Education Symposium 2014

April 21-22, 2014
Parnassus Campus Library
The Haile T. Debas Academy of Medical Educators presents:

**THE 13th ANNUAL EDUCATION SYMPOSIUM**

University of California, San Francisco School of Medicine
April 21-22, 2014

**Schedule at a Glance**

**April 21, a.m.**
Plenary Session: Lange Room

8:00-8:30  Registration, continental breakfast
8:30-10:30  Oral Presentations
10:45-11:30  Keynote Address by Nicole N. Woods, PhD
Education Scientist at The Wilson Centre for Research in Education at The University of Toronto
11:30-11:45  Presentation of Cooke Award

**April 21, p.m.**
Poster sessions: Teaching and Learning Center
Full schedule & moderated tour guide map

12:15-1:30  Session 1
1:45-3:00  Session 2
3:15-4:30  Session 3

**April 22, a.m.**
Workshops: Teaching and Learning Center in S.F.
*Effective Procedural Teaching will also be held in Room 136 at UCSF Fresno*
9:00-11:00 (pre-registration required)
- The Illusion of Memory, CL 223
- Effective Procedural Teaching on the Fly, CL 220

**How to use this guide**

Blue text denotes links to sections of the schedule and the details about each oral presentation and poster. Click the **HOME** link to navigate back to this page.

**About the Academy**
Welcome to Education Symposium

Dear Friends,

On behalf of The Haile T. Debas Academy of Medical Educators, we are proud to present the thirteenth annual Education Symposium, an event that showcases the scholarly work of the UCSF School of Medicine’s faculty, residents, students - and our campus colleagues.

The program covers a variety of important research questions and innovations in medical education. Following a blinded peer review of all abstract submissions, the Academy’s Scholarship Committee has selected 49 submissions to be featured at the plenary and poster sessions. Six of these submissions have been selected as oral presentations based upon their quality and collective relevance to the audience of medical educators. This year’s posters will again be digitally displayed, with moderated discussion sessions, in the Library’s Technology Learning Center.

This year marks the Academy’s eighth annual Cooke Awards for the Scholarship of Teaching and Learning. Please join us for the awards presentation during today’s plenary session.

We are also pleased to offer a number of special programs. We welcome Nicole N. Woods, PhD, an Education Scientist at The Wilson Centre for Research in Education at The University of Toronto, as this year’s visiting professor. She will deliver today’s keynote address, “Cognitive Connections: Recent Research on the Integration of Basic and Clinical Science”. On Tuesday, Dr. Woods will also lead a workshop, “The Illusion of Memory.” There will be an additional, concurrent Tuesday workshop, “Effective Procedural Teaching on the Fly.” This two-campus workshop represents our continued commitment to stretching our own boundaries as educators, as it will be equally co-presented by UCSF colleagues at the Parnassus and Fresno campuses.

We extend profound thanks to our community of medical educators for their impressive and abundant contributions to this year’s Education Symposium. This program provides just a small glimpse of the creativity and excitement of their scholarly work here at UCSF. In the current climate of significant changes in both clinical care and the education of future clinicians, we feel privileged to be amongst so many passionate health professions educators dedicated to advancing the scholarly rigor of our collective work.

Warmly,

Amin Azzam, MD, MA
Chair, Scholarship Committee

Helen Loeser, MD, MSc
Director, Academy of Medical Educators
In order of presentation

Beyond “Great Job”? Content and Quality of Feedback Among Students on Interprofessional Learning Teams
Jennifer Mandal, MD; Maria Wamsley, MD; Sandrijn van Schaik, MD, PhD

Development of an Inter-professional Patient Safety Curriculum in Emergency Medicine using Simulation
Deena Bengiamin, MD; Stacy Sawtelle, MD; Stuart Maxwell, MD; Peter Anastopoulos, MD; Omar Guzman, MD; Jaime Antuna, MD

Innovative faculty development using objective structured teaching exercises (OSTE)
Ivan Gomez, MD; Alex Sherriffs, MD; Susan Hughes, MS; Rebeca Lopez, MPH

Is training in a primary care internal medicine residency program associated with a career in primary care medicine? A cross sectional analysis of a 10-year cohort
Marion Stanley, MD; Bridget O’Brien, PhD; Rebecca Shunk, MD; Sharad Jain, MD; Katherine Julian, MD; Robert Baron, MD; Jeff Kohlwes, MD

The Social Media Index: Measuring the impact of medical education websites
Michelle Lin, MD; Brent Thoma, MD, MA; Jason Sanders, MD, PhD; Quinten Paterson; Jordon Steeg; Teresa Chan, MD

