California, Los Angeles;
Sousa/University of California, Davis

**Introduction**
As holistic review of applicants becomes increasingly important in medical student admissions, the multiple mini interview (MMI) is being adopted by many institutions to assess applicants' non-academic qualities. In this session, a multi-institutional panel will share their experiences about how to implement the MMI and lessons learned in the process.

**Methods**
- Introductions – 5 minutes
- Panel member presentations – 60 minutes
- Open forum – 25 minutes

**Outcomes**
By the end of the workshop, participants will be able to better understand

- the current literature on the MMI and researching its operational elements,
- the importance of institutional buy-in from a broad group of stakeholders,
- the logistics of how to plan, prepare, and implement MMI at their home institution,
- the importance of having real-time troubleshooting resources available to support MMI, and
- how to use 360° debriefing sessions and survey data for continuous quality improvement.

**Target Audience**
Admissions personnel, medical educators and administrators

**References**
A Three Year Trial Using Team-Based Learning to Teach Behavioral Science to First Year Medical Students
Karnjit Johl, MD, Mark Servis, MD, John Drummer, BS
UC Davis School of Medicine

Introduction
Behavioral science is an integral part of the medical school curriculum. At the UC Davis School of Medicine the behavioral science content was taught for many years using 10-12 large group lectures paired with 1-2 small group discussions facilitated by clinical faculty in a stand-alone course administered by the Department of Psychiatry called “Medicine and the Mind” in the first year of medical school. The development of an integrated curriculum six years ago merged this course into the first part of a three-year, longitudinal “Doctoring” curriculum jointly taught by internal medicine, family medicine, and psychiatry. The Doctoring curriculum uses multiple pedagogies for delivery of content, including abundant use of small group teaching.[1]

Objectives
To promote active learning and develop competencies in self-directed learning and teamwork, we decided to teach behavioral science using TBL pedagogy. Our hypothesis was that student satisfaction with TBL in behavioral science would be equal to student satisfaction in a basic science course in metabolism concurrently taught to the same class of first year medical students.

Methods
Student satisfaction with TBL as a teaching method was independently assessed for behavioral science and for the basic science metabolism course for three consecutive years using written quantitative and qualitative student evaluations and focus group sessions.

Results
Overall student satisfaction with TBL in behavioral science was significantly lower then student satisfaction with TBL in the basic science metabolism course. These differences were statistically significant in every year during the three year trial, despite adjustments in the TBL teaching of behavioral science in response to student feedback.

Discussion
Four themes emerged in the qualitative analysis of the data that might explain the difference in evaluation of the effectiveness of the TBL teaching method with behavioral science.

Target Audience
WGEA Teaching Faculty

References
Medical Student Mistreatment
Marjorie Weinrich, MPH, University of Washington School of Medicine; Douglas Schaad, Ph.D., University of Washington School of Medicine; Jan Carline, Ph.D., University of Washington School of Medicine

Introduction
At a time when medicine is strongly focused on professionalism, reports of mistreatment of medical students during training remain troubling. Mistreatment is one of the 10 most frequent LCME citations. Mistreatment has not been well defined in the literature or by the LCME.

Objectives
To assess what behaviors medical student perceive as (1) mistreatment and/or (2) unprofessional.

Methods
26 brief clinical vignettes were developed (some based on students’ anonymously reported scenarios) and sent to all medical students at the University of Washington School of Medicine. Some vignettes described obvious mistreatment (e.g., racist comment to a minority student; disrespectful treatment of a female student) and unprofessional behaviors (e.g., sarcastic comments about class exam performance; specialty bashing). Others were ambiguous (e.g., doing too much “scut” work; a resident rudely questioning student’s statement about a patient’s illness; lack of positive feedback from an attending for a week).

Results
41% of students responded. Relatively high percentages of students perceived ambiguous or unprofessional behaviors as mistreatment. For example, 43% perceived a week of negative feedback as mistreatment; 33% perceived a resident’s derision of a student’s humanities background as mistreatment; 54% perceived doing too much “scut” work as mistreatment. Several differences between preclerkship and clerkship students suggest some perceptual change as students transition into clinical settings.

Discussion
Widespread discussions about mistreatment are needed at all levels-- among students, residents and faculty--to define what mistreatment is and isn’t and how to address it.

Target Audience
Medical school educators, administrators, schools undergoing LCME review.

References
Mentoring Students to Present and Publish their Research: Preparation for the Translational Bench to Bedside Commitment
Fetterman & Associates and the University of Arkansas at Pine Bluff

Introduction
Translational science focuses on translating bench science to clinical practice. It involves many facets of medical training, including preclinical training, a scholarly concentration-type of program, clinical training, and mentorship or advising. This presentation focuses on the role of mentoring and student publication.

Objectives
To describe the role mentoring plays in preparing students to present and publish their research.

Methods
Case study data were collected, based on participation in three medical student research projects: (1) Stanford University Minority Medical Alliance (SUMMA) conference evaluation (a premedical conference designed to increase diversity in the health care profession); (2) LGBT Medical Education Assessment (survey of all medical schools to determine the level of LGBT training in the curriculum); and (3) SIMS project (Stanford premedical undergraduates shadowing physicians). The author served as an advisor/mentor in each of these projects. Fieldnotes were maintained concerning key events. HyperResearch qualitative software was used to establish critical patterns across projects.

Results
Tools used to facilitate the preparation of students for paper presentation and publication included: participation in medical research and evaluation group review and critique; advice about publication alternatives, priorities, and protocols; critique of research-specific content, and one-on-one review, critique, and recommendations. Results also include student presentations and publications.

Discussion
Many medical students graduate with little training or guidance concerning the presentation and publication of their research. These case examples highlight tools that can be used to prepare students for their translational commitments.

Target Audience
Medical educators and medical school career advisors.

References
Stanford University Minority Medical Alliance (SUMMA) Conference - http://summa.stanford.edu/conference/
Lesbian, Gay, Bisexual, & Transgender Medical Education Assessment (LGBT-MEA)http://med.stanford.edu/lgbt/lgbtmea/
Stanford University Immersion in Medicine Series (SIMS) http://www.stanford.edu/dept/undergrad/cgi-bin/drupal_ual/OO_internships_UAL-SIMS.htm
Poster Sessions
<table>
<thead>
<tr>
<th>Poster #</th>
<th>Poster Title</th>
<th>Authors/Institutions</th>
</tr>
</thead>
</table>
| 1       | Online Final Exams Using Sakai at Stanford University                      | Jamie Tsui  
Stanford University School of Medicine                                                                                                             |
| 2       | New Horizons: Mobile Technology and Collaboration Tools Inspire Medical Students | Jeanne Le Ber, Nancy Lombardo, Todd Vandenbark, Adam Stevenson MD  
University of Utah                                                                                                                                |
| 3       | Undergraduate Interprofessional Learning through Simulation Crisis Team Training | Sok Ying Liaw, Chiang Siau, Gerald Chua, Piyaneey Yobas  
National University of Singapore, National University of Singapore Health System                                                                         |
| 4       | Bringing Faculty Development to the Community: Giving Back to the Community-Based Faculty | Victoria Ruddick, Patricia O’Sullivan, EdD  
University of California, San Francisco                                                                                                               |
| 5       | Society for Women in Academic Psychiatry: A Department’s Efforts to Grow Its Women Faculty | Andreea L Seritan, Jessica Ferranti  
University of California, Davis                                                                                                                        |
| 6       | Students’ Attitudes Regarding Professionalism in Medical Education: A Survey | Andreea L. Seritan, Alyn Kelley, Omar Washington, Ana-Maria Iosif  
University of California, Davis                                                                                                                       |
| 7       | Potential Impact of NIH Public Access Policy on Research Use, Interests, and Barriers | Jamie O’Keeffe, Ed.M.; John Willinsky, Ph.D.  
Stanford University School of Education  
Lauren Maggio, MS(LIS)  
Stanford University School of Medicine                                                                                                                  |
| 8       | Evidence-Based Practice (EBP) Interactive Storyboard Tutorial for Medical Students and Allied Health Professions: An Innovative Approach. | Linda Suk-Ling Murphy, MLIS; Stephen L. Clancy, MLS, Cathy Palmer, MLS  
University of California, Irvine Libraries                                                                                                              |
| 9       | The UCSF Geriatric Community Resources Clinical Algorithm and Guide         | Christopher A. Bautista, Louise Aronson  
University of California, San Francisco                                                                                                                  |
| 10      | DM, HTN, CHF: Developing a Chronic Care Cohort Helps Students Move Beyond Acronyms to a More Meaningful Role in Chronic Illness Care | Margo Vener, MD, Nili Somavilla MS 3, Kate Chomsky-Higgins MS 3, Ben Howell MS 3, Nicole Gomez MS 3, and Margaret Wheeler, MD  
University of California, San Francisco                                                                                                                 |
| 11      | Using Virtual Patient Examinations to Improve Cardiac Examination Competency of Medical Faculty and Residents: The Positive Effect of a One-time Skill Development Workshop | Jasminka Criley, MD, FACP.  
St. Mary Medical Center and David Geffen School of Medicine at UCLA  
Adeline Yang, BS.  
St. Mary Medical Center and UCLA School of Engineering  
Cynthia Kreger, MD  
The Ohio State University College of Medicine                                                                                                           |
| 12      | Professionalism Challenges in Clinic – Student Perspectives                | Nina Patel, Sarah Jane Selig, Kierann Smith, Erika Schillinger  
Stanford University School of Medicine                                                                                                                  |
| 13      | Development and Implementation of a Confidence Scale to Assess Change after Multidisciplinary Team Training in Geriatric Care | Babb J. Winegarden, Ph.D., Ruth M. Covell, M.D.  
University of California San Diego, School of Medicine  
Dale Glaser, Ph.D.  
Glaser Consulting & San Diego State University                                                                                                         |
<table>
<thead>
<tr>
<th>Poster #</th>
<th>Poster Title</th>
<th>Authors/Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>Incorporating Clinical Research into the Third Year Medical Clerkship: A Valuable Experience or Mission Impossible?</td>
<td>Margaret Wheeler, Julia Bruckner, Mara Horwitz, Claire Lande, Anna Loeb, Andrea Lopez, Aimee Sato, Nili Sommovilla, Michael Wahl, Margo Vener, Hilary Seligman University of California, San Francisco</td>
</tr>
<tr>
<td>15</td>
<td>Challenges of clinical problem-based learning (PBL): Refining a Pilot Curriculum of pre-clerkship Student-Directed PBL Using Real Patients</td>
<td>Wilson, DW University of California, San Francisco Garlin, AB, Azzam, AN University of California Berkeley-University of California San Francisco Joint Medical Program Baudendistel, TE, Anderson, E Kaiser Permanente, Oakland</td>
</tr>
<tr>
<td>16</td>
<td>Educating the Next Generation of Leaders in Medicine</td>
<td>Matthew J. Goldstein, Robin Eisenhut, Barnard Palmer, Tiffany Castillo, Kambria Hooper, Takudzwa Shumba, Vitelio Rodriguez, Julia Tussing, Lauren Maggio, and Charles Prober Stanford University School of Medicine</td>
</tr>
<tr>
<td>17</td>
<td>Academic Abilities and Perceptions: Differences Between Third and Fourth-Year Medical Students During the Radiology Clerkship</td>
<td>Rebecca Levin-Epstein, B.A., Ariel E. Hirsch, M.D. Boston University School of Medicine</td>
</tr>
<tr>
<td>18</td>
<td>Recruiting for Rural Areas During Undergraduate Years</td>
<td>Amy Clithero, MBA, Summers Kalishman, PhD, Judith Kitzes, MD, MPH, Valerie Romero-Leggott, MD, Robert Sapien, MD, Brian Solan, MD, MPH, Lana Wagner, MD, Sharon Wayne, MPH University of New Mexico Health Sciences Center</td>
</tr>
<tr>
<td>19</td>
<td>Spirituality in Medicine: A Longitudinal, Experiential Fourth Year Elective</td>
<td>Robbyn L. Tolles, M.A.T. University of Nevada School of Medicine</td>
</tr>
<tr>
<td>20</td>
<td>Physical Examination Teaching: A Systematic Review of the Literature</td>
<td>Somnath Mookherjee, Lara Pheatt, Calvin Chou University of California, San Francisco</td>
</tr>
<tr>
<td>21</td>
<td>Longitudinal Interprofessional Curriculum Well Received by First-Year Health Professions Students</td>
<td>Jennifer Staves, MS3; Alexandria Cerri; Susan Hyde, DDS, MPH, PhD; Brian Aldredge, PharmD; Sharon Youmans, PharmD; Jeff Kilmer, MA; Dorothy Perry, PhD; Helen Loeser, MD, MSc; Kimberly Topp, PhD, PT; and H. Carrie Chen, MD, MSed University of California San Francisco</td>
</tr>
<tr>
<td>22</td>
<td>Medical Students of Today, Clinical Investigators of Tomorrow: How Practical Is It?</td>
<td>Shahrzad Bazargan-Hejazi, PhD, Daphne Calmes, MD Charles Drew University/David Geffen School of Medicine, UCLA</td>
</tr>
<tr>
<td>23</td>
<td>Ultrasound in Medical Education</td>
<td>Shahram Lotfipour, MD, J. Christian Fox, MD, Graciela Maldonado, BS, Craig L. Anderson Ph.D University of California, Irvine</td>
</tr>
<tr>
<td>Poster #</td>
<td>Poster Title</td>
<td>Authors/Institutions</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>24</td>
<td>Approaches to Learning of First Year Medical Students at the Keck School of Medicine of University Southern California</td>
<td>Eun-Kyung Chung Chonnam National University Medical School Win May, Donna Elliot Keck School of Medicine of University Southern California</td>
</tr>
<tr>
<td>25</td>
<td>Introducing Study Skills and Strategies to Support Success on USMLE Step 1 in the First Two Years of Medical School.</td>
<td>Arnold JC, Orsini LH. The University of Arizona College of Medicine, Tucson</td>
</tr>
<tr>
<td>26</td>
<td>Student Perceptions of an Integrated Curriculum: The Merging of Anatomy and Problem-Based Learning</td>
<td>Tatum Langford Korin, M. Elena Stark and Jonathan J. Wisco David Geffen School of Medicine at UCLA</td>
</tr>
<tr>
<td>27</td>
<td>Understanding the Student Role: The Benefits of a Pre-clerkship Observational Experience</td>
<td>Preetha Basaviah, MD; Kambria Hooper, M.Ed.; Tomiko Nguyen, MD Stanford University School of Medicine</td>
</tr>
<tr>
<td>28</td>
<td>Anesthesia Journal Clubs: General Practices and Successful Features</td>
<td>Kathryn Price, MS, Marek Brzezinski, MD, PhD VA Medical Center, San Francisco, University of California San Francisco H Nicole Tran, MD Kaiser Permanente Oakland Kathy Schlecht, DO South Oakland Anesthesia Associates Annette Mizuguchi, MD, PhD Brigham and Women's Hospital Stephen Kimatian, MD Cleveland Clinic Guneet Natt, MD VA Medical Center San Francisco John Mitchell, MD Harvard Medical School</td>
</tr>
<tr>
<td>29</td>
<td>Medical Student Perceptions of Anesthesiology</td>
<td>Kathryn Price, Guneet Natt, Bridget O'Brien, Marek Brzezinski, Martin Bogetz University of California, San Francisco</td>
</tr>
<tr>
<td>30</td>
<td>Immersion in Community Medicine: Mentorship-based Exposure to the Medical Profession for Underprivileged High School Students</td>
<td>David Purger, Hong-An Nguyen, Morgan Freret, Duy Dao Stanford University School of Medicine</td>
</tr>
<tr>
<td>31</td>
<td>Simplified Bookmark Method for Local Medical School Exams</td>
<td>Steve Schneid, Paul A. Kingston, April Apperson University of California, San Diego</td>
</tr>
<tr>
<td>32</td>
<td>Implementation of Modified Team-Based Learning (TBL) to Support Pharmacy Students in a Shared Curriculum</td>
<td>Steve Schneid and Chris Armour University of California, San Diego Skaggs School of Pharmacy and Pharmaceutical Sciences</td>
</tr>
<tr>
<td>33</td>
<td>Feasibility of a Supplemental Home-Based Curriculum for Basic Surgical Skills Acquisition</td>
<td>Leslie C. Sheu, BA, Hueylan Chem, MD², Patricia S. O'Sullivan, EdD, Ed Kim MD University of California, San Francisco</td>
</tr>
<tr>
<td>Poster #</td>
<td>Poster Title</td>
<td>Authors/Institutions</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>35*</td>
<td>Team-Based Journal Club: A Longitudinal Approach to Evidence-Based Medicine (EBM) Training During Residency</td>
<td>Serena Yang, MD, MPH, Renee Kinman, MD, PhD, Children’s Hospital Central California, UCSF- Fresno Medical Education Program</td>
</tr>
<tr>
<td>36*</td>
<td>Screening, Brief Intervention, and Referral to Treatment (SBIRT) for Substance Use Disorders among Resident Physicians: Curriculum Development and Preliminary Evaluation</td>
<td>Neda Ratanawongsa, Jennifer Manuel, Daniel Ciccarone, Brad Shapiro, Sharad Jain, Paula Lum, Jacqueline Tulsky, University of California, San Francisco, Jennifer Hettema, Diana Coffa, University of Virginia, Carrie Cangelosi, San Francisco General Hospital, David Hersh, San Francisco Department of Public Health</td>
</tr>
<tr>
<td>37*</td>
<td>Resident and Fellow Perceptions of Acquiring ACGME Competencies</td>
<td>Lourdes R. Guerrero, EdD; Paul Wimmers, PhD; Nell Parker, MD; Susan Baillie, PhD, David Geffen School of Medicine, UCLA</td>
</tr>
<tr>
<td>38*</td>
<td>A Required, Short Palliative Care Rotation for First-Year Internal Medicine Residents</td>
<td>Brook Calton, MD, MHS; Adam R. Moylan, PhD; Eric Widera, MD, University of California, San Francisco</td>
</tr>
<tr>
<td>39*</td>
<td>Generating Generalists: Factors of Resident Continuity Clinic Associated with Perceived Impact on Choosing a Generalist Career</td>
<td>Ryan Laponis, MD; Patricia O’Sullivan, PhD; Harry Hollander, MD; Patricia Cornett, MD; Katherine Julian, MD, University of California, San Francisco</td>
</tr>
<tr>
<td>40*</td>
<td>Learners’ Perspectives on Effective Mentorship</td>
<td>Christy K. Boscardin, Allison Chen, Mark Lovett, Renee Courey, Louise Aronson, University of California, San Francisco</td>
</tr>
<tr>
<td>41*</td>
<td>Fast-Forward the Learning Curve for CT Diagnosis of Pulmonary Embolus</td>
<td>Marcia J McCowin, MD, Brett Elicker, MD, Abby Deans, MD/PhD, Gloria Chiang, MD, University of California, San Francisco</td>
</tr>
<tr>
<td>42*</td>
<td>A Review of Longitudinal Medical Educational Programs Relating to A Psychiatry Residency Clinical Curriculum Redesign</td>
<td>Colin Stewart, MD; Danielle Carlin, MD; John Q. Young, MD, MPP; Amin Azzam, MD, MA, University of California, San Francisco</td>
</tr>
<tr>
<td>43*</td>
<td>The Use of Standardized Patients to Evaluate Resident Skills in Identifying and Managing Substance Abuse in the Primary Care Setting</td>
<td>Kathryn Treit, MD; Patricia O’Sullivan, EdD; Jason Satterfield, PhD; Elinore McCance-Katz, MD, PhD; Gina Moreno-John, MD; David Levitt MS4; Maria Wamsley, MD, University of California, San Francisco</td>
</tr>
<tr>
<td>44*</td>
<td>Writing for Change: Training Residents in Health Policy Advocacy through Narrative</td>
<td>Louise Aronson, Anda Kuo, Sharad Jain, Vanessa Grubbs, Jennifer Siegel and Alice Chen, University of California, San Francisco</td>
</tr>
</tbody>
</table>