A Quality Improvement Project to Promote Safe and Effective Opioid Prescribing at an Academic Family Medicine Center
Payam Sazegar, MD; Faren Clum; Jessamyn Conell-Price; Tamiko Younge
Dr. Woods is a cognitive psychologist who received her PhD at McMaster University in 2005. While at McMaster she worked with a team of psychologists and physicians interested in applying principles from cognitive science to clinical reasoning. She is currently an Education Scientist at The Wilson Centre for Research in Education at The University of Toronto. Dr. Woods has developed a program of research examining the interaction between clinical knowledge and basic science knowledge in diagnostic reasoning. Over the years, this line of research has expanded to include applications in Medicine, Surgery and Dentistry. Dr. Woods is also the Director of Education Evaluation for the Department of Surgery and the Associate Director of the Centre for Ambulatory Care Education.

On Monday, Dr. Woods’ will deliver the Keynote Address, Cognitive Connections: Recent Research on the Integration of Basic and Clinical Science. On Tuesday, she will present a workshop on The Illusion of Memory. Participants will learn how the human memory system works and why simple repetition isn’t a useful tool for learning or improving memory. Instead, Dr. Woods will introduce alternate strategies, including effective basic & ready-to-use teaching strategies, as well as more complex techniques for helping learners retain information following lecture-based didactic instruction.

Cooke Award for the Scholarship of Teaching and Learning

The Academy is pleased to continue the Cooke Award for the Scholarship of Teaching and Learning, established in 2007 to recognize outstanding scholarly works presented at Education Symposium. All submissions to Education Symposium were eligible for these awards, which are accompanied by a certificate and honorarium. Top-scoring projects were nominated for the award following a blinded peer review of all abstract submissions. Award winners were determined by a ballot in which Scholarship Committee members ranked the blinded abstracts, excluding those in which they were involved.

Please join us in congratulating the 2014 recipients:

Development of an Inter-professional Patient Safety Curriculum in Emergency Medicine using Simulation
Deena Bengiamin, MD; Stacy Sawtelle, MD; Stuart Maxwell, MD; Peter Anastopoulos, MD; Omar Guzman, MD; Jaime Antuna, MD

Innovative faculty development using objective structured teaching exercises (OSTE)
Ivan Gomez, MD; Alex Sherriffs, MD; Susan Hughes, MS; Rebeca Lopez, MPH
12:15-1:30 - SESSION ONE
Room CL 220/223

- Introductory Learning Modules for Drug Dosage Forms and Delivery Routes
- Teaching Safe Transitions: A Post-Discharge Follow-up Pilot for Third-year Medical Students
- Using mobile apps to transform medical education and clinical decisions for patient care
- A pre-clinical interprofessional curriculum in antimicrobial stewardship improves knowledge and attitudes toward interprofessional healthcare in two professional schools
- Educational Scholarship in the Digital Age
- Health Professional Students’ Perceptions of Interprofessional Feedback
- Resident physician perceptions of interprofessional feedback
- Student Report: A novel near-peer teaching approach linking basic microbiology with clinical infectious diseases through student-created curricula

Room CL 221/222

- Development of pediatric cases to parallel preclinical curriculum
- Easing the Transition from Student to Physician: Improving Self-Confidence through an Intern Boot Camp
- Having Death & Dying Discussions: Educating Second Year Medical Students Through Large Group Testimonial “Lectures” by Patients or Family Members
- Residents building meaningful community partnerships through a team-based, longitudinal Community Pediatrics rotation
- An Objective Assessment Tool for Basic Surgical Knot Tying Skills
- Anatomical enlightenment – can a fresh frozen cadaver course for surgical residents in training improve the gaps in their anatomical knowledge and operative understanding?
- Curriculum Revision to Engage Learners and Optimize Interprofessional Teaching

1:45-3:00 - SESSION TWO
Room CL 220/223

- iROCKET Reader: Launching an Online Learning Platform to Support Longitudinal Integration
- Quality Improvement, Patient Safety, and Leadership curriculum
- Faculty feedback on critical reflection: Is training retained over time?
- Longitudinal Experience with an Evidence-Based Critical Care Ultrasound Course
- Feasibility of patient-initiated feedback to inform resident performance on ED wound closure
- Resident Competence Review in Graduate Medical Education: a Qualitative Study
- Medical students’ engagement in collaborative communication during an interprofessional standardized patient encounter
Room CL 221/222

- A pilot project to encourage faculty involvement in quality improvement activities in outpatient clinics
- Development and Evaluation of an Interprofessional Curriculum to Improve Colorectal Cancer Screening Rates
- Development of a Standardized Curriculum for the Medical Student Radiation Oncology Elective
- Editing Wikipedia: Feasibility study of 4th year medical student elective
- CaseAce: Online Case Challenge for Preclinical Medical Students
- Can you see me now? Video supplementation for pediatric teledermatology cases.
- Employing a peer-led and flipped-classroom teaching model to promote interprofessionalism between pharmacy and physical therapy students

3:15-4:30 - SESSION THREE

Room CL 220/223

- Renewal In Residency: A Novel Curriculum for Medical Residents to Improve Well-being and Increase Personal Meaning of Physicianhood
- Requiring Reflection: An Assessment of Student Outcomes Between Students Who Wanted to or Did Not Want to Participate in the Healer’s Art
- The “Building Blocks” of Anti-Retroviral Therapies: A Novel Way to Teach Trainees about ARVs
- Toward a Curriculum to Review, Assess, and Improve Retention of Medical Knowledge
- Team Huddles as workplace learning opportunities: An observational study
- Use of Racial and Ethnic Identifiers in the Clinical Clerkship Curriculum
- Using Chart-Stimulated Recall to Assess Resident Instruction in Screening, Brief Intervention and Referral to Treatment Skills for Alcohol Use

Room CL 221/222

- Advancing Shared Decision-Making in the Inpatient Setting: The UCSF Patient Engagement Project (PEP)
- Interprofessional development of online curriculum modules that prepare future health professionals for community engagement
- Teaching Global-Health Ethics Using Simulation: An Interprofessional Curriculum
- First Experience with a Massive Open Online Course (MOOC): Introduction to Clinical Neurology
- Perceived deficiencies in infectious diseases knowledge among fourth-year medical students: a step to creating a longitudinal medical student infectious diseases curriculum
- Predictors of Matching in Ophthalmology Residency for International Medical Graduates
- Teaching Point of Care Ultrasound Skills to First-Year Medical Students: Enhancing Anatomy Education and Providing Foundational Knowledge for Clerkships
Moderated Poster Session Logistics

- At each tour group “stop” the viewer will have 1 minute to read the poster.
- The author will give a 1-2 minute summary followed by 4 minutes of Q & A.
- An identical process will occur concurrently for tour groups 3 and 4 in rooms CL 221/222.
- Note that each moderated hour will only accommodate a tour of half the posters displayed during that session (e.g. one of two rooms).
- You can see the other 8 posters during the un-moderated poster viewing session.
- The entire process will repeat with 16 new posters during moderated poster sessions #2 and #3.
Effective Procedural Teaching on the Fly.
Co-presenters: Jeffrey Tabas, MD in San Francisco and Kenny Banh, MD in Fresno.

This workshop will focus on educator techniques that make teaching procedures simultaneously successful, safe, and educationally high yield, all while ensuring patient satisfaction! Drs. Banh and Tabas will review how to assess learners’ goals and abilities, avoid complications and assess what was learned. This session uses best practice review and small group discussion and is geared to educators at all levels who supervise learners of procedural skills.

At the end of this session, attendees will be able to:
- Describe the conceptual framework of deliberate practice as it applies to teaching procedures
- Implement improved approaches to maximize the safety and success of procedures performed by supervised learners
- Implement improved approaches to improve patient satisfaction who undergo procedures performed by supervised learners
- Implement improved approaches to improve skill retention of learners
- Describe common challenges that procedural supervisors face and how to overcome them

The Illusion of Memory
Presenter: Nicole N. Woods, PhD

Participants will learn how the human memory system works and why simple repetition isn’t a useful tool for learning or improving memory. Instead, Dr. Woods will introduce alternate strategies, including effective basic & ready-to-use teaching strategies, as well as more complex techniques for helping learners retain information following lecture-based didactic instruction.
A Quality Improvement Project to Promote Safe and Effective Opioid Prescribing at an Academic Family Medicine Center

Payam Sazegar, MD, UCSF, payam.sazegar@ucsfmedctr.org; Faren Clum, UCSF, Faren.Clum@ucsf.edu; Jessamyn Conell-Price, UCSF, JConell-price@ucsf.edu; Tamiko Younge, UCSF, Tamiko.Younge@ucsf.edu

Areas abstract covers: UME

Domain(s) addressed: Community Medicine, Competencies, Curricular Innovation, Quality Improvement

Purpose: To implement safe and effective opioid prescribing practices at UCSF Primary Care through engagement of medical students in continuous quality improvement.

Background: There has been an alarming trend in the past decade toward increased prescribing of opioids for chronic non-cancer pain, despite limited evidence for their efficacy. Even more daunting is the commensurate rise in opioid-related deaths in the past decade. Nationally, there is a known gap between physician prescribing habits and established best practices.