*Included as part of the GME extended Poster Session.
<table>
<thead>
<tr>
<th>Poster #</th>
<th>Poster Title</th>
<th>Authors/Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td>An Assessment of the Stanford Student Experience of a New Learning Community</td>
<td>Kambria Hooper, M.Ed.; Lars Osterberg, MD; Jennifer Hayes, M.Ed; Jennifer Deitz, MA; Preetha Basaviah, MD Stanford University School of Medicine</td>
</tr>
<tr>
<td>46</td>
<td>Impact of a Quality Improvement Curriculum for Pre-Clerkship Students</td>
<td>Kambria Hooper, M.Ed.; Julia Pederson; Stephanie M. Smith, MPH; Felipe De Jesus Perez; Shubha L. Bhat, Natalia V. Leva, Paul Helgerson, MD; Troy Leo, MD; Preetha Basaviah, MD; Clarence Braddock, MD Stanford University School of Medicine</td>
</tr>
<tr>
<td>47</td>
<td>Improving Pre-Clerkship Clinical Skills Courses</td>
<td>Pree Basaviah, MD Stanford University School of Medicine Matthew Mintz, MD George Washington University School of Medicine</td>
</tr>
<tr>
<td>48</td>
<td>Clinical Students’ Exploration of Critical Incidents Using Faculty Guided Reflection</td>
<td>Lars Osterberg, MD; Erika Schillinger, MD; Preetha Basaviah, MD; Kambria Hooper, M.Ed. Stanford University School of Medicine</td>
</tr>
<tr>
<td>49</td>
<td>Pilot of a Lifelong Professional Development Metric in a Scholarly Concentration Program</td>
<td>Renee Courey, Carrie Chen, Kristen Fitzhenry, Mary Beattie, Halima Mohammed, Josh Adler, Harold Bernstein, Madhavi Dandu, Dan Dohan, Dan Lowenstein, Robert Nussbaum, George Sawaya, Christopher Stewart, Naomi Wortis, Louise Aronson University of California, San Francisco</td>
</tr>
<tr>
<td>50</td>
<td>Student Created Modules to Guide Portfolio Implementation</td>
<td>Nicklaus Brandenhoff University of California, San Francisco</td>
</tr>
<tr>
<td>51</td>
<td>Clinical Performance Skills: Which Factors Best Predict Clinical Performance Competence?</td>
<td>Alison Kevan, Jen Deitz, Andrew Nevins Stanford University School of Medicine</td>
</tr>
<tr>
<td>52</td>
<td>Teaching Medical Students to Read</td>
<td>Laurie Richlin, PhD; Sylvia Merino, MBA, MPH Charles R. Drew University of Medicine and Science</td>
</tr>
<tr>
<td>53</td>
<td>Interdisciplinary Team Care for Effective Management of Older Hospitalized Patients</td>
<td>Stephanie Rennke, MD; Lynda Mackin, RN, PhD, ANP-BC, CNS; Adam Moylan, PhD; Bree Johnston, MD, MPH; Margaret Wallhagen, PhD, APRN, BC, GNP, AGSF; Vicki Jue, PharmD; Eunice Tam, PharmD; Cindy Lai, MD University of California, San Francisco</td>
</tr>
<tr>
<td>54</td>
<td>Clinical Reasoning in Cardiac Examination</td>
<td>Nhan Luu, MD St. Mary Medical Center Jennifer Mantie University of California, Los Angeles Kevin Cummins, BS University of California, San Diego Jasminka Criley, MD, FACP, FHM St. Mary Medical Center and David Geffen School of Medicine at UCLA</td>
</tr>
<tr>
<td>Poster #</td>
<td>Poster Title</td>
<td>Authors/Institutions</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>55</td>
<td>Learners’ Perspectives on Effective Mentorship</td>
<td>Christy K. Boscardin, Allison Chen, Mark Lovett, Renee Courey, Louise Aronson</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>University of California, San Francisco</em></td>
</tr>
<tr>
<td>56</td>
<td>Towards an Understanding of How Group Size Affects Learning in PBL</td>
<td>Alan Steinbach, Kevin Mack</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>University of California, San Francisco</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>University of California, Berkeley Joint Medical Program</em></td>
</tr>
<tr>
<td>57</td>
<td>Vertical Learning In Medical School: An MS1 and MS3 Collaborative Session on</td>
<td>Grant Sanders, MSIV; Laura Ireland, MSII;</td>
</tr>
<tr>
<td></td>
<td>Congestive Heart Failure</td>
<td>Mark Dela Cruz, MSII; Leslie Zimmerman, M.D.; Dana Rohde, Ph.D.; Calvin Chou, M.D.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ph.D.; Arianne Teherani, Ph.D.; Ann Poncelet, M.D.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>University of California, San Francisco</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>School</em></td>
</tr>
<tr>
<td>58</td>
<td>Dissemination and Implementation of an Evidence-Based Tobacco Treatment</td>
<td>Alan K. Louie, MD; Sebastien C. Fromont, MD; Karen Suchanek Hudmon, DrPH., RPH;</td>
</tr>
<tr>
<td></td>
<td>Curriculum</td>
<td>Sharon M. Hall, PhD; Judith J. Prochaska, PhD, MPH</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>University of California, San Francisco</em></td>
</tr>
<tr>
<td>59</td>
<td>Cultural Competency Education: Are Positive Results Reproducible in First</td>
<td>Braden Meason, MS4; Paritosh Kaul, MD;</td>
</tr>
<tr>
<td></td>
<td>Year Medical Students?</td>
<td>Gretchen Guiton, PhD</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>University of Colorado Denver Health Sciences Center</em></td>
</tr>
<tr>
<td>60</td>
<td>Creating an Interprofessional Curriculum in Integrative Medicine</td>
<td>Shelley R. Adler, PhD; Yvette Coulter</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>University of California, San Francisco</em></td>
</tr>
<tr>
<td>61</td>
<td>Behavioral Correlates of Exceptional Professionalism Among Clinical Medical</td>
<td>Erika Schilling, MD; Clarence H. Braddock III, MD, MPH; Elizabeth Stuart, MD, MSEd</td>
</tr>
<tr>
<td></td>
<td>Students</td>
<td><em>Stanford University School of Medicine</em></td>
</tr>
<tr>
<td>62</td>
<td>GeriWard: An Interprofessional Team-Based Curriculum on Care of the</td>
<td>Stephanie Rennke, MD; Lynda Mackin, RN, PHD, ANP-BC, CNS; Adam Moylan, PhD;</td>
</tr>
<tr>
<td></td>
<td>Hospitalized Older Adult</td>
<td>Bree Johnston, MD, MPH; Margaret Wallhagen, PhD, APRN, BC, GNP, AGSF; Vicki Jue,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PharmD; Eunice Tam, PharmD; Cindy Lai, MD</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>University of California, San Francisco</em></td>
</tr>
<tr>
<td>63</td>
<td>Moving Beyond Scholarly Concentrations: The UCSF Pathways to Discovery</td>
<td>Louise Aronson, Renee Courey, Carrie Chen,</td>
</tr>
<tr>
<td></td>
<td>Program</td>
<td>Harold Bernstein, Madhavi Dandu, Dan Dohan, Dan Lowenstein, Robert Nussbaum,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>George Sawaya, Christopher Stewart, Naomi Wortis, Josh Adler</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>University of California, San Francisco</em></td>
</tr>
<tr>
<td>64</td>
<td>Implementing SNAPPS: A Learner-Centered Experiential-Learning Tool for</td>
<td>Regina Richter Lagha, MA; Cha Chi Fun, PhD; Art Gomez, MD; Robert Oye, MD;</td>
</tr>
<tr>
<td></td>
<td>Medical Students in the Clinical Setting</td>
<td>LuAnn Wilkerson, EdD</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>David Geffen School of Medicine at UCLA</em></td>
</tr>
<tr>
<td>65</td>
<td>Leveraging a Near Peer Medical Student to Improve Orientation and Training</td>
<td>Amanda Angelotti, MS2; Chandler Mayfield</td>
</tr>
<tr>
<td></td>
<td>on Portfolios and Competency-Based Development</td>
<td><em>University of California, San Francisco</em></td>
</tr>
<tr>
<td></td>
<td>Vaccine Education and Clinical Experience for Medical Students</td>
<td>M.D.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Stanford University School of Medicine</em></td>
</tr>
<tr>
<td>Poster #</td>
<td>Poster Title</td>
<td>Authors/Institutions</td>
</tr>
<tr>
<td>---------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>67</td>
<td>A New Approach to Teaching Evidence Based Practice at a Western US Medical School</td>
<td>Jonatjan Eldredge, PhD; Toby Palley, MD; Ellen Cosgrove, MD; Cynthia Arndell, MD University of New Mexico</td>
</tr>
<tr>
<td>68</td>
<td>Creating a Faculty Development Collection in a Health Sciences Library</td>
<td>Darlene Parker-Kelly, Laurie Richlin, Katherine Russell Charles R. Drew University of Medicine and Science</td>
</tr>
<tr>
<td>69</td>
<td>Clarifying and Adopting Promotion Criteria for Clinician Educators: Blazing the Trail at the University of New Mexico Department of Internal Medicine</td>
<td>Bronwyn Wilson MD, MS Ed University of New Mexico</td>
</tr>
<tr>
<td>70</td>
<td>iPhone Opioid Conversion app - Teaching Medicine Using Mobile Devices in the Course of Patient Care</td>
<td>Chris Marcellino University of California, San Francisco Norris Vivatrat, MD Santa Clara Valley Medical Center</td>
</tr>
<tr>
<td>71</td>
<td>Simulation Training Makes a Mark on Delayed Posttest Results</td>
<td>Omar Darwish DO, MSc; Howard Van Gelder, MD; Nitin Bhasin MD St. Mary Medical Center and David Geffen School of Medicine at UCLA Peregrina Arciaga, MD; Sylvia Merino Charles R. Drew University of Medicine and Science Jasminka Criley, MD, FACP, FHM St. Mary Medical Center, David Geffen School of Medicine at UCLA and Charles R. Drew University of Medicine and Science</td>
</tr>
</tbody>
</table>
Online Final Exams Using Sakai at Stanford University
Jamie Tsui
Stanford University School of Medicine

Introduction
Many universities are looking for efficient ways to run summative evaluations such as final exams. Challenges include
- space needed for 100+ students,
- faculty like short answer/essay questions but the ease of multiple-choice,
- quick turnaround time needed for grading, and
- environment that won't be conducive to cheating.

Objectives
During Fall quarter 2010, Stanford University Simulation & Educational Technology planned a way to meet the challenges listed above. The overarching objective was to ensure that faculty found the exam authoring and scoring process successful and students' performance was not affected by the test-taking environment.

Methods
Staff set up a virtual computer lab by reserving two lecture halls for the week and plugging in 100 laptops. All computers had a “clean image”, were booted up quickly, and logged into the Sakai system using a single command from Apple Remote Desktop. To collect data on the success, staff monitored the Sakai learning management system to see whether there were errors, noted comments from students and staff, and surveyed course directors and administrators afterwards.

Results
During December 2010, five courses held their final exams in the Sakai learning management system (“CourseWork”) at Stanford. There were no lost student scores and no negative feedback from students. 100% of faculty and administrators said they would use this setup for their next online exam.

Discussion
Remote desktop control, imaging, and Sakai learning management system present an efficient way to create a virtual computer lab for online exams. While our setup did not use “lockdown browser”, it is a simple way to provide a suitable level of control over the student testing environment. Since faculty members are already familiar with authoring problem sets and quizzes in Sakai, it is easy for them to create and administer the longer exam in the same environment. Students are also familiar with Sakai from their day-to-day courses.

Target Audience
Faculty and administration who are involved in assessments, instructional technologists and librarians.
New Horizons: Mobile Technology and Collaboration Tools Inspire Medical Students
Jeanne Le Ber, Nancy Lombardo, Todd Vandenbark, Adam Stevenson M.D.
University of Utah

Context
Library and academic faculty collaborate to create an innovative and evolving course during the 3rd year pediatric clinical rotation. Course content includes the use of handheld devices and web-based collaboration tools, while focusing on evidence based medicine and access to information in the clinics. Over a five year period the course has evolved from Palm to iPod touch devices, and from paper, to Google Group to Google Sites for managing and sharing course materials with medical students and distributing assignments.

Objectives
Poster objectives are: to illustrate the successful partnership between librarians and School of Medicine faculty to develop and teach visual, information and technology literacies needed to ensure student success in their medical school careers and beyond; to share course objectives, content and technology; to examine the increasing value of technology to collaborate and access information.

Key Message
The partnership between librarians and faculty takes advantage of the strengths of each, and reduces the workload for all faculty. The students are excited about the handheld technology and acquire experience using mobile and web applications to answer clinical questions that arise during their pediatric rotation. Student literature searching, article evaluation and presentation skills are challenged and strengthened during the 6-week rotation.

Conclusion
As the result of librarian and faculty collaboration, the next generation of physicians is inspired to enhance their knowledge and technology skills though a course that emphasizes mobile technology and web-based collaboration tools.

Target Audience
Educators, faculty, librarians, medical students, administrators

References
Undergraduate Inter-professional Learning through Simulation Crisis Team Training
Sok Ying Liaw, Chiang Siau, Gerald Chua, Piyantee Yobas
National University of Singapore, National University of Singapore Health System

Introduction
Inter-professional collaboration has been identified as an essential means of ensuring safe and effective patient care. Inter-professional training through simulation has shown great promise to prepare future healthcare professionals.¹

Objectives
• To evaluate the outcome of an interprofessional simulation programme
• To identify areas of improvement for the programme

Methods
A three-hour inter-professional simulation program was implemented for the final year medical and nursing students at National University of Singapore. The program was designed to introduce concepts and improve teamwork skills among medical and nursing students during clinical emergencies. An evidence-based teamwork curriculum, TeamSTEPPS (Strategies and Tools to Enhance Performance and Patient Safety), was incorporated into the simulation-based course to develop the students’ teamwork skills in crisis management. The students underwent a series of structured crisis scenarios (Fig. 1) and post-scenario debriefing sessions (Fig 2). Pretest-posttest design using questionnaire surveys on teamwork attitudes were administered to both medical and nursing students before and after the program.

Results
Both medical (n = 32) and nursing students (n = 18) demonstrated a significant higher (t =18.63, p < 0.0001) post-test mean score (M =35.86; SD = 3.87) than pre-test mean score (M = 27.34; SD: 3.05) for the overall teamwork attitudes. Themes for improvement of future implementation were identified from the qualitative data. These include earlier introduction of such a course and additional sessions in the medical and nursing curricula.

Discussion
Simulation is a useful tool to provide interprofessional learning experiences for both medical and nursing students to develop teamwork skills in a safe environment.

Target Audience
Medical and nursing educators

References
Bringing Faculty Development to the Community: Giving Back to the Community-Based Faculty
Victoria Ruddick, Patricia O’Sullivan, EdD
UCSF School of Medicine

Context
Despite LCME’s expectation of faculty development (FD) for community-based faculty (CBF), many schools struggle to provide it. Because we rely on CBF to teach and inspire the next generation of physicians, our school has evolved strategies to provide “benefits” to the CBF.

Objectives
Our community-based FD program provides
1. relevant workshops at convenient times,
2. online resources, and
3. planning and self-assessment tools.

Key Message
Our success lies in what we offer: (1) coordination with community sites’ educational leaders to select appropriate topics; (2) face-to-face workshops by education experts to build relationships with and among CBF; (3) advance notice; (4) free CME credit. Our topic-based self-assessment tools let CBFs gather feedback from learners on the effectiveness of new skills. Our website with workshop materials also invites CBF to participate in a discussion forum.

We offer 8-10 workshops/year at 9 community sites 15 to 200 miles from campus. Sessions average 16 participants with an overall rating of 4.6 (±.6) out of 5.0. Participation in online discussions is low, but 36 faculty accessed online resources. We had 12 requests for participation credit, and 1 request for credit for preparing the workshop.

Barriers include: establishing partnerships at community sites; getting the word out to CBF in an era of e-mail overload; logistical glitches; and presenter travel time.

Conclusion
Our cost effective, multi-pronged approach meets the FD needs of CBF close to their workplace. We could enhance our success with face-to-face meetings between development teams from UCSF and the community sites.

Target Audience
Faculty

References
1. Functions and Structure of a Medical School: Standards for Accreditation of Medical Education Programs Leading to the M.D. Degree  http://www.lcme.org/functions2010jun.pdf See FA-4, p. 23; FA-11, p.24; ED-8, p. 8;
Society for Women in Academic Psychiatry: A Department’s Efforts to Grow Its Women Faculty
Andreea L Seritan, Jessica Ferranti
University of California, Davis

Introduction
Among faculty with children, women have greater obstacles to academic careers, fewer publications, less institutional support, slower self-perceived career progress, and overall lower career satisfaction than men. Despite efforts to increase recruitment and retention of women in academia, a gender gap still exists in leadership appointments and academic productivity.