Methods: In this study we describe a medical student-driven intervention to reduce some of these identified care gaps. Physicians at the UCSF Family Medicine Center were surveyed regarding their challenges and pitfalls in treating chronic pain patients requiring or requesting opioid medications. Survey results were analyzed and showed wide variation in prescribing habits but also a need for a standardized, systematic approach to challenging patients. Based on the survey, some simple tools (known as Smartphrases) were created for the electronic health record allowing prescribers to provide safe, comprehensive and efficient chronic pain assessments. In this study, we describe our practice tool kit and its practical implementation to provide continuous quality improvement (CQI) at an academic teaching center.

Evaluation Plan: Feedback from physicians surveyed will be needed to determine how they are using these tools, what is working for them, and if they believe it has made their practice safer and more effective. We anticipate there will be an increase in urine drug screening at the faculty practice through a more systematic approach this tool kit makes possible.

Dissemination: We would be interested to present this as a workshop or, alternatively, a poster presentation. We are interested in publishing and disseminating to a wider audience.

Reflective Critique: The results of this projected were presented to PISCES faculty members on 01/28/2014 and will be presented to the UCSF Family Medicine Center in March 2013 along with the aforementioned training for the new practice tool kit.

Development of an Inter-professional Patient Safety Curriculum in Emergency Medicine using Simulation

Deena Bengiamin, MD, UCSF Fresno, dbengiamin@fresno.ucsf.edu; Stacy Sawtelle, MD, UCSF Fresno, ssawtelle@fresno.ucsf.edu; Stuart Maxwell, MD, UCSF Fresno, smaxwell@fresno.ucsf.edu; Peter Anastopoulos, MD, UCSF Fresno, panastopoulos@fresno.ucsf.edu; Omar Guzman, MD, UCSF Fresno oguzman@fresno.ucsf.edu; Jaime Antuna, MD, UCSF Fresno, jantuna@fresno.ucsf.edu

Areas abstract covers: GME

Domain(s) addressed: Curricular Innovation, Interprofessional Education, Residency, Simulation

Purpose: To engage the entire patient care team in a simulation-based patient safety curriculum relevant to Emergency Medicine (EM).

Background: Since the release of the Institute of Medicine report, “To Err is Human: Building a Safer Health System”, hospitals have become increasingly focused on improving patient safety. Simulation is an effective tool for inter-professional education; however, there are few examples of patient safety curricula relevant to EM.

Methods: We developed our curriculum based on actual patient safety incidents reported in our Emergency Department (ED) through our anonymous, on-line Incident Report Improvement System (IRIS). Medication errors, procedural errors, concerns about inter-professional communication and oversights during transitions of care appeared frequently in our database. Five simulated patient encounters were developed around these topics and are performed in-situ in the ED. The patient care team is activated to respond to a critically ill patient in the typical fashion and only on arrival to the patient room is it revealed that the patient is the SimMan. An error is built into each case using a confederate nurse, pharmacist or physician. Each case affords the opportunity for patient advocacy and correction of the error. A debriefing session follows each scenario that includes opportunities for reflection on improving the patient safety culture in our ED.

Evaluation Plan: We are planning on measuring the change in the culture of patient safety in our department after implementation of our curriculum using an abbreviated version of the AHRQ Hospital Survey on Patient Safety Culture. We will also compare the incidence of reported threats to patient safety before and after implementation of the curriculum.

Dissemination: We plan to disseminate the curriculum through MedEdPortal and academic EM conferences.

Reflective Critique: Anonymous feedback is solicited from participants.

ORAL PRESENTATIONS
CURRICULAR EVALUATION AND EDUCATIONAL RESEARCH

Beyond “Great Job”? Content and Quality of Feedback Among Students on Interprofessional Learning Teams

Jennifer Mandal, MD, UCSF, jennifer.mandal@ucsf.edu; Maria Wamsley, MD, UCSF, maria.wamsley@ucsf.edu; Sandrijn van Schaik, MD, PhD, UCSF, VanSchaikS@peds.ucsf.edu

Areas abstract covers: UME

Domain(s) addressed: Communication, Feedback, Interprofessional Education, Research
Purpose: To analyze the quality of peer-to-peer feedback among health professional students working in interprofessional teams.

Background: The recently defined interprofessional competencies include giving instructive feedback to team members. At UCSF, students participating in an Interprofessional Standardized Patient Exercise (ISPE) give each other feedback after the exercise. Whether students early in training give each other substantive feedback on teamwork skills is unknown.