Objectives
To improve recruitment and retention of women faculty PhDs and MDs in the department.

Methods
A departmental women’s faculty development/peer mentoring group was formed in May 2005. Methods included monitoring of department demographics, periodic meetings, presentations, annual grand rounds by invited speakers, social events with trainees, and collaborative projects.

Results
Over 2005-10, the percentage of women MDs in the department increased from 15% to 22%, at its lowest 13% (2007), compared to national average in academic psychiatry departments (34%, 2009). The percentage of women PhDs grew from 56% to 71%, consistently higher than national average (53%, 2009). Five MD graduates of the residency program and 5 graduates of the Psychology postdoctoral program joined the faculty. Scholarly products consisted of 2 papers, 4 posters, an award-winning PGY4 resident Gender and sexuality curriculum, and 8 workshops/media presentations.

Discussion
SWAP has a positive impact on recruitment and retention of women faculty in the department and women’s academic productivity.

Target Audience
Faculty, department chairs, medical students, residents.

References
Students’ Attitudes Regarding Professionalism in Medical Education: A Survey
Andreea L. Seritan, Alyn Kelley, Omar Washington, Ana-Maria Iosif
University of California, Davis

Introduction
Professionalism definitions vary and may be subject to generational differences. Effective professionalism teaching modalities still need to be established. Factors contributing to professionalism lapses in medical students are multidimensional, including poor role modeling by faculty and student burnout. Better understanding of these factors is necessary in order to provide a healthy unbiased learning climate.

Objectives
To explore (1) effective strategies and attitudes toward professionalism teaching during medical school and (2) professional and unprofessional behavior among students, faculty, and staff.

Methods
An anonymous survey was administered to all 300 students enrolled in years 2-4 at the UC Davis School of Medicine in August-November 2010, via www.surveymonkey.com. Participation was voluntary. Descriptive statistics and qualitative analysis of themes were utilized to summarize the data.

Results
114 students participated (66% women, 55% Caucasian). Response rate was 34%. The most effective strategies for professionalism teaching were faculty role models (87%), peer role models (61%), and small group teaching (46%). 50 (44%) respondents reported having witnessed unfair treatment/unprofessional behavior among faculty and staff; of those, 28 (61%) felt their grades were negatively affected as a result. Non-Caucasian students reported significantly more unprofessional behavior among staff and faculty than Caucasian students ($p = 0.03$).

Discussion
Further exploration of factors underlying professionalism lapses among students, faculty, residents, and staff will help optimize the learning climate.

Target Audience
Faculty, medical school administrators, students, residents, and staff.

References
Potential Impact of NIH Public Access Policy on Research Use, Interests, and Barriers
Jamie O’Keeffe, Ed.M., Stanford University School of Education; John Willinsky, Ph.D., Stanford University School of Education; Lauren Maggio, MS(LIS), Stanford University School of Medicine

Introduction
In 2009, the National Institutes of Health (NIH) Public Access Policy (http://publicaccess.nih.gov/policy.htm) mandated open access to all research publications resulting from NIH funding within a year of publication through deposit in PubMed Central. This increased access has potential to contribute to Evidence Based Medicine (EBM) and lifelong learning among health-care providers.

Objectives
This study sought to establish baseline measures of current research use, interest, and barriers among health care providers, to be able to assess, and potentially enhance, the forthcoming increase in research available through this new policy.

Methods
In Fall 2010, ten interviews and 90 surveys were conducted at a community-based clinic and an independent teaching hospital on frequency of consulting research, motivation for consulting research, resources used to locate articles, perceived level of access to research, and knowledge of the NIH Policy.

Results
Results indicate that weekly 32% and monthly 33% of providers report consulting research articles. Google or Wikipedia (67%), UpToDate (45%), institutional subscriptions (32%), such as MDConsult, and PubMed/Medline (27%) were used most frequently on a weekly basis. Finally, 32% of providers report their access to research as “poor” or “very poor,” and only 28% of providers report awareness of the Policy.

Discussion
These findings indicate significant levels of interest in research, an array of difficulties accessing research, and a lack of knowledge of NIH policy. These results have implications for EBM and medical education, related to ensuring effective utilization of publicly available NIH research among health care providers.

Target Audience
Medical educators and librarians.
Evidence-Based Practice (EBP) Interactive Storyboard Tutorial for Medical Students and Allied Health Professions: An Innovative Approach
Linda Suk-Ling Murphy, MLIS; Stephen L. Clancy, MLS, Cathy Palmer, MLS
University of California, Irvine Libraries

Introduction
The development of an interactive web-based tutorial that introduces learners to the basis of evidence-based practice (EBP) and that may assist in the use and application of scientific evidence in clinical practice is described.

Objectives
The tutorial was designed to reduce in-class instruction by giving students an opportunity to review the EBP process at their own convenience prior to in-class instruction.

Methods
Using an innovative storyboard approach, the tutorial includes interactivity, graphics, self assessment and voice-over narration to engage students. The tutorial (http://www.lib.uci.edu/how/tutorials/EvidenceBasedPractice/) is structured around an illustrative pediatric case scenario on Otitis Media. The case actively guides learners through the EBP process: constructing a focused clinical question in therapy, researching articles in PubMed, finding the evidence from a selected Randomized Controlled Trial, and briefly appraising the evidence to determine if the selected study is relevant to the question.

Results
Limited classroom time is allowed for EBP instruction in the undergraduate medical education curriculum. This tutorial is an innovative method to offer instruction outside the classroom. It provides a resource that can be assigned or reviewed throughout the medical education programs and promotes lifelong learning in medical information literacy.

Discussion
Our poster illustrates the development of the tutorial as a result of a collaborative effort between the UC Irvine Libraries and the campus Distance Learning Center (DLC). It explains our experience from working with the DLC’s designer and what we have learned throughout the project. Examples from the tutorial and suggestions for future tutorial designs are also included.

Target Audience
Medical students
The UCSF Geriatric Community Resources Clinical Algorithm and Guide
Christopher A. Bautista, Louise Aronson
University of California, San Francisco

Introduction
Roughly half of current physician visits in many specialties are from patients >65 years old, and the population aged >60 is expected to double by 2050. As states increasingly cut services keeping elderly patients healthy and independent, it is essential that healthcare providers to be aware of, refer to, and lobby for these vital geriatric community resources.

Objectives
To develop a tool that gives providers a practical conceptual framework for approaching the varied resources necessary to keep elderly patients healthy and independent in the community.

Methods
Following a literature review, internet searches and interprofessional expert focus groups, we developed an algorithm and related guide detailing services, eligibility, coverage and cost, provider role and local contacts. Validity was established through surveys and feedback from interprofessional national leaders in Geriatrics and local community providers. Case-based pre/post-tests with medical students and residents were used to evaluate the educational utility of the tool.

Results
58% (37/64) of survey respondents said that they were “somewhat likely” or “very likely” to use these tools in their clinical practice and teaching. 63% (26/41) of learners “agreed” or “strongly agreed” that the tools made them more comfortable referring elderly patients to community resources. 64% (9/14) of medical students and 90% (4/5) of residents who completed the pre/post-test scored higher after brief training with the tools.

Discussion
The UCSF Geriatric Community Resources Clinical Algorithm and Guide provide a validated and educationally effective framework to help clinicians appropriately refer elderly patients to vital community services.

Target Audience
Interprofessional medical educators and learners.
DM, HTN, CHF: Developing a Chronic Care Cohort Helps Students Move Beyond Acronyms to a More Meaningful Role in Chronic Illness Care
Margo Vener, MD, Nili Somavilla MS 3, Kate Chomsky-Higgins MS 3, Ben Howell MS 3, Nicole Gomez MS 3, and Margaret Wheeler, MD
University of California, San Francisco

Introduction
To care for an aging population, future physicians need skills to optimize chronic illness management (1,2). We designed an innovative curriculum to improve 3rd-year students’ ability to provide chronic illness care. Students developed their own panel of chronically ill patients. Over six months, they performed structured visits emphasizing understanding the patient’s goals, self-management, education, and prevention.

Objectives
We evaluated whether our curriculum improved (1) students’ understanding of chronic illness and management and/or (2) clinical outcomes for chronically ill patients.

Methods
Using student reports, we tracked patient metrics (blood pressure, glucose, etc) and behavior changes (starting exercise, etc). We also followed patient educational outcomes. We assessed the educational impact to medical students through Likkert surveys and focus groups.

Results
While the average patient did not show significant change in blood pressure, etc, selected patients demonstrated very impressive changes (eg: 20 lb intentional weight loss). Both students and patients found these changes highly inspirational. Students also reported greater appreciation of: 1) the ups and downs of chronic illness management; 2) the importance of continuity; 3) the value and challenge of patient education and prevention 4) the need not to stereotype patients 5) the importance of follow up outside office visits 6) the importance of hope.

Discussion
Although chronic care was not optimized for all participating patients, helping even one patient in their panel make substantial health gains had marked impact on students’ understanding of chronic illness and their belief that they could improve health outcomes their patients.

Target Audience
Students, Faculty

References
Using Virtual Patient Examinations to Improve Cardiac Examination Competency of Medical Faculty and Residents: The Positive Effect of a One-time Skill Development Workshop

Jasminka Criley, MD, FACP. St. Mary Medical Center, Long Beach, CA and David Geffen School of Medicine at UCLA; Adeline Yang, BS. St. Mary Medical Center and UCLA School of Engineering, Los Angeles, CA; Cynthia Kreger, MD, The Ohio State University College of Medicine, Columbus, OH

Introduction
Cardiac Examination (CE) skills of IM faculty are in decline (1-2). This decline has been linked to inadequate exposure to the spectrum of cardiac conditions, shortened patient encounters, erosion of protected teaching time for faculty and a “depopulation of good teaching cases” in the hospital (1-4). Virtual Patient Examinations (VPEs) have the ability to bridge these gaps by providing multisensory, interactive case studies, thus emulating bedside examination (5). Previous studies demonstrated that VPEs improve CE skills in medical students (3) and residents (4) via classroom or online instruction.

Objective
To evaluate impact of a VPE workshop on CE skills, self reported change in interest, confidence, and CE teaching ability in internal medicine faculty and residents.

Methods
Thirteen faculty and 22 residents participated in a 4 hour VPE skill based workshop. In addition to an exit survey, a 25 item version of a previously validated 50 item pre and post test was used to assess knowledge of cardiac anatomy and pathophysiology, visual, auditory and integration skill. A two-tailed t-test was used to compare pre- and post-test scores.

Results
Overall CE skill competency significantly (p<0.001) improved from 53±21% (n=24) to 71±17% (n=35). All subcategories improved: knowledge (p<0.04), audio (p<0.006), visual (p<0.01) and integration (p<0.05). Residents scored lower than faculty in pre-test overall score (49 vs.58%), audio (67 vs.75%) and visual (50 vs.68%) skills. An increase in teaching ability, interest, and confidence in CE skills was reported in 94% of participants.

Discussion
One 4-hour-CE Workshop, using VPEs, significantly improved self reported CE confidence as well as overall CE scores, knowledge, audio, visual and integration skills of medicine faculty and residents.

Target Audience
WGEA. Medical faculty and residents

References
Professionalism Challenges in Clinic – Student Perspectives
Nina Patel, Sarah Jane Selig, Kierann Smith, Erika Schillinger
Stanford University School of Medicine

Introduction
Professionalism challenges for medical students are a salient theme in medical education. There is a relative paucity of information regarding the student experience of professionalism challenges in outpatient clinics; specific descriptions of those challenges are elusive.

Objectives
To investigate whether different students experience similar types of challenges to professionalism in the outpatient clinics and characterize the dominant themes in their experiences.

Methods
During the month-long outpatient Family Medicine Core Clerkship at our institution, all students complete patient logs. Students are required to log one patient encounter in which they experienced “a professionalism challenge or improvement opportunity.” 125 free text student responses from 120 students were analyzed thematically and are described in this poster.

Results
Themes that emerged included: professional identity (29% of responses), verbal communication challenges (28%), managing relationships (23%), issues of respect (18%), medical agenda vs. patient agenda (17%), and systems issues (13%).

Discussion
These data provide insight into students’ definitions of professionalism. Challenges identified by students lend themselves to potential curricular interventions at the preclerkship and clerkship levels: during courses geared toward preparation for clerkships, standardized patient modules, web-based cases, and during reflection activities.

Target Audience
Clinical educators, students, teaching faculty, staff.

References
Development and Implementation of a Confidence Scale to Assess Change after Multidisciplinary Team Training in Geriatric Care
Babbi J. Winegarden, Ph.D.¹, Ruth M. Covell, M.D.¹, and Dale Glaser, Ph.D.²
¹University of California San Diego, School of Medicine, ²Glaser Consulting & San Diego State University

Introduction
Improving student’s confidence when working with the elderly is critical if we are to be able to meet future health care needs. We engaged in interdisciplinary training with students from medicine, nursing, social work and pharmacy and assessed confidence in working with the elderly population pre- and post-training.

Objectives
One of our primary goals was to improve student’s confidence in working with the elderly population. If we were successful in our training, we hypothesized that our measure of confidence would show improved scores over time.

Methods
A confidence scale was developed using eight items pertaining to communication, knowledge, psychosocial issues, coordination of care, patient empowerment, service networks, and laws and ethics when working with the elderly population. Cronbach’s alpha was computed to determine the internal reliability of this scale. A pre-post repeated measures analysis was then performed to determine whether the scores on this assessment changed significantly pre- and post-training.

Results
Twenty-two students completed the pre- and post-confidence assessment. Cronbach’s alpha was .863 at pretest and .782 at posttest. We obtained means of 17.32 ($SD = 3.01$) on the pretest and 22.27 ($SD = 2.86$) on the posttest. The pre-post repeated measures analysis was significant: $F(1, 21) = 24.08, p = .0007 (\eta^2 = .534)$.

Discussion
Improving students confidence in working with elderly patients is one step in improving future care for the elderly. Our confidence scale showed good internal reliability and improvement in scores after training. More validity evidence is needed for our confidence construct.

Acknowledgements
This project was supported by a grant from the Bureau of Health Professions (BHPr), Health Resources and Services Administration (HRSA), Department of Health and Human Services (DHHS) under grant numbers: ¹D31 HP08842-01 (02, 03) -00. Additional support was from the Alliance Health Care Foundation and the California Endowment. Project support was also provided by the University of California’s Academic Geriatric Resource Program at the San Diego campus.

Incorporating Clinical Research into the Third Year Medical Clerkship: A Valuable Experience or Mission Impossible?
Margaret Wheeler, Julia Bruckner, Mara Horwitz, Claire Lande, Anna Loeb, Andrea Lopez, Aimee Sato, Nili Sommovilla, Michael Wahl, Margo Vener, Hilary Seligman
University of California, San Francisco

Introduction
Participating in clinical research as part of a clinical clerkship may enhance the students’ appreciation of the role of research in clinical care and heighten their awareness of a particular clinical issue.

Objectives
Explore one model of exposing third-year medical students to clinical research during their medicine clerkship.

Methods
Medical students rotating on the inpatient medicine service gathered data on inpatients for two studies. With the supervision of a research mentor for one study, the students took primary responsibility designing a study surveying inpatients about their access to food. The second study was a survey of basic demographic and risk factor data to assess the prevalence of hospital acquired infections. Here the student role was limited to data collection. We assessed the satisfaction of both students and researchers with their participation in the studies.

Results
Research mentors found the experience “very rewarding”, “easy” and felt that study results were “very important.” Students in both studies found participating heightened their awareness of the study subject. Student in the food insecurity group were more likely to find participation meaningful, and reflect on research as a tool for advocacy. In neither group did the majority of students feel the experience made them more likely to do research.

Discussion
Administering surveys or collecting data on a single day is an easy way to involve students in research. Students learn more about the study subject than they do about research. Students value involvement in the study design.

Target Audience Medical Educators and Researchers

References


Seligman, Hilary, Laraia, Barbara, Kushel, Margot. Food Insecurity Is Associated with Chronic Disease among Low-Income NHANES Participants. J Nutr 2010;140:304-10
Challenges of clinical problem-based learning (PBL): Refining a pilot curriculum of pre-clerkship student-directed PBL using real patients
Wilson, DW/UCSF; Gartlin, AB/UCB-UCSF Joint Medical Program; Baudendistel, TE/Kaiser Permanente, Oakland; Anderson, E/Kaiser Permanente, Oakland; Azzam, AN/UCB-UCSF Joint Medical Program

Context
Early integration of clinical and basic science in medical education has recently been advocated.1 Real cases may be superior to paper cases in pre-clerkship problem-based learning (PBL) for knowledge retention and development of clinical reasoning.2,3,4 Previously, with 16 PBL-experienced second-year medical students, we piloted a one-week clinical immersion experience blending clinical experience with student-directed PBL. Students’ learning objects covered clinical, basic science, and social science topics, but students viewed clinical PBL as less effective for knowledge acquisition. They noted insights into roles, relationships, and systems in the clinical context, but many found the emotional impact overwhelming.

Objectives
Broadly, we hope to integrate and contextualize basic and clinical science acquisition through clinical PBL in pre-clerkship medical education. In this second iteration, we have refined the structure to improve medical knowledge acquisition and provide appropriate emotional support.

Key Message
In February 2011, we conducted our second inpatient immersion experience for PBL-experienced second-year medical students. Like the pilot, students participated on clinical teams and presented cases to each other. However, to allow in-depth inquiry, we decreased the number of students per group from eight to four and restricted that learning objects derive from a single case. A psychiatrist was available to help students process their experiences. Evaluation of the program will include student satisfaction, added value of real-patient cases, emotional impact, depth and breadth of learning objects, and impact on clinicians. Analysis of data will be completed prior to the WGEA.

Conclusion
We propose and evaluate an innovation of clinical PBL for pre-clerkship students. If successful, it could serve as a model for integrating formal learning with clinical experiences.

Target Audience
Curriculum developers

References
2. Bell et al. When only the real thing will do: junior medical students’ learning from real patients. Medical Education (2009) vol. 43 (11) pp. 1036-43
Educating the Next Generation of Leaders in Medicine
Matthew J. Goldstein, Robin Eisenhut, Barnard Palmer, Tiffany Castillo, Kambria Hooper, Takudzwa Shumba, Vitelio Rodriguez, Julia Tussing, Lauren Maggio, and Charles Prober

Introduction
A literature review reveals that leadership development is absent in medical education. Yet, the need for physician leaders capable of tackling complex medical problems has never been greater (Bryman, 2004). To satisfy this gap Stanford medical students and faculty partnered with the Graduate School of Business to design and implement the Stanford Medical Leadership Development Program (SMLDP). This curriculum strove to introduce medical students to leadership fundamentals and develop the next generation of diverse medical leaders.

Objectives and Methods
Over three years the SMLDP has enrolled 45 students. Currently this year’s cohort includes 15 first, second, and third-year students who participate in a curriculum of interactive lectures and hands-on exercises, which are reinforced by a robust multi-disciplinary bibliography. The curriculum addresses defining leadership, self-knowledge, communication and emotional intelligence, conflict management, influence, and teamwork. Leadership as a skill set available to every student is emphasized and students are encouraged to develop their own leadership strengths.

Results and Discussion
At the conclusion of this year’s program, students completed a validated retrospective-post analysis to evaluate their development. Medical students not enrolled in the program served as a control group. Preliminary data shows positive trends. Enrolled students improved their ability to give constructive feedback, undertake realistic self-assessment, and deeply understand their strengths, weaknesses, needs, and drives. Future directions include measuring the course’s long-term impact and enrolling more students. The understanding that leadership is a skill that can be learned and honed is a powerful realization that when discovered early in medical training can have long-lasting effects.

References
Academic Abilities and Perceptions: Differences between Third and Fourth-Year Medical Students during the Radiology Clerkship
Rebecca Levin-Epstein, B.A., Ariel E. Hirsch, M.D.
Boston University School of Medicine

Introduction
The Radiology clerkship at our institution was previously offered exclusively to fourth-year students, and recently opened to third-years. Studies suggest there may be differences in emotional preparedness between academic years. Our IRB-approved study compares third and fourth-year students’ academic abilities and perceptions of a didactic session.

Objectives
To evaluate whether these students are equally prepared to learn radiology-related topics.

Methods
55 third-year and 84 fourth-year medical students attended a 1.5-hour radiation oncology lecture during the radiology clerkship. Immediately following the lecture, students completed a Likert-scale survey, rating their perceptions of the field, lecture, and professor. Students also completed an oncology quiz before and after their clerkship. Quiz scores and survey responses were analyzed for differences between academic years.

Results
Third-year students more frequently reported that the lecture content was too difficult (p=0.009) and that they received inadequate preclinical cancer education (p=0.037). Third-years found the professor significantly less knowledgeable (p=0.017), assertive (p=0.028), organized and clear (p=0.026), and overall very good (p=0.011), and were significantly less motivated to pursue radiation oncology (p=0.031). Third and fourth-years did not significantly differ on pre-clerkship or post-clerkship quiz performance (p=0.827 and p=0.413, respectively).

Discussion
Third and fourth-year students demonstrated equivalent subject mastery, yet third-years reported greater difficulty. Third-years had markedly less favorable perceptions of the professor and were less motivated to pursue the field. Further analysis may elucidate whether discrepancies in emotional state explain these results and whether lower reported motivation to pursue radiation oncology translates to actual career choices.

Target Audience
UME clinical educators.

References

Newton, B.W., Barber, L., Clardy, J., Cleveland, E., & O’Sullivan, P. (2008). Is there hardening of the heart during medical school? Academic Medicine, 83, 244-249.
Recruiting for Rural Areas during Undergraduate Years
Amy Clithero, MBA, Summers Kalishman, PhD, Judith Kitzes, MD, MPH, Valerie Romero-Leggott, MD, Robert Sapien, MD, Brian Solan, MD, MPH, Lana Wagner, MD, Sharon Wayne, MPH
University of New Mexico Health Sciences Center

Introduction
The combined BA/MD degree program at the University of New Mexico is an eight-year program resulting in both a Bachelor of Arts and a Medical Degree. It is designed to help address New Mexico’s physician shortage by selecting a diverse group of high school seniors who are committed to practice in New Mexico’s communities of greatest need.¹

Objectives
For students to
• learn about the roles of health professionals and teams,
• explore community health issues, and
• gain an appreciation for health care practices.

Methods
The Summer Practicum is a one month service-learning experience that occurs at the end of the second year. Under the guidance of community preceptors, community coordinators and UNM faculty, students examine community health issues from a variety of perspectives; conduct literature reviews, have conversations with community leaders and residents, and observe health professionals in action by shadowing a local physician as well as designing and implementing a community project.

Results
Post practicum survey results indicate strong agreement with statements such as “my ability to look at community health issues improved during the practicum.” Pre and post practicum surveys of skills show improvement in post practicum mean scores.

Key Message
By emphasizing the social determinants of health and the importance of integrating public health into medical practice students can begin to appreciate their role as future stewards of their patient’s and communities health.

Conclusion
Enhancing students’ knowledge and understanding of health issues and healthcare practice in rural and underserved communities may increase the likelihood of future practice in these areas.

Target Audience
Undergraduate medical educators and medical school curriculum advisors

References
**Spirituality in Medicine: A Longitudinal, Experiential Fourth Year Elective**
Robbyn L. Tolles, M.A.T., University of Nevada School of Medicine

**Context**
This elective addresses a critical portion of the bio-psycho-social-spiritual (BPSS) model of comprehensive patient care. It strives to inspire students to learn how spiritual discussion may be readily included as a standard part of excellent care.

**Objectives**
1. To present a format for a successful learning experience in which students interact with patients and resources in order to understand the nature and importance of the linkage between medical care and personal spiritual and religious beliefs in medical decision making.
2. To present examples of students’ learning through their insights, vignettes, and projects that they completed.

**Key Message**
The literature reports that one of the reasons that physicians do not ask patients information about their spiritual beliefs is a lack of comfort with the subject. This elective endeavors to overcome this barrier. It has five parts:
1. students explore their own beliefs,
2. resources are provided on types of questions to ask patients,
3. students learn to recognize when patient actions are rooted in spiritual or religious issues,
4. students practice taking spiritual histories, and
5. students can explore their personal interests through a range of projects that center on spirituality.

**Conclusion**
This elective offers students the opportunity to practice 1) interacting with patients and their spiritual concerns and 2) recognizing the underlying beliefs upon which patients often make decisions about their adherence to a medical treatment plan.

**Target Audience**
Electives Coordinators, Teaching Faculty

**References**
Physical Examination Teaching: A Systematic Review of the Literature
Somnath Mookherjee, Lara Pheatt, Calvin Chou

Introduction
Physicians must demonstrate competence in the “synthesis” of PE data to make optimal patient care decisions. Recent reports have bemoaned the inadequacy of the PE skills of physicians. Therefore, PE education needs improvement, but the most effective teaching methods are unknown.

Objectives
To review PE teaching methods studied in the literature, summarize findings, and suggest best practices.

Methods
We included all publications of PE teaching published from 1951-2011 that studied the effects of a curricular intervention and reported on teaching efficacy. Data extracted included organ system targeted, study design, types of curricula, measurements of efficacy, and domains of PE learning (psychomotor skills, knowledge, communication, and “synthesis” of data into clinical application).

Results
121 of 3665 papers retrieved met inclusion criteria. 55% included control groups. Common categories of interventions included simulation with standardized patients (SPs), simulation of aspects of PE (such as recordings of heart sounds), bedside teaching, and peer examination or tutoring. Common assessment methods included checklists with observed structured clinical examinations, written tests, surveys of learner satisfaction and self-assessed competence. Psychomotor skills and knowledge acquisition were the most common competencies targeted; seventeen papers (14%) were judged to teach PE in the “synthesis” realm.

Discussion
Despite the growing importance of this competency, we found few curricula that taught PE “synthesis.” Heterogeneity in interventions and outcome measurements impedes identification of the most effective teaching methods. Higher quality studies of PE teaching, particularly in “synthesis”, will allow for better identification of best practices in this area.

Target Audience
WGEA
Longitudinal Interprofessional Curriculum Well Received by First-Year Health Professions Students
Jennifer Staves, MS3; Alexandria Cerri; Susan Hyde, DDS, MPH, PhD; Brian Alldredge, PharmD; Sharon Youmans, PharmD; Jeff Kilmer, MA; Dorothy Perry, PhD; Helen Loeser, MD, MSc; Kimberly Topp, PhD, PT; and H. Carrie Chen, MD, MSEd
University of California San Francisco

Introduction
Promoting interprofessional education (IPE) early in the training of health professions students can help lay strong foundations for effective teamwork in their future careers. Currently there are few reports of IPE initiatives that focus on pre-clinical students.

Objectives
To describe and evaluate a novel interprofessional curriculum for first-year dentistry, medicine, nursing, pharmacy, and physical therapy students.

Methods
We implemented a required year-long curriculum for all first-year health professions students. The curriculum included 2 half-day events (“IPE Days 1 & 2”) during which students collaborated in interprofessional teams of 9-10 students to address healthcare disparities and team communication challenges. Student teams also discussed “Questions of the Month” throughout the year via an online forum. Program evaluation included student satisfaction surveys of each IPE Day, and quantitative and qualitative assessment of the online discussions.

Results
477 students participated in the curriculum. Students rated both IPE Days 1 and 2 as effective (Day 1=4.06, Day 2=3.92, on a 5-point Likert scale) and relevant to their education (4.30, 4.06). Student response rate to the online questions decreased from 83% to 26% over the year. Pharmacy students had the highest online participation rate (92% responded at least once) and nursing the lowest (81%, p=0.02). Major discussion themes are summarized and presented.

Discussion
We successfully implemented a novel interprofessional curriculum which was well received by first-year health professions students. However, student use of the online forums declined over time, suggesting the need for further curricular refinements to sustain participation.

Target Audience
Health professions educators
Medical Students of Today, Clinical Investigators of Tomorrow: How Practical Is It?
Shahrzad Bazargan-Hejazi, PhD, Daphne Calmes, MD
Charles Drew University/David Geffen School of Medicine, UCLA

Introduction
In the age of information technology, computerized and codify diagnostic and treatment algorithms, analytical thinking has become an important skill in making independent medical decision making. Charles R. Drew University of Medicine and Science Medical Education program is committed to train excellent physicians by means of providing excellent clinical, research, and practical training for individuals interested in serving urban, medically disadvantaged populations. Enrolled students are required to complete a supervised but independent Research Thesis during the 3rd and 4th year of their curriculum. Objective To engage medical students (MS) in systematic acquisition, organization, analysis, and interpretation of information to develop new knowledge, attitude, and skills essential for becoming excellent physicians, providing excellent medical care, and becoming leaders in their fields.

Methods
The program is implemented by providing: I) didactic lecture series, II) dedicated block of time for research, and III) mentored research practicum, and is evaluating by three-stage triangulation approach using rubrics to evaluate MS research activities, as well as qualitative, and quantitative methods of collecting program-related data.

Results
Data from class of 2010 (n = 16) showed that over 70% of the MS reported a great deal of improvement in their ability to (a) access peer-reviewed literature, (b) differentiate scholarly documents from other types, (c) compare and evaluate the quality of journal articles, (d) practice evidence based decision-making, and (e) gain competence in scholarly writing, and participating in research dialogues.

Discussion/Conclusion
Systematic engagement of MSs in research-led, research-oriented, research-based, or research tutored methods can increase their interest and chance of becoming clinical investigators of the future.

Target Audience
Faculty, residents, medical students, Administrators

Reference:
1-2
Ultrasound in Medical Education  
Shahram Lotfipour, MD, J. Christian Fox, MD, Graciela Maldonado, BS, Craig L. Anderson Ph.D.

Introduction  
While there is ample research on the best approach to resident training in bedside ultrasound (BUS), little has been reported on medical student ultrasound.

Objectives  
To establish baseline knowledge and compare the progress of first and second year medical students’ (MS1 and MS2) in Ultrasound in Medical Education (USMedEd) our institution.

Methods  
MS2s received 10 hrs of BUS training with little hands-on experience in the 2009-2010 school year. In August 2010, before any USMedEd training began, MS1 and MS2 BUS knowledge was assessed. Students completed written and hands-on practical pre-tests. Topics covered included ultrasound physics, knobology, anatomical scanning planes, artifacts, window acquisition, optimization, and interpretation. USMedEd curriculum is designed to teach these subjects with extensive didactic and hands-on instruction. Both groups complete written exams after all training sessions.

Results  
MS1 mean scores for written/practical pre-tests were <35%,<8% respectively, <44%,<13% for MS2s. After 6-8 hours of training over the 6 months, skills of both groups were. The mean scores for MS2s increased to 75% while the mean, median, and mode of the MS1s reached 63%, 68%, 74% respectively.

Discussion  
The initial results demonstrate that previous MS2’s BUS training was insufficient and their 31% improvement could be attributed to their completion of Anatomy and Physiology in Spring 2010, which current MS1s have not. We propose that by Spring 2011 USMedEd will 1. Enhance understanding of clinical relevancy of history and physical and 2. Improve scores in medical school examinations for both groups when compared to their counterparts who did not participate in the BUS Curriculum.

Target Audience  
WGEA
Approaches to learning of first year medical students at the Keck School of Medicine of University Southern California
Eun-Kyung Chung¹, Win May², Donna Elliot²
Department of Medical Education, Chonnam National University Medical School¹
Keck School of Medicine of University Southern California²

Introduction
Earlier studies have shown that medical students have been found to have less than desirable approaches to learning.¹ Students’ approaches to learning should be determined in order to help them improve their approaches and enrich their learning experience.

Objectives
This study aimed to determine the learning approaches of medical students when they enter the Keck School of Medicine of University of Southern California.

Methods
The 2007/08 cohort of first-year medical students completed the questionnaires at the beginning of their first term. The questionnaires used in this study were the short version of the Approaches and Study Skills Inventory for Students (ASSIST)² and Index of Learning Styles (ILS)³. The ASSIST scores were aggregated for the three main scales: deep, strategic, and surface apathetic. The ILS assesses preferences on four dimensions: active/reflective, sensing/intuitive, visual/verbal, and sequential/global.

Results
From the ASSIST scores, we found that first year medical students for the most part used the deep and strategic approaches. The ILS showed that first year medical students’ approaches to learning were active, sensing, visual and sequential.

Discussion
This study showed the base-line of the approaches to learning used by medical students when they first enter medical school. These students will be followed up at the beginning of the fourth year of medical school, to determine whether there are any changes in their approaches to learning.

Target Audience
Medical faculty and students

References
1. Newble, DJ & Godon MI. The learning style of medical students. Medical Education, 22: 518-526
2. Entwistle NJ. Approaches to study skills inventory for students. Enhancing teaching and learning project. Available at: http://www.ed.ac.uk/etl/publications.html#measurement.
Introducing study skills and strategies to support success on USMLE Step 1 in the first two years of medical school
Arnold JC, Orsini LH., The University of Arizona College of Medicine, Tucson

Context
ArizonaMed is an integrated organ systems-based curriculum. Students have expressed the need for structured opportunities to review block content, integrate disciplines and apply key concepts in order to promote success on Step 1.

Objectives
The Preparing ArizonaMed Students for Success on Step 1 (PASS Step 1) curriculum was created to introduce sophisticated learning strategies that support in-depth understanding of key concepts, integration across multiple disciplines and application of knowledge in novel contexts. It is a two-year longitudinal skill-building curriculum designed to familiarize students with the structure and content of Step 1, help them acquire strategies and learning skills that will allow flexible application of knowledge, and facilitate success on Step 1. Year 1 of PASS Step 1 focuses on the development of effective learning strategies in the context of blocks. Year 2 of PASS Step 1 helps students refine strategies, skills and approaches in the context of Step 1 review. Cumulative exams are administered at the end of each year to help assess student performance, content retention and skill application.

Key Message
Utilizing curricular content as a vehicle provides students opportunities to increase success in basic science coursework while refining cognitive skills essential for high stakes examinations.

Conclusion
PASS Step 1 has allowed students to recognize, develop and refine their study approaches and strategies for high stakes exams.

Target Audience
Medical educators and students.

References
Thadani RA, Swanson DB, Galbraith RM. A preliminary analysis of different approaches to preparing for the USMLE Step 1. Acad Med. 2000;75(10 suppl); S40-S42.
Student Perceptions of an Integrated Curriculum: The Merging of Anatomy and Problem-Based Learning
Tatum Langford Korin, M. Elena Stark and Jonathan J. Wisco
David Geffen School of Medicine at UCLA

Context
A hybrid curriculum consisting of PBL, small group learning, didactics and laboratory activities often lack pragmatic continuity of educational experiences. Although a common weekly theme may exist, deliberate associations among curricular activities are not always made or apparent to students. Establishing meaningful connections between distinct subjects or ideas can lead to positive transfer of skills and reinforce learning (Schunk, 1996b).

Eight out of 16 weeks in two first year courses include anatomy lab activities. For five of the eight anatomy labs, students received one or more questions asking them to bridge the PBL case of that week to what they were learning in lab. Preliminary statistical analysis indicated that PBL integration with anatomy had a non-significant effect on formative assessments, but anecdotal feedback suggested that students found the integration helpful.

Objectives
Formalized focus groups to further assess student’s perceptions of PBL case content and lab activity integration effectiveness on the comprehension of anatomical structures and concepts are planned. This information will be presented at WGEA.

Key Message
An integrated curriculum across subjects and pedagogical approaches may have a positive impact (Drake, 1998) on student learning and promotes deeper understanding.

Conclusion
Student perceptions of an integrated curriculum can be an informative element in curriculum design and assessment.

Target Audience
Medical educators, course directors, faculty developers, curriculum designers.

References
Understanding the student role: The benefits of a pre-clerkship observational experience
Preetha Basaviah, MD; Kambria Hooper, M.Ed.; Tomiko Nguyen, MD
Stanford University

Introduction
To prepare for the transition to clerkships, medical schools traditionally provide classroom sessions that may not be as optimal as “hands-on” experiences. Stanford’s two-year pre-clinical course, Practice of Medicine (POM), offers observation experiences in the capstone quarter, which may better prepare students for clerkship culture and expectations.

Objectives
The purpose of this study was to assess students’ reactions and attitudes about clerkship culture by implementing pre-clerkship day shadowing experiences and reflection assignments.

Methods
Piloted in 2009, a half-day clinical observation experience was followed by reflection; thematic analysis (N= 30) revealed interesting findings about students’ reactions to clerkship culture. In 2010, students had two observation experiences, and self-reported overall preparedness for clerkships and confidence in theme areas.

Results
The 2009 pilot concluded that such an experience may increase student knowledge about: role, patient care, team dynamics, and professionalism. Students in the 2010 cohort (N=63) showed significant increases in their overall feeling of preparedness for clerkships (p<0.000) after their observations, and shared reflections on the following themes: team culture, student role on the team and in quality/patient safety, best practices in team communication, hierarchy on the team, pace, value of patient perspective, and communication with allied healthcare worker.

Discussion
By observing inpatient ward and clinical team processes, students can prepare more effectively and confidently for the transition to clerkships. Exposing students to clerkships with an identified peer mentor and a structured reflective exercise allows them to articulate surprises, expectations, and effective team behaviors.

Target Audience
Students, teaching faculty, staff.

References
Anesthesia Journal Clubs: General Practices and Successful Features
Kathryn Price, MS1,2, Marek Brzezinski, MD, PhD1,2, H Nicole Tran, MD3, Kathy Schlecht, DO4, Annette Mizuguchi, MD, PhD5, Stephen Kimatian, MD6, Guneet Natt, MD1, John Mitchell, MD7
1VA Medical Center, 4150 Clement Street, San Francisco, CA, 94121, 2University of California, San Francisco, 500 Parnassus Ave, San Francisco, CA 94101, 3Kaiser Permanente: Oakland Medical Center, 280 W. MacArthur Blvd, Oakland CA, 94611, 4South Oakland Anesthesia Associates; P.C., 1631 W. Big Beaver Rd, Troy, MI 48084, 5Brigham and Women’s Hospital, 75 Francis St, Boston, MA, 02215, 6Cleveland Clinic, 9500 Euclid Ave, Cleveland, OH 44195, 7Harvard Medical School, Beth Israel Deaconess Medical Center, One Deaconess Road, Boston, MA 02215

Introduction
Journal clubs (JC) are frequent additions to anesthesia residency curriculum offering multiple benefits to medical education. Still, faculty often field complaints and struggle to maintain attendance and participation at JC. Features associated with greater than 50% attendance and long length of existence were previously investigated in internal medicine-based JCs[1]. However, little is known about general features of anesthesia-based JCs. Furthermore, features associated with success have yet to be identified.

Objectives
To identify characteristics of anesthesia-based journal clubs and features associated with higher resident attendance and longevity

Methods
Nationwide, 117 anesthesiology program directors received an e-mailed survey assessing JC features. Successful JCs were defined as existing more than four years with an average attendance rate over 50%. Data were assessed using chi-square and t-test analysis.

Results
Eighty programs responded(response rate, 68%). Seventy-seven(96%) conduct JC. Typically, JCs meet monthly for 1 hour. Faculty(without resident involvement) are highly involved in organizing, moderating, and selecting articles. Attendance is often mandatory(69%) and recorded(89%). Though practice-based learning was the ACGME competency most emphasized, it also required the most improvement in teaching. Formal JC evaluation was rare(60%). Successful JCs had increased faculty attendance(p<.001), greater resident involvement in organization(p=.04), and mandatory attendance(p=.03).

Discussion
Faculty dominate the primary leadership roles of anesthesia-based JCs more than other specialties[1-3]. Restructuring JC to increase resident input improves attendance and participation concerns[2]. Explicit goal setting and routine evaluation of JC may improve incorporation of ACGME competencies into the curriculum. These findings can be used to transform JCs into more effective formats for attendants.

Target Audience
Educators/Curriculum developers in Anesthesiology

References
Medical Student Perceptions of Anesthesiology
Kathryn Price, Guneet Natt, Bridget O'Brien, Marek Brzezinski, Martin Bogetz

Introduction
Perceptions of another's field of practice can impact interprofessional collaborations. The hidden curriculum may influence students' perceptions of a field and these perceptions may persist because students lack opportunities to challenge them early in training. Inaccurate perceptions may interfere with students' openness to learning and interaction with patients and team members.

Objectives
To describe students' perceptions of anesthesiology prior to their clinical clerkship.

Methods
Medical students were asked to "describe one preconceived notion about the specialty of anesthesia" at the start of their required UCSF anesthesiology clerkship. Responses were collected from 1,009 students from 2003 - 2009. A general inductive approach was used to analyze students' written preconceptions. Preconceptions were coded with consensus by two authors for both theme and tone.

Results
Five themes emerged: task responsibilities, patient interaction, lifestyle, reputation, and future of the field. Task responsibilities comprised 53% of perceptions often with negative tone(56%). Students often felt "unclear" about the non-procedural responsibilities of anesthesiologists. Lack of longitudinal relationships was emphasized for patient interaction. Lifestyle-focused preconceptions centered on enviable hours and compensation. Higher levels of substance abuse and difficulty interacting with surgeons were highlighted as part of professional reputation. Job security and residency competitiveness were discussed under future of anesthesiology.

Discussion
Negative perceptions can adversely impact interprofessional respect, communication and collaboration[1]. Patient care and safety may suffer. Curricular interventions can facilitate more accurate, typically less critical perceptions of specialties[2-3]. Earlier exposure through shadowing, preceptorships, and interest groups, especially during preclinical years, may dispel stereotypes, improving attitudes and understanding of anesthesiology.

Target Audience
Curriculum developers/planners, Educators

References
Immersion in Community Medicine: Mentorship-based Exposure to the Medical Profession for Underprivileged High School Students
David Purger (1)*, Hong-An Nguyen (1)*, Morgan Freret (1, 2), Duy Dao (1)
1: Pacific Free Clinic, Stanford University School of Medicine
2: Stanford University Departments of Neurology and Developmental Biology

Introduction
The lack of racial, ethnic and socioeconomic diversity in the health professions is well documented, and it is the focus of several public and private initiatives aiming to increase minority representation in medical schools. Structured mentoring relationships and exposure to healthcare careers have been linked to increased retention of motivated, underprivileged youth in the health professions career pipeline.

Objectives
We have designed a mentorship program, entitled Immersion in Community Medicine (ICM), which introduces disadvantaged high school students to the medical field in a free community clinic setting.

Methods
Over four Saturdays, six San Jose, CA public high school students observed Stanford physicians, medical students and undergraduates examining patients. Participants discussed health policy and clinical research papers pertaining to a health issue relevant to the San Jose community and learned about the medical interview and physical exam. Participants evaluated the program through a questionnaire administered at the final session.

Results
After administration of ICM in fall 2010, all six participants reported an increase in their desire to enter the medical field and an increase in their preparedness to pursue a medical career.

Discussion
Preliminary survey results suggest a positive impact of ICM on participant motivation towards health professions careers. Beginning with subsequent quarterly administrations of ICM, we intend to investigate long-term effects on participant progress through the health professions career pipeline with the use of longitudinal follow-up questionnaires to be completed prior to graduating high school and, if applicable, during college and professional or graduate school.

Target Audience
WGEA

References

Simplified Bookmark Method for Local Medical School Exams
Steve Schneid, Paul A. Kingston, April Apperson
University of California, San Diego

Introduction
Medical educators frequently use completely arbitrary methods for determining passing scores on local medical school examinations, e.g. “70% is passing.” This arbitrary approach does not consider the difficulty of the test items, is not systematic, and does not allow content experts to make reasonable judgments about student competence.

Objectives
We sought a more defensible standard setting method that would not impose unacceptable demands on faculty time. We piloted a simplified version of the Bookmark Method for six exams in a summer medical school pre-matriculation course to examine the method’s practicality and psychometric characteristics.

Methods
Test items were grouped from easiest to most difficult for the lowest-performing 27% of the class. Three content experts independently reviewed the items from easiest to most difficult and placed a “bookmark” indicating the point from which all remaining items were acceptable for the minimally competent student to miss. From this bookmark, each judge determined a passing score by counting the number up to the bookmark. The judges then discussed their cut-scores and the overall passing score was determined by consensus.

Results
The overall passing scores determined by our simplified Bookmark method for the six exams were: 72%, 72%, 70%, 68%, 69%, and 64%. Although the exams varied in item number, difficulty and consensus cut-score, the judges’ passing score recommendations on each exam agreed very closely.

Discussion
These preliminary results suggest that our method is a defensible and practical way to set absolute standards for local medical school exams.

Target Audience
Health professions educators

References
Implementation of Modified Team-Based Learning (TBL) to Support Pharmacy Students in a Shared Curriculum
Steve Schneid and Chris Armour
University of California, San Diego
Skaggs School of Pharmacy and Pharmaceutical Sciences

Context
A major basic sciences curriculum change for both pharmacy and medical students triggered the need for more small group learning experiences. The School of Medicine selected problem-based learning (PBL) and the Skaggs School of Pharmacy and Pharmaceutical Sciences selected team-based learning (TBL)¹ to supplement the material delivered in lecture, mainly because of limited faculty resources. The course consisted of three major components: (1) individual assessment with feedback, (2) team assessment with feedback, and (3) application lectures. We hypothesized that our modified TBL course would help the pharmacy students learn the material presented in the shared lectures.

Objectives
The objectives of our modified TBL course were to
• help the students learn the content delivered in lecture;
• identify and support students who are academically at-risk or have professionalism issues;
• reinforce working as part of a team;
• model efficient ways of problem solving;
• provide motivation for consistent studying;
• provide more relevance to the practice of pharmacy; and
• provide the students with a feeling of identity within the shared curriculum.

Key Message
Students evaluations and performance data strongly suggest that an ongoing modified TBL course is an effective and cost-efficient way to enhance the success of a shared medical and pharmacy curriculum.

Conclusion
Adding a supplemental TBL course has a positive effect on the academic performance of pharmacy students in a shared curriculum and appears to have some major advantages over PBL.

Target Audience
Health Professions Educators

References
Feasibility of a Supplemental Home-Based Curriculum for Basic Surgical Skills Acquisition

Leslie C. Sheu, BA¹, Hueylan Chern, MD², Patricia S. O'Sullivan, EdD³, Ed Kim MD²
¹School of Medicine, University of California, San Francisco
²Department of Surgery, University of California, San Francisco
³Department of Medicine and Office of Medical Education, University of California, San Francisco

Introduction
With duty hour restrictions, surgical residents have reduced opportunities to master basic surgical skills in the operating room. While workshops and longitudinal curricula have shown promise as non-operating room methods to enhance proficiency, skill acquisition requires ongoing practice. A supplemental home-based curriculum is an innovative way to reinforce skill development with the flexibility of practice at home.

Objectives
To evaluate the feasibility of a supplemental home-based curriculum for basic surgical skills.

Methods
After sessions on knot tying and suturing, learners were asked to practice specific tasks at home. They videotaped their performance on these tasks once they felt proficient. Faculty evaluated and gave feedback on the videos. Learners completed brief, anonymous Likert-scaled surveys about the utility and feasibility of completing these exercises.

Results
Sixteen first-year surgical residents enrolled in the supplemental home-based curriculum. Six months into the academic year, all submitted video recordings, received individualized feedback from a faculty member, and completed the survey. Three-fourths of residents agreed that the assignment encouraged practice of their technical skills. Those who practiced more were the ones who perceived greater benefit to the activity (p=0.030). Barriers to completing the assignment were available free time (100%) and technical difficulties with video recording hardware and software (63%). Learners recommended developing manuals and sample videos.

Discussion
This innovative supplemental home-based curriculum is feasible, encourages practice, and provides opportunities for one-on-one feedback. Our next steps will be to employ easier video technology and develop resources.

Target Audience
Medical educators, surgery residents
The Design and Implementation of an Ongoing Night Curriculum for General Pediatric Residents: The Seattle Children’s Hospital Experience
Department of Pediatrics, Seattle Children’s Hospital, University of Washington. Seattle, WA, USA

Context
In anticipation of the Accreditation Council for Graduate Medical Education duty-hours reforms for July 2011, many residency programs are adopting day and night shift schedules. These schedules pose additional challenges and possibilities for structured resident education sessions that have traditionally occurred during day but not night shifts. When Seattle Children’s Hospital implemented such a schedule last July, we recognized the opportunity to initiate a formal night teaching curriculum. We identified our hospitalists, who otherwise rarely interacted with residents at night, as those ideally suited to administer the curriculum.

Objectives
• To improve the balance between education and service for the overnight residents.
• To expand resident clinical decision-making and communication skills regarding diverse issues likely to be encountered at night, e.g. response to common laboratory abnormalities, management of a rapidly deteriorating patient, etc.
• To provide a forum for hospitalists to engage in resident education and thereby to potentially enhance patient care resulting from direct attending physician contact at night.

Key Message
In an effort to improve the overnight residents’ educational experience and to employ the educational expertise of our hospitalist group, we designed and implemented an ongoing complementary night curriculum facilitated by the overnight pediatric hospitalist.

Conclusion
Our curriculum has been running successfully since October 2010 with positive informal resident feedback. Formal feedback is pending Seattle Children’s IRB review.

Target Audience
Western Group on Educational Affairs

References
1) http://acgme-2010standards.org/
Team-Based Journal Club: A Longitudinal Approach to Evidence-Based Medicine (EBM) Training During Residency

Serena Yang, MD, MPH, Renee Kinman, MD, PhD, Children’s Hospital Central California, UCSF Fresno Medical Education Program

Context
We developed team-based journal club (JC) based on team-based learning and social/cognitive congruence theories. Residents (PL-1,2,3) are distributed into teams, staying together throughout training. JCs are moderated by a resident with close faculty support. Teams appraise assigned article sections using standardized worksheets designed to elicit critical thinking. At JC, teams meet to discuss assignments, then the moderator facilitates group discussion, finishing with “how this article affects my practice”.

Objectives
To demonstrate the feasibility of team-based, longitudinal JC during residency

Key Message
Resident interviews revealed: enthusiasm for JC, increased confidence in appraising evidence, and seniors invested in juniors’ success. Faculty observed increased teaching and discussion within/among teams. Preliminary analysis (n=22, 2009-2010) shows increased confidence in literature appraisal: on scale 1-5 (5 highest), 18% rated 4 or 5 at baseline, 27% rated 4 or 5 one year later (p=0.035, paired Wilcoxon signed-rank test). Next steps include assessment of: appraisal skills using validated tools3, moderator performance, and faculty perception of JC impact on education. Curriculum refinement is based on these evaluations and feedback via medical education forums.

Conclusions
With faculty oversight, team-based longitudinal JC is feasible during residency and can foster a better learning environment for trainees. Future aims will promote EBM beyond JC and evaluate the impact of team-based JC on EBM in daily practice.

Target Audience
Faculty, Program Directors

References
1. Fink LD. Team Learning: Putting "sTEAM" into Learning Groups.
Screening, Brief Intervention, and Referral to Treatment (SBIRT) for Substance Use Disorders among Resident Physicians: Curriculum Development and Preliminary Evaluation

Neda Ratanawongsa¹; Jennifer Manuel¹; Daniel Ciccarone¹; Jennifer Hettema²; Brad Shapiro¹; Sharad Jain¹; Diana Coffa²; Carrie Cangelosi³; Jacqueline Tulsky¹; David Hersh⁴; Paula Lum¹. ¹UCSF, San Francisco, California; ²University of Virginia, Charlottesville, Virginia; ³San Francisco General Hospital, San Francisco, California; ⁴San Francisco Department of Public Health, San Francisco, California.

Introduction
SBIRT conducted in medical settings is effective in reducing risky alcohol and drug use. Self-reported discomfort and lack of experience dealing with alcohol and drug problems are associated with lower confidence in SBIRT skills among UCSF internal medicine resident physicians. Moreover, half of clinic patients surveyed anonymously at the teaching county hospital reported lack of counseling about safe drinking limits by their providers.

Objectives
A residency curriculum was developed to enhance residents’ confidence and skills with using SBIRT.

Methods
We implemented a 7-week, 32-hour longitudinal SBIRT curriculum for internal medicine residents (n=32) at the teaching county hospital. The curriculum included SBIRT didactics, small group discussions, skills practice role-plays, and site visits to local substance use treatment and referral programs. Written narrative reflections, clinical case discussions, and clinical observation checklists were used to evaluate residents.

Results
Qualitative analysis of residents’ narrative reflections showed an increase in confidence using SBIRT skills with their patients. Residents cited lack of time, competing work responsibilities, lack of preceptor support, and patient resistance as barriers to continued use of SBIRT. Analysis of qualitative checklist data revealed that residents screened skillfully for substance use disorders and employed patient-centered listening skills, while struggling with “rolling with resistance” and formulation of specific action plans.

Discussion
In this SBIRT residency curriculum, qualitative evaluation methods showed improvements in residents’ self-efficacy and SBIRT skillfulness, but also revealed systems-based practice challenges. These clinical exercises provide insight into the training of physician residents in SBIRT, potential barriers, and outcomes to continued SBIRT use.
Resident and fellow perceptions of acquiring ACGME competencies
Lourdes R. Guerrero, EdD/UCLA; Paul Wimmers, PhD/UCLA; Neil Parker, MD/UCLA; Susan Baillie, PhD/UCLA

Introduction
The ACGME has promoted the use of competency-based education as the guiding approach for graduate medical education. Although attention has been to the teaching and assessment for these competencies, less attention has been paid to residents’ perceptions of how well they are learning these competencies.

Objectives
To document residents/fellows self reporting of their knowledge of the ACGME core competencies.

Methods
A web-based, confidential survey was sent to all level of residents at an urban academic medical center. The response rates varied by year: 2007, 77%; 2008, 81%; 2009, 66%; 2010, 82%. The same cohort of residents/fellows over time was used to compare results by PGY levels and by program.

Results
The 2,900+ residents/fellows in this study felt their knowledge of the six core competencies was overwhelmingly “adequate.” A cohort analysis across core disciplines using a multivariate test of the question “How much you have learned …?” the competencies revealed no significant effect of program year of the residents. Since there was no difference found across PGY levels, the complete data set was used to perform a multivariate test of ‘how much you have learned’ all six competencies by core program. This analysis revealed no significant effect of program, also indicating that residents also rated the learning of the competencies equally across the various programs.

Discussion
Across PGY years and programs, the residents and fellows felt their knowledge of the core ACGME competencies was adequate. The ACGME goal of implementing a competency-based curriculum has been achieved at UCLA.
A Required, Short Palliative Care Rotation for First-Year Internal Medicine Residents
Brook Calton, MD, MHS (University of California, San Francisco), Adam R. Moylan, PhD (University of California, San Francisco), Eric Widera, MD (University of California, San Francisco & Veterans Affairs Medical Center San Francisco)

Context
First-year residents report a lack of comfort and skill in providing end-of-life care\(^1\). The main predictor of residents’ perceived competence in end-of-life care is clinical experience in the area\(^2\). Despite this, only three required palliative care rotations for internal medicine residents are described in the literature---none of which targeted first year residents.

Objectives
To increase resident’s knowledge and comfort in providing end-of-life care, UCSF developed a required, 4-4.5 day palliative care rotation in 2009 for all 44, PGY-1, categorical, Internal Medicine residents. Residents work on the Palliative Care Consult Service at the Veteran Affairs Medical Center, evaluating and providing recommendations for inpatients on end-of-life issues. They also attend interdisciplinary palliative care team meetings and receive instruction on three predefined palliative care topics.

Key Message
Data from the 21 of 44 residents surveyed thus far in 2010-11 by electronic questionnaire is favorable. Residents felt the rotation increased their comfort in discussing goals of care (48% strongly agreed, 52% somewhat agreed) and ability to treat end-of-life symptoms (48% strongly agreed, 43% somewhat agreed). Residents noted dedicated time to learn pain management and how to facilitate family meetings as rotation strengths; they felt more formalized didactics could improve the rotation.

Conclusion
Preliminary data suggests our required rotation improves first-year residents’ perceived comfort with, and self-perceived knowledge of, palliative care issues. A novel aspect of this rotation is its’ short duration (4-4.5 days), making it realistic to implement at other institutions.

Target Audience
Residency program leaders, curriculum developers, palliative care physicians

References
Generating Generalists: Factors of Resident Continuity Clinic Associated with Perceived Impact on Choosing a Generalist Career
Ryan Laponis, MD¹,², Patricia O'Sullivan, PhD¹-³, Harry Hollander, MD², Patricia Cornett²,⁴, MD and Katherine Julian, MD¹,²
Division of General Internal Medicine¹, Department of Medicine², Office of Medical Education³, University of California San Francisco, San Francisco, CA and the San Francisco Veteran’s Administration Medical Center⁴

Introduction
Fewer residents are choosing general internal medicine (GIM) careers. Their continuity clinic experience may influence this choice.

Objectives
To understand the relationship between resident satisfaction with continuity clinic and perceived change in interest in pursuing a GIM career.

Methods
Internal medicine residents completed the Veterans Health Administration Learners' Perceptions Survey - a 76-item instrument measuring overall satisfaction with faculty interactions, learning, working, clinical, and physical environments and personal experience. We identified 15 subscales: faculty teaching, availability and feedback, learning processes, clinic/ward balance, patient diversity, autonomy, clinical support, coordination of care, computer services, work flow, interdisciplinary team work, facility upkeep, professional/personal satisfaction and work/life balance. We also asked: “As a result of this clinical training experience, how likely would you be to consider a future employment opportunity in GIM?” We used ANOVA to examine associations between satisfaction measures and GIM interest.

Results
Of 217 residents, 90 completed the survey (41%). Residents felt continuity clinic impacted career choice (22.2% more likely to choose GIM, 43.3% less likely). Those more likely had higher satisfaction with the learning (p=0.001) and clinical (p=0.002) environments and personal experience (p<0.001). They also had higher satisfaction with learning processes (p=0.002), patient diversity (p<0.001), coordination of care (p=0.009), work flow (p=0.001), professional/personal satisfaction (p<0.001) and work/life balance (p<0.001).

Discussion
Residents perceive continuity clinic as impacting career choice. Those who indicate they are more likely to pursue GIM have higher levels of satisfaction. Programs interested in increasing interest in GIM should focus efforts on clinic factors related to resident satisfaction and amenable to change.

Target Audience
Program Directors, Clinic Directors
Learners’ Perspectives on Effective Mentorship
Christy K. Boscardin, Allison Chen, Mark Lovett, Renee Courey, Louise Aronson/UCSF

Introduction
Mentorship can significantly influence personal development, career choice, and research productivity. The UCSF Pathways to Discovery program provides in depth training for careers beyond the routine practice of medicine. Program success depends on effective mentoring currently delivered by a team of project mentors and program directors. Learners currently identify project mentors based on content expertise and project interest.

Objectives
The purpose of the study was to identify characteristics of mentors that students consider important for effective mentorship in the Pathways program.

Methods
10 randomly selected medical students participated in a focus group. The learners were asked a series of structured, open-ended questions to describe their experience working with project mentors. 35 students also completed a survey item (4 point-scale) rating their overall experience with mentorship.

Results
30(86%) students rated mentorship quality as very good or excellent (3 to 4). Learners described an effective mentor as someone who provided content expertise but was also a “good advocate” and offered insight into the student’s career interests.

Discussion
Although learners select mentors based on content expertise, learners expect each mentor to provide scholarly, career development, and psychosocial support. While many faculty met their role as project mentors, learner expectations match program-wide goals rather than narrower project mentor roles. To better align learner expectations and available mentoring, we are 1) creating materials that explain the function of mentorship teams; 2) producing a mentor development module to expand mentor roles to meet the broader needs of students.

Target Audience
Medical educators, mentors
Fast-forward the learning curve for CT diagnosis of pulmonary embolus
Marcia J McCowin, MD, Brett Elicker, MD, Abby Deans, MD/PhD, Gloria Chiang, MD
Department of Radiology, University of California, San Francisco

Context
The CT diagnosis of pulmonary embolus (PE) is a key skill for on-call radiology residents, yet most of the examinations ordered are negative for PE. As a result, many residents do not see enough cases to be confident to rule in, and particularly, to rule out a PE. The lack of solid experience results in excess time analyzing negative cases, suboptimal self-confidence in interpretation, misinterpretations and lack of confidence by the referring physician. Since learning at the expense of patient care is an ethical problem (1), it would be preferable if the learning could be optimized prior to affecting patient care. Using state-of-the-art picture archiving and communication system (PACS), a teaching series was created. The series consists of 3 CTs with obvious PEs to enable the learner to recognize the spectrum of appearances of PE. This is followed by 15 additional CTs, 13 with subtle PEs and 2 with no PE to enable the learner to gain confidence in both detecting and excluding PE. The PACS allows for the hundreds of images and varying windows and levels required for each CT(2).

Objectives
To evaluate the effectiveness of a PE teaching series in accelerating the learning curve to establish confidence in the CT diagnosis of pulmonary embolus. To determine how this teaching series impacted learning a new radiologic skill.

Key Message
Using PACS in the analysis of both positive and negative CTs for PE, the learning curve for pulmonary embolus can be significantly accelerated prior to night-call.

Conclusion
Radiology “simulation” of CT for PE using a teaching series was highly effective in enabling both the learner and teacher to be confident of the learner’s skill in the analysis of CTs performed to evaluate for PE. The time required by the learner was 1-2 hours and for the teacher less than 15 minutes, making the exercise very efficient.

Target Audience
GME

References
2. Thrombotic and Nonthrombotic Pulmonary Arterial Embolism: Spectrum of Imaging Findings; Radiographics, 23, 1521-1539.
A Review of Longitudinal Medical Educational Programs Relating to A Psychiatry Residency Clinical Curriculum Redesign

Colin Stewart, MD, University of California-San Francisco, Department of Psychiatry
Danielle Carlin, MD, University of California-San Francisco, Department of Psychiatry
John Q. Young, MD, MPP, University of California-San Francisco, Department of Psychiatry
Amin Azzam, MD, MA, University of California-San Francisco, Department of Psychiatry

Introduction
UCSF’s general adult psychiatry residency is redesigning its clinical curriculum. Based on our knowledge of adult and workplace learning, we intend to include longitudinal educational programs in the curriculum.

Objectives
We sought to review the literature on longitudinal educational programs, search for best practices and innovations, and relate findings to our clinical curriculum redesign.

Methods
Two authors did independent PubMed literature searches on longitudinal curricula using MeSH terms from seminal articles in the field. Almost 1,000 articles were retrieved. After scanning all titles and reading pertinent abstracts, relevant articles were reviewed. Findings were recorded in a template and common themes identified.

Results
Factors that significantly impact resident satisfaction and learning include: 1) Clear goals and objectives, 2) preceptor and patient care continuity, 3) protection from inpatient responsibilities, and 4) adequate ancillary support. Clinic objectives are often based on needs assessments completed via resident survey. Other longitudinal experiences such as community projects and problem-based learning (PBL) cases can be integrated into clinics to complement learning in clinical settings. As residents advance, they need less direct observation, more guidance in practice management, and more opportunities for self-directed quality improvement projects.

Discussion
An ideal longitudinal educational program in a psychiatry residency might include a weekly experience in a general psychiatry continuity clinic spanning all four years that involves lasting relationships with preceptors and gradually decreasing direct clinical supervision complemented by increasing involvement in practice management decisions and projects.

Target Audience
Psychiatry residency program directors, persons interested in longitudinal educational programs
The Use of Standardized Patients to Evaluate Resident Skills in Identifying and Managing Substance Abuse in the Primary Care Setting
Kathryn Treit, MD, University of California, San Francisco
Patricia O’Sullivan, EdD, University of California, San Francisco
Jason Satterfield, PhD, University of California, San Francisco
Elinore McCance-Katz, MD, PhD, University of California, San Francisco
Gina Moreno-John, MD, University of California, San Francisco
David Levitt MS4, Medical Student, University of California, San Francisco
Maria Wamsley, MD, University of California, San Francisco

Context
Screening and intervention for substance abuse are lacking in the primary care setting. There is an increased focus on training internal medicine residents in substance abuse screening and brief intervention (SBI), but the optimal method of assessing competency has not been established.

Objectives
To create a standardized patient (SP) assessment for Internal Medicine residents to evaluate the following substance abuse competencies:

- Screening for substance use and taking a substance abuse history.
- Accurate assessment of risky use and substance use disorders.
- Brief interventions to address substance use.
- Appropriate referral for substance use disorders.
- Effective communication with patients regarding substance use.

Key Message
Internal medicine residents showed a baseline performance on SP evaluation indicating room for improvement in SBI skills. Residents received an average of 79 (sd=16) in history, 67 (sd=12) in information sharing and 69 (sd=6) in physician patient interaction. Residents completed a post-exercise survey indicating that they did feel it was a valuable experience (3.67/5). Residents reported highest levels of confidence in screening patients for alcohol and drugs, but felt less confident making treatment plans for patients with substance use disorders. Resident evaluation scores also indicate a lack of skill in developing treatment plans for individuals with substance use disorders.

Conclusion
Effective curricula should address SBIRT skills and confidence in managing substance use disorders, specifically focusing on the establishment of treatment plans.

Target Audience
Graduate medical educators, undergraduate medical educator
Writing for Change: Training Residents in Health Policy Advocacy through Narrative  
Louise Aronson, Anda Kuo, Sharad Jain, Vanessa Grubbs, Jennifer Siegel and Alice Chen  
University of California, San Francisco

Introduction  
Medical narratives are used in advocacy to educate, change opinions and influence policy.  
From letters to the editor or opinion columns in newspapers to essays in medical or policy  
journals, physician’s stories inspire change and give a voice to society’s most  
ulnerable. Although law and business schools teach persuasive communication, medicine has  
used narrative for self-reflection and humanism.

Objectives  
Development, implementation and assessment of a curriculum to train residents in advocacy-  
ased Public Medical Writing.

Methods  
Faculty with narrative, policy and underserved medicine expertise collaborated to develop a 3-  
art workshop for medicine and pediatrics residents participating in advocacy educational  
acks. 2-hour-long workshops included: discussion of newspapers, medical and health policy  
journal articles; discussion of audience, venues, advocacy levels and narrative craft;  
development of ledes (session 1) and in-progress articles (sessions 2-3). Faculty reviewed  
additional drafts as needed. Participants scored session quality, relevance and usefulness on a  
0-5 scale and provided qualitative feedback. Faculty tracked resident publications.

Results  
All 19 residents completed evaluations. Most had little writing experience. Combined session  
ratings for quality, relevance and usefulness were 4.95, 4.925 and 4.975, respectively.  
Residents published in New York Times (2), Health Affairs Narrative Matters, Huffington Post  
and Annals of Internal Medicine.

Discussion  
Narrative writing is a relevant and useful advocacy tool for pediatric and internal medicine  
residents in advocacy tracks and was enthusiastically received by the learners. Trainees were  
able to develop the basics of publishable pieces within the framework of a few structured  
seminars.

Target Audience  
Interest in medical education, advocacy, underserved
An Assessment of the Stanford Student Experience of a New Learning Community
Kambria Hooper, M.Ed.; Lars Osterberg, MD; Jennifer Hayes, M.Ed; Jennifer Deitz, MA; Preetha Basaviah, MD
Stanford University

Introduction
Mentoring is an important part of medicine, but more research on how to design effective mentoring programs is needed. The Educators-4-CARE (E4C) Program, consisting of 15 faculty mentors, develops students through curriculum that promotes compassion, advocacy, responsibility, and empathy in students. The program focuses on professionalism, clinical skills, and interpersonal communication skills. We developed a survey to assess student perceptions of effectiveness.

Objectives
The goal was to identify strengths and opportunities for improvement in developing students’ professionalism, and clinical and interpersonal communication skills in the pre-clerkship years.

Methods
Each E4C guides 5-6 students per class year in the following ways: providing feedback; professional development; core clinical skills; reference letters; participation in milestone events; pre-clerkship precepting; communication and physical examination skills; clinical reasoning; reflection during clerkship.

Results
Students (n=124, response rate=75%) positively rated the quality of E4C. More than 80% rated E4C as “very good” or “excellent” for role modeling, instruction of clinical skills, and professionalism/interpersonal communication skills development. Students overwhelmingly felt their mentor was approachable, accessible, and responsive (91%). Students gave positive ratings for faculty being a helpful resource for academic, clinical, and/or professional development issues (82%), and helping them develop a learning plan (69%). Comments provided feedback on program benefits and areas for improvement regarding program structure, faculty mentoring, and informal/milestone events.

Discussion
Future research will measure the impact of E4C on student performance on clinical examinations, students’ ability to provide empathy and relationship-centered care, and wellness.

Target Audience
Clinical educators, students, staff.

References
Woessner, R., M Honold, SN Stehr, and WI Steudel. (2000) Support and faculty mentoring programmes for medical students in Germany, Switzerland and Austria. Medical Education; 34: 480-482.
Impact of a Quality Improvement Curriculum for Pre-Clerkship Students
Kambria Hooper, M.Ed.; Julia Pederson; Stephanie M. Smith, MPH; Felipe De Jesus Perez; Shubha L. Bhat, Natalia V. Leva, Paul Helgerson, MD; Troy Leo, MD; Preetha Basaviah, MD; Clarence Braddock, MD

Introduction
Despite increasing recognition of the importance of quality improvement (QI) and patient safety (PS), the physician role in QI is often not defined or role modeled to physicians in training. In response, a handful of medical schools have begun to incorporate PS training in the curriculum. The Telluride Interdisciplinary Roundtable suggested that patient safety curricula re-frame health care as part of a larger system rather than individual practice, begin during the first year and continue throughout training, and foster an environment conducive to communicating and reporting errors.

Objectives
Stanford’s Practice of Medicine Course developed a QI/PS curriculum for 2nd year students transitioning to clerkships. The goal was to emphasize patient safety principles and systems-based quality improvement, as well as define the role of medical students in a hospital team with regards to practicing methods in patient safety, which could include: observing and reporting errors, dealing with mistakes they make, and actively advocating for QI.

Methods
Curriculum consisted of two, 60-minute modules presented in seminar format.

Results
Pre/post evaluation showed a significant increase (p<0.001) in trainees’ attitudes related to the importance of QI/PS topics, including confidence in: defining quality improvement, ability to identify flawed patient care processes, ability to improve patient care processes, and approaching a care provider about a process-improvement idea.

Discussion
Will clerkship students participate in QI/PS efforts during clinical training? Is it feasible to include QI/PS training as a component of required clerkships for medical students?

Target audience
Clinical educators, students, staff, hospital administration.

References
Improving Pre-Clerkship Clinical Skills Courses
P. Basaviah, MD (Stanford) and M. Mintz (University of Washington)

Introduction
Most US medical schools have a PCCS course, but descriptive data is lacking regarding their administration, content and scope.

Objectives
Describe Pre-Clerkship Clinical Skills (PCCS) courses at US medical schools and determine the need for a national forum for PCCS course directors.

Methods
Two surveys were sent to faculty of the 133 AAMC member US medical schools, one to curricular deans identified through CURMIT, and another to PCCS course directors identified by a database initiated by one of the authors (JT), CURMIT, the 2010 Clerkship Directors of Internal Medicine (CDIM) annual survey and identified by the first curricular deans survey.

Results
Curricular deans from 74 of 133 schools completed the survey and all but one school had a PCCS course. Fifty-eight percent reported that 11-20% of all class time is dedicated to the PCCS course in the first year (14% reported less than 10% class time, 19% between 21-30%). Responses were almost identical for the second year. Eighty-nine percent responded that their school’s PCCS course teaches other curricular elements such as professionalism, ethics and clinical reasoning, though what each course taught varied. Overall, 122 faculty from 89 schools completed the PCCS course director survey. Ninety-one percent were physicians. There was a wide range of responses regarding amount of full time and voluntary faculty used to teach the course. Most (88%) course directors felt that a national organization or resource for PCCS course directors was needed and desired such an organization as a way of communicating, sharing and collaborating.

Discussion
PCCS courses are well established at most US medical schools, taking more than 10% of total curricular time and include topics beyond interviewing and physical diagnosis. PCCS directors come from a variety of medical specialties and desire a national forum to collaborate.

Target Audience
PCCS course directors, co-directors, curricular deans and other faculty and staff involved in PCCS courses (UGME/Preclinical)
Clinical Students’ Exploration of Critical Incidents Using Faculty Guided Reflection
Lars Osterberg, MD, MPH, Erika Schillinger, MD Preetha Basaviah, MD; Kambria Hooper, M.Ed.

Introduction
Reflective practice is an important skill for professional development.¹ When faced with critical incidents during rotations, students often struggle. Some incidents involve ethical dilemmas, abuses of power, patient disrespect, and positive and negative role-modeling. Experiences can undermine students’ development, leading students to learn from “the hidden curriculum” rather than constructive role-modeling. Reflecting on these experiences has shown to be an effective way for students to grow.² Critical reflection promotes deeper learning, giving meaning to significant clinical experiences.³,⁴

Objectives
Mentors facilitated discussions with four goals: (1) develop skills of self-reflection; (2) identify coping strategies from peers such as self care, team problems, and burnout; (3) provide a positive influence on professional growth; and (4) promote and maintain humanism and professionalism.

Methods
Doctoring with CARE (Compassion, Advocacy, Responsibility, Empathy) sessions in 2009-10 were required for core clerkships students. Themes include abuses of power, role on the team, clerkship preparation, death and dying. Students are encouraged to discuss experiences in a safe place. Students rated sessions through survey.

Results
Students felt comfortable sharing intense, challenging situations and ethically ambiguous experiences. Students learned and/or shared coping strategies and reflective practice by engaging in candid discussions. Students appreciated having both specific discussion themes and open discussion.

Discussion
Comparing student experiences with different methods of promoting self-reflection may help determine the optimal forum for promoting and educating students in reflective practice. What is the right balance of (1) selected themes versus open discussion, and (2) faculty input.

Target Audience
Clinical educators, students, teaching faculty, staff.

References
Pilot of a Lifelong Professional Development Metric in a Scholarly Concentration Program
Renee Courey, Carrie Chen, Kristen Fitzhenry, Mary Beattie, Halima Mohammed, Josh Adler, Harold Bernstein, Madhavi Dandu, Dan Dohan, Dan Lowenstein, Robert Nussbaum, George Sawaya, Christopher Stewart, Naomi Wortis, Louise Aronson
University of California, San Francisco

Introduction
The UCSF Pathways to Discovery program prepares interprofessional UME and GME trainees in discovery and leadership. Learners complete formal curricula and faculty-mentored projects in areas ranging from the molecular to the global. Traditionally, assessment measured only course participation, project quality, presentations, publications, and learner satisfaction. Because the program aims to launch careers in innovation, academia and leadership, a means of charting steps along the continuum of professional development was also required.

Objectives
To design and pilot an assessment tool that describes progress in skills acquisition for scholarship and leadership careers.

Methods
We adapted the Dreyfus scale of skill acquisition from novice to expert to measure progress in three competency areas, “Research and Scholarship,” “Leadership and Advocacy,” and “Professional Identity Development.” The scale was sent to 52 faculty mentors and did not allow selection of expert.

Results
33/52 faculty mentors responded. For the three competency areas, 52%, 64%, and 67%, respectively, placed their mentees at proficient, the highest available level, describing competency usually achieved at the assistant professor stage.

Discussion
The number of mentors selecting the highest level of achievement greatly exceeded expectations. Program leaders anticipated that most UME learners would move from novice or beginner to beginner or competent. The failure to capture accurate data on the stage of learners’ professional development may be due to the culture of grading. Mentor education and explicit distinction of formative career progression assessment from summative performance assessment may improve appropriate scale use by mentors.

Target Audience
Medical educators and evaluators

References
**Student created modules to guide portfolio implementation**
Nicklaus Brandehoff, University of California, San Francisco

**Introduction**
In 2009 UCSF SOM launched MD Portfolio for students to provide evidence of achievement of competencies expected by graduates. However, students recognized the need for an orientation from a student perspective. We developed seven modules to guide students.

**Objectives**
To describe a student-created step-by-step guide to help student set up and become familiar with the MD Portfolio.

**Methods**
We consulted faculty advisors in education and technology to determine their vision of the portfolio and to identify key items to help student become familiar with the portfolio concept. We then developed six pilot online competency examples using the Mahara platform and one online introduction module using Articulate Engage software. Eighteen students evaluated the modules based on clarity, design, and accessibility. Final products were posted to the E-Portfolio in September 2009.

**Results**
Students found the Portfolio introduction module well designed and easy to use. Two students lost interest halfway through. Most valued having examples of competency reflections to structure their assignments. A few students thought the System-Based and Professionalism competency examples could have been more robust.

**Discussion**
This work provided a foundation for students to create a standard E-Portfolio profile at UCSF and learn the mechanisms of the online platform. Due to the evolution of the MD portfolio on both a platform and educational level, many of the examples are now obsolete, but these examples provided the groundwork for newer, more robust examples for students to use.

**Target Audience**
Faculty and students
Clinical Performance Skills: Which Factors Best Predict Clinical Performance Competence?
Kevan, A., Dietz, J., & Nevins, A.
Stanford University School of Medicine

Context
Comprehensive clinical skills assessments administered at various time-points throughout medical school evaluate clinical and interpersonal skills that are essential to the practice of medicine, regardless of specialty. Such assessments serve not only to identify which students excel in clinical skills, but importantly to identify students who have not achieved competence, and to help formulate specific remediation plans for these students before they enter clinical clerkships.

Objectives
Using data collected from a variety of clinical skills assessments researchers at Stanford School of Medicine are investigating which factors best predict clinical performance competence, as determined by CPX scores and clinical clerkship grades. Specifically, we examine whether scores in specific domains of clinical skills performance exams are more effective than others in predicting future clinical skills. In addition to clinical assessment scores, we analyze whether antecedent differences between students, which are independent of clinical exams (e.g. demographics, MCAT scores, course trajectories, etc.), can help predict students’ clinical competence as they progress through medical school.

Key Message
Careful analysis of clinical skills assessment data, particularly when correlated with additional student data and performance measures, can provide an important tool for providing early information about students who may benefit from remediation and help ensure that all students have achieved clinical competency needed for a successful transition from medical school to residency.

Conclusion
With medical schools obtaining greater amounts of information about their students, detailed analysis of evaluation data provides new opportunities to characterize students learning needs, which can be used to help tailor individualized learning plans to help students identify and remediate clinical skills deficiencies and build on their strengths.

Target Audience
Faculty, administrators, and researchers interested in applying new methods of data analysis to evaluation of students’ clinical skills.
Teaching Medical Students to Read
Laurie Richlin, PhD
Sylvia Merino, MBA, MPH
Charles R. Drew University of Medicine and Science

Context
Classroom and clerkship instructors report that their students do not read. Using a student survey, we explored the possibility that the students thought that they were reading but did not have the metacognitive training to read productively. This poster will report on the findings and make suggestions about teaching medical students to read so that they obtain and retain what they are assigned to learn.

Objectives
Participants interacting with this poster will be able to describe
• how medical students describe their reading and
• methods to assist medical students in deeper learning of texts.

Key Message
Being taught to read at age 6 does not prepare students to read medical texts and articles.

Conclusion
It is necessary to provide metacognitive instruction to assist medical students to read more efficiently and effectively.

Target Audience
Medical educators, administrators, and students

References
Interdisciplinary Team Care for Effective Management of Older Hospitalized Patients
S. Rennke; L. Mackin; A. Moylan; B. Johnston; E. Tam; V. Jue; M. Wallhagen; C.J. Lai.
University of California, San Francisco, San Francisco, CA

Introduction
Interdisciplinary team care is required for effective management of complex patients such as older hospitalized adults. It is therefore crucial that health professions students have learning experiences that mirror those care models.

Objectives
Student objectives were to (1) identify geriatric competencies pertaining to the hospital setting, (2) engage in team-based learning to complete a patient-focused bedside exercise, and (3) present a patient case emphasizing systems-based practice.

Methods
GeriWard, offered four times, included 26 third year medical students, 12 fourth year pharmacy students and 13 nursing students during 6 months of a 12-month pilot. GeriWard included: (1) a two-hour workshop, teams interviewed and examined an older patient focusing on one of three geriatric AAMC competencies: bladder catheters, restraints and skin assessment/pressure ulcer staging; and (2) medical students presented their findings to the inpatient team. Students completed pre- and post-workshop surveys on attitudes towards interprofessional education and self-efficacy around the competencies. Hospital-based faculty rated the student presentations on content and application to systems-based practice.

Results
All students showed improvement in attitudes toward interprofessional education pre and post-curriculum (p= 0.001). Students rated their self-efficacy on the geriatric competencies higher after participating in the curriculum. Hospitalist faculty rated the student presentations highly, citing the students’ ability to identify opportunities for quality improvement interventions.

Discussion
GeriWard is a novel interprofessional curriculum that combines team-based learning and bedside care of the hospitalized older adult. Team-based exercises can increase students’ self-assessed ability to care for patients and identify how systems can directly affect patient care.

Target Audience
Health professions educators

References
Levine, Ruth E. , O’Boyle, Michael , Haidet, Paul , Lynn, David J., Stone, Michael M., Wolf, Dwight V.
Introduction
Deficiencies in cardiac examination (CE) exist at all levels of medical training (1-5). When performing CE, deficiencies can occur at the stage of identifying findings or at the stage of interpretation of the findings and establishing a diagnosis. Clinical Reasoning (CR) is an un-researched subject in CE.

Objectives
Determine the correlation between detecting CE findings and establishing diagnosis.

Methods
A group of 40 residents and medical students at a community teaching hospital were asked to review an audiovisual recording of a patient with normal physiologic S3, record their findings and state the likely diagnosis. There were four possible correct findings (S1, S2, S3, no murmurs) and a point was given for each correct finding. Clinical reasoning was given +1 if findings correlated with diagnosis, 0 if finding was neutral in correlation to the stated diagnosis, and -1 if finding did not correlate with stated diagnosis.

Results
Participants identified S1 (66%), S2 (71%), any extra sound (46%) and S3 (22%). Participants were more likely to make correct diagnosis when findings correlated with diagnosis. Participants were more likely to make wrong diagnosis when their findings did not correlate with diagnosis. Fisher’s Exact Test of significance with p-value < 0.05 and Kendall’s tau test with p-value <0.001 confirmed the correlation between clinical reasoning and establishing diagnosis.

Discussion
Although subjects who correlated findings with their stated diagnosis were in the minority, they were overwhelmingly correct in both findings and diagnosis. Training programs should encourage clinical reasoning to address the deficiencies in cardiac examination.

Target Audience
WGEA. WGSB, residency program directors, faculty, Internal medicine residents, medical students, and cardiologists

References
Learners’ Perspectives on Effective Mentorship
Christy K. Boscardin, Allison Chen, Mark Lovett, Renee Courey, Louise Aronson/UCSF

Introduction
Mentorship can significantly influence personal development, career choice, and research productivity. The UCSF Pathways to Discovery program provides in depth training for careers beyond the routine practice of medicine. Program success depends on effective mentoring currently delivered by a team of project mentors and program directors. Learners currently identify project mentors based on content expertise and project interest.

Objectives
The purpose of the study was to identify characteristics of mentors that students consider important for effective mentorship in the Pathways program.

Methods
10 randomly selected medical students participated in a focus group. The learners were asked a series of structured, open-ended questions to describe their experience working with project mentors. 35 students also completed a survey item (4 point-scale) rating their overall experience with mentorship.

Results
30(86%) students rated mentorship quality as very good or excellent (3 to 4). Learners described an effective mentor as someone who provided content expertise but was also a “good advocate” and offered insight into the student’s career interests.

Discussion
Although learners select mentors based on content expertise, learners expect each mentor to provide scholarly, career development, and psychosocial support. While many faculty met their role as project mentors, learner expectations match program-wide goals rather than narrower project mentor roles. To better align learner expectations and available mentoring, we are 1) creating materials that explain the function of mentorship teams; 2) producing a mentor development module to expand mentor roles to meet the broader needs of students.

Target Audience
Medical educators, mentors
Towards an Understanding of How Group Size Affects Learning in PBL  
Alan Steinbach, Kevin Mack/UCSF-UCB Joint Medical Program

Context  
Inquiry Directed, Case Based, Small Group Undergraduate Medical Education

Objectives  
Determine the effect of Group Size on depth of Inquiry

Key Message  
The advent of a desired ‘pipeline’ program required an increased in small group size from 6 to 8 medical students for our Case/Problem based integrated curriculum. The optimal size of small groups for this kind of learning has not been well studied, Group size is usually determined by non-curricular factors. What actually occurs in a group is ephemeral and difficult to document without observational studies that can alter group dynamics. Experimental groups assembled for the purpose may not be relevant for medical studies. Students in the Joint Medical Program routinely create written Learning Objects to answer Learning Issues chosen after each day of a case. We analyzed these enduring artifacts using NVIVO software and grounded theory methodology to determine whether the change in group size significantly affected the scope of the student’s inquiry.

Conclusion  
There were significant changes in the number of Learning Issues self assigned, but probably not in the depth or breadth of the inquiry, although further study is needed.

Target Audience  
Medical Educators, medical students

References  
Mack, Kevin and Steinbach, A. Capturing the Magic: Using Learning Objects in Student Centered Learning to Develop Meaningful Assessments. WGEA, Asilomar Ca., 2003
Margaret C. Lohman and Michael Finkelstein, Designing groups in problem-based learning to promote problem-solving skill and self-directedness. Instructional Science Volume 28, Number 4, 291-307 http://www.springerlink.com/content/ng21124u85402x15/
Wooten, D., Mack, K., and Azzam, A., [Poster] Tell me and I will forget; Show me and I may remember; Involve me and I will understand: Tracking Inquiry in a Problem-Based Learning Curriculum, in Society of General Internal Medicine Annual Meeting. 2010: Minneapolis, MN.
Vertical Learning In Medical School: An MS1 and MS3 Collaborative Session on Congestive Heart Failure
*University of California, San Francisco, School of Medicine

Introduction
First-year medical students (MS1s) often learn clinical concepts with minimal clinical context. Third-year medical students (MS3s) typically learn clinical medicine without re-exposure to basic sciences. To bridge these gaps, we constructed a four-hour session on congestive heart failure (CHF) in which MS1s and MS3s work together, benefiting from each other’s perspectives. The curriculum consists of a two-hour team-based learning session, followed by a two-hour case-based small group discussion.

Objectives
To determine the effect of vertical learning between MS1s and MS3s.

Methods
We distributed a post-session survey, asking participants to rate their satisfaction on a 5-point scale (1=poor, 5=excellent). Additionally, CHF-related questions on the MS1 cardiology written exam were compared to historical controls.

Results
Response rates were 49/51 MS1s (96%) and 41/55 MS3s (75%). Mean ratings for satisfaction with the near-peer interaction were 3.88 and 3.49, respectively. MS1s were inspired by the knowledge of MS3s, while MS3s enjoyed the teaching role. The knowledge gained by MS3s from MS1s varied among students. Both groups commented that the MS3s seemed stuck between teacher and learner.

We found no significant difference in exam scores between current MS1s and historical controls.

Discussion
Overall, MS1s and MS3s enjoyed working together. MS1s appreciated learning from MS3s, who greatly enjoyed teaching. This demonstrates that vertical learning groups can be beneficial to junior and senior students, but perhaps in different ways. Moving forward, it might benefit both groups to better define the MS3 role in terms of teacher versus learner.

Target Audience
Basic science course/clerkship directors

References
**Dissemination and Implementation of an Evidence-Based Tobacco Treatment Curriculum**

Alan K. Louie, MD, Sebastien C. Fromont, MD, Karen Suchanek Hudmon, DrPH., RPH., Sharon M. Hall, PhD, Judith J. Prochaska, PhD, MPH

UCSF, Department of Psychiatry & UCSF, School of Pharmacy

**Introduction**

Nearly half of cigarettes sold in the U.S. are smoked by people with mental illness and substance use disorders. Yet, surveys suggest that psychiatrists don’t often treat tobacco use and only half of psychiatric residency program provide didactics on such treatment, with a median length of 1 hour (Prochaska et al., 2006).

**Objectives**

The current study evaluated the dissemination and implementation phase of Psychiatry Rx for Change, a 4-hour, tobacco-treatment curriculum for psychiatric residencies and graduate psychiatric nursing programs.

**Methods**

We developed a curriculum to teach evidence-based tobacco treatment at psychiatric training programs. Positive educational outcomes sustained at 3-months follow-up were demonstrated with psychiatric residents (Prochaska et al, 2008). Then, faculty from psychiatric residencies (n=28) and graduate psychiatric nursing programs (n=15), were trained on teaching this curriculum. Post-training and follow-up surveys were administered.

**Results**

Participants’ rating of their overall ability to teach tobacco treatment increased on a Likert scale comparing pre- and post-training (p<0.001). Participants anticipated teaching a mean of 5.6 hours of tobacco cessation content in the next year and 84% were interested in using the Psychiatry Rx for Change materials. Other educators accessed the materials at a website, which now has 1600 registrants. Implementation follow-up is evaluated.

**Discussion**

The training of psychiatric educators of an evidence-based tobacco treatment curriculum increased confidence in teaching tobacco cessation. Success in subsequent implementation was influenced by funding and changing duties of the trained faculty. The study provides a model for curriculum development, evaluation and dissemination.

**Target Audience**

Educators teaching tobacco treatment.

**References**


Cultural Competency Education: Are Positive Results Reproducible in First Year Medical Students?
Braden Meason, MS4/UC Denver Health Sciences Center
Paritosh Kaul, MD/UC Denver Health Sciences Center
Gretchen Guiton, PhD/UC Denver Health Sciences Center

Introduction
Health disparities exist in the United States and may be due in part to disparities in health care.\(^1\) One approach to addressing health care disparities is through cultural competency education.\(^2\) We instituted a cultural competency teaching session for first year medical students and present assessment data from that session after three years’ experience.

Objectives
We present a cultural competency education session design which may overcome many of the barriers to effective cultural competency education efforts.\(^3\)

Methods
We instituted a 2 ½ hour interactive session and administered the Health Beliefs Attitudes Survey\(^4\) (COMIRB Protocol 10-1523) to assess for change in attitudes regarding intercultural issues to three successive classes of first year medical students. Scores were analyzed using a paired t-test and ANOVA to assess for change.

Results
Significant positive change was seen for all three classes from pre- to post-test scores in both assessment categories.

Discussion
We have demonstrated significant positive change in response to our cultural competency teaching session. This session is effective with reproducible outcomes. The third class showed significantly more change than the prior two years’ despite having a higher pre-test score, which may be due to changes within the individual session differences in student group makeup. Further study is needed to assess the entire cultural competency curriculum and continue improving the existing sessions, as well as to correlate cultural competency education which does effect attitudinal change with improved clinical outcomes and health care disparities.

Target Audience
Medical student educators invested in improving cultural competency education.

References
Creating an Interprofessional Curriculum in Integrative Medicine
Shelley R. Adler, PhD; Yvette Coulter/UCSF

Context
An increasing number of academic health institutions are committed to integrative medicine principles, including partnership between patient and practitioner; collaborative, interprofessional health care; and promotion of health and the prevention of illness. There is, however, neither agreement on the ideal core competencies for medical, nursing, pharmacy, and dental students nor the ways in which integrative medicine should be included in the (interprofessional) training of these future health care practitioners.

Objectives
The objective of this five-year curriculum project is to develop, implement, evaluate, and disseminate a multidisciplinary, interprofessional curriculum in integrative medicine. The aims are to: (1) develop guidelines, based on a national survey of integrative medicine experts, for an interprofessional curriculum of core integrative medicine content; (2) design and implement components of a multidisciplinary and sustainable integrative medicine curriculum for learners across four health professional schools (medicine, nursing, pharmacy, and dentistry); (3) evaluate the implemented integrative medicine curriculum components and their impact on learners; and (4) disseminate the results of this curriculum work, both locally and nationally.

Key Message
Using integrative medicine principles to educate and engage interprofessional learners enables individuals to work together more effectively; share problem-solving and decision-making tasks; and integrate disparate knowledge structures into a single action plan.

Conclusion
Both integrative medicine education and interprofessional education seek to bring diverse professionals together in collaborative teams. The synergy of principles and strategies has the potential to improve patient-centered care in a variety of medical domains.

Target Audience
Medical educators

References
Behavioral Correlates of Exceptional Professionalism Among Clinical Medical Students
Erika Schillinger, MD; Clarence H. Braddock III, MD, MPH; Elizabeth Stuart, MD, MSEd
Stanford University School of Medicine

Introduction
Our medical school is transitioning from a pass-fail system to a criterion based evaluation in which students who distinguish themselves as “exceptional” will pass their clerkships “with distinction.” Among the 3 domains evaluated is student professionalism. Through qualitative analysis of reports of student performance, we sought to define exceptional professional behaviors.

Objectives
Using qualitative analysis, to explore the behavioral correlates of exceptional professionalism for clinical medical students.

Methods
- We gathered 130 descriptive comments from a working group of 10 faculty, residents and students from the family medicine, medicine, surgery, psychiatry and pediatrics clerkships who were asked to describe those students who exemplify outstanding professionalism, as well as from clerkship evaluations of students scoring highest in the professionalism domain.
- We performed qualitative analysis of these comments and descriptions using a coding scheme based on preliminary review of the data and previous studies of student professionalism.
- Each reviewer coded the dataset independently. Coders were allowed to assign multiple codes to individual comments. Coding discrepancies were resolved by consensus.

Results
Reliability (55%), Collaboration (52%) and Lifelong Learning (44%) emerged as dominant themes, as did Interactions with Patients and Families (19%), Resilience (12%), and Leadership (10%). This poster will explicate the behaviors that undergird and define these themes.

Discussion
- Behavioral descriptions of exceptional professionalism focused saliently on service to the medical team.
- Themes less frequently mentioned (e.g. adherence to ethical principles, such as confidentiality & consent) may be less valued, or perhaps are not observed at the core clerkship level.

Target Audience
Clinical educators, students, teaching faculty, staff.

References
GeriWard: An Interprofessional Team-Based Curriculum on Care of the Hospitalized Older Adult
S. Rennke; L. Mackin; A. Moylan; B. Johnston; E. Tam; V. Jue; M. Wallhagen; C.J. Lai.
University of California, San Francisco (UCSF)

Introduction
Interprofessional team care is required for effective management of complex patients including older hospitalized adults. Educational research has emphasized that health professions students should have learning experiences that mirror health care models. Team-based learning is a strategy to teach students skills for effective teamwork and patient care.

Objectives
Student objectives were to (1) identify geriatric competencies pertaining to the hospital setting, (2) engage in team-based learning to complete a patient-focused bedside exercise, and (3) present a patient case emphasizing systems-based practice.

Methods
GeriWard, offered four times, included 26 third year medical students, 12 fourth year pharmacy students and 13 nursing students during 6 months of a 12-month pilot. GeriWard included (1) a two-hour workshop, teams interviewed and examined an older patient focusing on one of three geriatric AAMC competencies: bladder catheters, restraints and skin assessment/pressure ulcer staging; and (2) medical students presented their findings to the inpatient team. Students completed pre- and post-workshop surveys on attitudes towards interprofessional education (IPE) and self-efficacy around the competencies. Faculty rated the student presentations on content and application to systems-based practice.

Results
Students showed improvement in attitudes toward IPE pre and post-curriculum (p = 0.001). Students rated self-efficacy on the geriatric competencies higher after participating in the curriculum. Hospitalist faculty rated the presentations highly, citing the students’ ability to identify opportunities for quality improvement interventions.

Discussion
A curriculum combining team-based learning and bedside care increased students’ attitudes towards IPE and self-assessed ability to identify geriatric competencies and systems-based practice.

Target Audience
Health professions educators

References
Moving Beyond Scholarly Concentrations: The UCSF Pathways to Discovery Program
Louise Aronson, Renee Courey, Carrie Chen, Harold Bernstein, Madhavi Dandu, Dan Dohan, Dan Lowenstein, Robert Nussbaum, George Sawaya, Christopher Stewart, Naomi Wortis, Josh Adler
University of California, San Francisco

Context
Medical schools offer Scholarly Concentrations that range from biomedical research to community advocacy, medical education, medical humanities and health policy. Most promote critical thinking, creativity, and preparation for careers beyond the care of individual patients. Scholarship about scholarly concentrations has emphasized skills acquisition, publication rates, impact on specialty choice and entry into faculty investigator positions.

Objectives
UCSF launched Pathways to Discovery in 2008 with three innovative goals: (1) expanding program goals beyond skills acquisition and project completion to career development of future innovators and leaders, (2) extending participation across training levels to residency and fellowship, and (3) establishing Pathways as an interprofessional faculty and learner collaboration.

Key Message
The UCSF Pathways to Discovery program nests work that has traditionally taken place in UME scholarly concentrations in a program which transcends training levels, health professions, and emphasizes longitudinal career development. Learners can enter at the undergraduate professional or advanced training levels and can participate at both levels if they remain at UCSF. This program structure raises challenges related to scheduling, release time, varying skill levels at program entry, differing developmental stages of program participants, criteria for program completion and balancing innovative, sometimes technology-supported asynchronous learning with the need to create scholarly communities.

Conclusion
The IOM, AAMC and ACGME advocate for programs to train healthcare providers for careers beyond patient care. Operationalizing this across the health education curriculum presents challenges and opportunities for educational innovation to meet both individual learner career development needs and larger societal needs.

Target Audience
Deans, health professions educators
Implementing SNAPPS: A Learner-Centered Experiential-Learning Tool for Medical Students in the Clinical Setting


1 David Geffen School of Medicine at UCLA
2 UCLA Graduate School of Education and Information Studies
3 VA Greater Los Angeles

Introduction
Medical students often assume a passive-learner role in the ambulatory care setting, where teaching time is limited. In response, a learner-centered experiential learning tool – SNAPPS – was developed by Wolpaw and colleagues for third-year medical students to use during their clinical rotations. In 2009, UCLA elected to implement SNAPPS as part of the yearlong second-year medical student preceptorship course.

Objectives
This study evaluates the success of implementing SNAPPS at another institution with a different educational setting.

Methods
The effect of SNAPPS on student’s clinical reasoning skills was measured by comparing student performance on a single-case Objective Structured Clinical Exam administered at the end of the course to that of the previous class who had not received training in SNAPPS. A mid-course survey was administered to assess the utilization of SNAPPS by students.

Results
There was no significant difference in clinical skills performance between student cohorts. Upon further examination, 66% of the students indicated that they had used SNAPPS with their preceptors but of that, only 33% indicated they had successfully performed all six steps.

Discussion
This study underscores difficulties in implementing SNAPPS in a different clinical setting that include the ability to deliver faculty development to a large number of clinicians which was drastically different from the original study. Using a measure specifically designed to assess clinical reasoning skills may yield different outcomes when planning for future implementation of SNAPPS.

Target Audience
clinical skills instructors, medical educators.

References
Leveraging a Near Peer Medical Student to Improve Orientation and Training on Portfolios and Competency-Based Development
Amanda Angelotti (MS2), Chandler Mayfield - UCSF School of Medicine

Context
UCSF launched an electronic portfolio in 2009 for medical students to support competency-based development. After its first year, students reported that they did not understand portfolio requirements, value, or purpose and that technical resources were inadequate and confusing.

Objectives
A second year medical student developed and delivered a new student orientation session on portfolios and their relationship to competency-based development to incoming first year medical students in the fall of 2010. This session clarified how the portfolio supports professional development from the perspective of a near peer, provided examples of portfolios created by fellow students and residents and discussed competencies in student friendly and approachable terms. The student also redeveloped existing online resources to clarify the purpose and requirements of portfolio and improve and highlight the technical help section. Surveys will be disseminated to students to assess the updated training and materials. These data will be compared to data from the first year of portfolio implementation.

Key Message
Medical students can develop clearer, more student-friendly communications, orientations and evidence for portfolio’s value and the role of competency-based development to help improve student orientation and training.

Conclusion
Medical student developed near peer orientation and training materials can help address communications challenges when presenting portfolios and competency-based development.

Target Audience
Medical Students, Educators

References
None
The Stanford Medical Student Influenza Prevention Program: A Model for Vaccine Education and Clinical Experience for Medical Students
Jessica W. Tsai, B.S., Tamara K. Montacute, B.S., M.P.H., and Walter S. Newman, Jr., M.D.
Stanford University School of Medicine

Introduction
Each year in the United States, nearly 20,000 people die as a result of influenza. Stanford medical students have shown a commitment to administering influenza vaccines to the community to ameliorate this statistic.

Objectives
The Stanford Medical Student Influenza Prevention Program, also known as the Stanford Flu Crew, serves as a model for other institutions to provide unique medical student opportunities and leadership experiences while simultaneously positively impacting local communities and providing patient education.

Key Message
Each year, first year Stanford medical students are educated about the pathophysiology of the influenza virus and its associated epidemiology. Students receive supervised hands-on training in proper vaccine administration and bedside manner. With this training, students are equipped to provide thousands of vaccines to rural farm workers in five Northern California counties. Moreover, in collaboration with Stanford University Employee Health and Vaden Student Health Center, Stanford medical students have provided free vaccines to thousands of faculty, staff, and students on campus. These vaccines are administered in student dining halls after dinner and various convenient work-sites throughout the fall season. In addition, on November 2, 2010, the first medical student-initiated Vote and Vax provided vaccinations at two polling booths in Santa Clara County.

Conclusion
The Stanford Medical Student Influenza Program provides a unique, positive, and early clinical experience for medical students that could easily be replicated at other medical schools across the country. Equally important, the program has reduced the burden of influenza in the community.

Target Audience
Medical students and faculty
A New Approach to Teaching Evidence Based Practice at a Western US Medical School
Eldredge JD, Palley T, Cosgrove E, Arndell C.

Introduction
Students at the University of New Mexico’s School of Medicine have learned Evidence Based Practice (EBP) since the 1990s. For most of these years EBP competencies were integrated into the curriculum due to strong administrative support. The new Public Health Certificate provides credit toward an MPH degree for all medical students. The Certificate includes the two hour credit EBP course.

Objectives
This poster session will describe origins of and current form of the EBP credit course. The session will include the learning objectives, knowledge and skills covered in this new integrated course.

Methods
This poster session will provide exam score outcomes as well as anonymous student evaluations.

Results
The first two authors piloted the new EBP course with existing first- and second-year medical students during 2009 and early 2010. Students' formative assessment and summative exam scores were encouraging. Anonymous student evaluations rated the first intervention in the pilot course with numbers of 4 or higher on a five-point scale. The first incoming medical class cohort in which all students were required to take the EBP course began in 2010. Students performed well on formative assessments and exams early in their medical school experience and anonymous student evaluations were promising.

Discussion
The authors will discuss the “lessons learned” from their experiences and describe the current challenges of teaching a skills-intensive course during the first year of medical school.

Target Audience
Medical educators (and possibly interested students) faced with needing to integrate EBP training into crowded medical school curricula.
Creating a Faculty Development Collection in a Health Sciences Library
Darlene Parker-Kelly, Director, Health Sciences Library
Laurie Richlin, Director, Office of Faculty Development
Katherine Russell, Medical Librarian
Charles R. Drew University of Medicine and Science

Context
All faculty members at the Charles R. Drew University of Medicine and Science are expected to be educators. As part of the CDU faculty development policy and procedures, faculty members begin their development with Academic Boot Camp, which introduces them to course design, facilitation, assessment, and the Scholarship of Teaching and Learning (SoTL). The CDU Library and the Office of Faculty Development collaborated to create and promote a special Faculty Development collection. This collection is housed within the Health Sciences Library and includes over 300 print items and over 140 electronic journals which are related to student learning, teaching methods, and medical education.

Objectives
This poster will display the creation of a specialized collection that comprise of Faculty Development materials, which is now available for faculty members, including online publicity and on opening reception.

Key Message
Development as medical educators needs to be a lifelong learning endeavor. This can be facilitated by providing books and journals on student learning and teaching methods in a scholarly location and by promoting and rewarding the Scholarship of Teaching and Learning (SoTL). The collaboration between the Library and the Office of Faculty Development promotes life-long learning and provides ongoing support for the improvement of teaching and learning at Charles R. Drew University.

Conclusion
Promoting the Scholarship of Teaching and Learning (SoTL) can be facilitated by providing scholarly resources to medical educators.

Target Audience
Medical educators, faculty developers, librarians, administrators
Clarifying and Adopting Promotion Criteria for Clinician Educators: Blazing the Trail at the University of New Mexico Department of Internal Medicine

Bronwyn Wilson MD, MS Ed, Vice Chair, Faculty Development & Diversity, Department of Internal Medicine, Assistant Dean of Academic Affairs, School of Medicine, University of New Mexico

Context
Educational scholarship in promotion and tenure decisions has been challenging to define at our institution. In 2007, the AAMC published a Consensus Statement on the categories of Educational Scholarship (Simpson et al, 2007). Developing a clear career pathway to promotion for clinician educators (CE) includes education about the CE promotion requirements, clarification about the standards to be used associated with each of the Educational Scholarship Consensus Statement categories, and faculty culture change. Among the challenges is a paucity of full professors who can mentor Clinician Educators (CEs). Non-traditional dissemination opportunities for educational innovations are often unknown to mentors and faculty on promotion and tenure committees.

Objectives
• Develop a clear set of expectations based on the AAMC Consensus categories for clinician educator advancement over time with increased expectations for dissemination over a career.
• Use as a guide for faculty and mentors.

Key Message
An institutionally acceptable set of specific expectations for Clinician Educators in Education and Educational Scholarship based on the AAMC consensus statement was devised and adopted by the Department of Internal Medicine (DoIM). The process involved by-in by the department faculty executive committee, many of whom were not CEs. These guidelines, disseminated through presentations and workshops, currently inform junior CE faculty, senior mentors and the Promotion & Tenure Committee about the activities that indicate excellence in education for the purpose of promotion. Three other departments are using the DoIM template to revise their own promotion criteria.

Target Audience
WGEA participants, especially faculty involved in education and mentorship

References
Simpson D et al. Advancing educators and educational scholarship by defining the components and evidence associated with educational scholarship. Medical Education 2007: 41: 1002-1009.
iPhone Opioid Conversion app - Teaching Medicine Using Mobile Devices in the Course of Patient Care
Chris Marcellino, University of California San Francisco (UCSF)
Norris Vivatrat, MD, Santa Clara Valley Medical Center (SCVMC)

Context
"Smartphones" and other mobile devices have become ubiquitous in recent years, but there has not been a concordant increase in medically accurate and instructional medical applications. Many commonly used concepts and algorithms can be readily taught in the form of an iPhone application that helps the user determine the appropriate treatment in difficult, complex and error-prone situations.

Objectives
An iPhone/iPad app was developed to help teach pain management and opioid conversion. The application visually demonstrates the formulas and logic used to perform each calculation. All of the input data is displayed on screen with the output data to reduce the likelihood of user error. A reference section is provided with standard equivalency values.

Key Message
We demonstrate the Opioids application, available on the iPhone and iPad App Store. Opioids has received more than 17,000 downloads and many positive user reviews. The application is commonly used by housestaff and students at Santa Clara Valley Medical Center

Conclusion
The Opioids app has been a useful tool in teaching opioid conversion to students and trainees at SCVMC. We envision that mobile device applications would be a useful medium for teaching other techniques and concepts in medicine.

Target Audience
Medical educators, students, trainees and practitioners (WGEA and WOSR)

References
Simulation Training Makes a Mark on Delayed Posttest Results
Omar Darwish DO, MSc\textsuperscript{1,2}, Howard Van Gelder, MD\textsuperscript{1,2}, Nitin Bhasin MD\textsuperscript{1,2}, Peregrina Arciaga\textsuperscript{3}, MD, Sylvia Merino\textsuperscript{3} and Jasminka Criley, MD, FACP, FHM\textsuperscript{1,2,3}
St Mary Medical Center\textsuperscript{1}, Long Beach, CA, David Geffen School of Medicine at UCLA\textsuperscript{2}, Los Angeles, CA and Charles Drew University of Medicine and Science\textsuperscript{3}, Los Angeles, CA

Introduction
Simulation training is a safer way of teaching residents to become proficient in procedures. However, few studies have looked at the effects of simulation training on delayed posttest performance.

Objective
To determine if simulation training would improve delayed posttest results.

Methods
We conducted an educational intervention for internal medicine residents (n=27) at a teaching community hospital. All residents completed a 13 question pre-test, before the simulation training. Pre-test evaluated knowledge of the indications, contraindications, and complications of all the procedures, as well as the anatomy and procedure skill itself. The simulation training consisted of 4 stations: central venous catherization-internal jugular vein approach, central venous venous catherization-subclavian vein approach, arterial line placement, and endotracheal intubation. Answers to the questions were not given during or after the simulation workshop. Six-weeks later, residents (n=25) completed a post-test. A paired student t-test was used to determine statistical significance, which was defined as $p< 0.05$.

Results
Delayed posttest results improved significantly after simulation training from the mean pretest score 63\% $\pm$ 18\% to mean posttest score 80\% $\pm$ 15\%, $p = 2 \times 10^{-7}$.

Conclusion
Simulation training demonstrated an improvement in delayed posttest results. Residents who completed simulation training retained their knowledge of the information 6 weeks later.

Reference