Methods: Students from 7 health professional schools (Dentistry, Dietetics, Nursing, Medicine, Pharmacy, Physical Therapy, Social Work) worked in teams during the ISPE to interview and develop a care plan for a complex patient. Students received instructions to provide specific written feedback for their teammates, on their interviewing and teamwork skills. We analyzed the length of de-identified feedback comments and developed a scoring grid to rate the quality of feedback. This grid scores whether feedback contained statements to keep, stop, or start a specific behavior and includes an anchored global score (4-point scale). Two independent coders rated all comments and reconciled differences through discussion.

Results: We analyzed 1654 feedback comments from 353 students. Interviewing skills received longer comments than teamwork skills (45±27 vs 30±19 words per comment, P<.0001). Comments on interviewing skills received higher global scores than comments on teamwork skills (3.0±0.8 vs 2.5±0.8; P<.0001). Thirty percent of feedback comments included a “start statement” and only five percent a “stop statement”.

Discussion: Students provided longer and higher quality feedback when commenting on their colleagues’ interviewing skills, and were more vague and brief in feedback on teamwork skills. This may reflect that students have a better understanding of, and more experience with, interviewing skills than with teamwork skills, and highlights the need for explicit education about teamwork.

Reflective Critique: This study was reviewed by Escape and after analysis is complete we plan to submit a manuscript for peer review.

Innovative faculty development using objective structured teaching exercises (OSTE)

Ivan Gomez, MD, UCSF Fresno, igomez@fresno.ucsf.edu; Alex Sherriffs, MD, UCSF Fresno; Susan Hughes, MS, UCSF Fresno, shughes@fresno.ucsf.edu; Rebeca Lopez, MPH, UCSF Fresno

Areas abstract covers: UME, GME, Faculty Development

Domain(s) addressed: Curricular Innovation, Faculty Development, Feedback, Simulation

Purpose: A longitudinal curriculum was designed to help faculty improve their teaching skills using standardized learner simulations in objective structured teaching exercises (OSTE).

Background: The OSTE uses specifically crafted scenarios designed to target teaching challenges, and provides a high degree of consistency that allows faculty to reflect and receive peer feedback. Supportive, timely and specific formative feedback is more apt to modify thinking or behavior.

Methods: Four OSTE scenarios were developed involving difficult learners. Sixteen faculty participated in all scenarios; either as faculty preceptor or peer observer. Sessions were digitally recorded. Quantitative measures for each faculty included pre/post teaching evaluations and a behavior checklist score. Qualitative measures included semi-structured interviews. Video was categorized by scenario encounter and relevant excerpts denoting key observations and teaching points were assembled. Five small group reflection sessions were held using a trained faculty facilitator in the 9 months following the OSTE; one specific to each scenario and one focusing on peer feedback.

Results: A mixed methods analysis was done to assess effectiveness of the curriculum. Pre and post teaching evaluations were compared using a paired t-test. Grounded theory analysis was used to identify common themes from individual semi-structured interviews. There was no statistical
difference in teaching evaluations. Average pre and post scores were 4.50 and 4.45 respectively (p=0.14). Themes identified from interviews included: potential behavior change, repeating the OSTE experience, social learning, learning is uncomfortable, collegiality, and reality of scenarios.

Discussion: This study showed many qualitative benefits, but no difference in teaching evaluations. Poster accepted for presentation at the Society of Teachers of Family Medicine Conference in May 2014.

Reflective Critique: The project was deployed at a smaller scale with senior residents in late 2013. After analysis and review of methods and feedback, the project was determined to be of significant educational value and has been integrated into the residency and faculty curriculum.

Is training in a primary care internal medicine residency program associated with a career in primary care medicine? A cross sectional analysis of a 10-year cohort.

Marion Stanley, MD, UCSF, marion.stanley@ucsf.edu; Bridget O’Brien, PhD, UCSF, ObrienB@medsch.ucsf.edu; Rebecca Shunk, MD, UCSF, Rebecca.Shunk@ucsf.edu; Sharad Jain, MD, UCSF, Sharad.Jain@ucsf.edu; Katherine Julian, MD, UCSF Kathy.Julian@ucsf.edu; Robert Baron, MD, UCSF, baron@medicine.ucsf.edu; Jeff Kohlwes, MD, UCSF, jeffk@medicine.ucsf.edu

Areas abstract covers: GME

Domain(s) addressed: Career Choice, Evaluation of Programs, Primary Care, Residency

Purpose: Determine whether training in primary care residency is associated with a career in primary care medicine as compared to categorical residents.

Background: HRSA and COGME endorse an ideal US physician workforce of 40% primary care physicians compared to the current level of 32%. These organizations support primary care residencies to promote primary care as a career. There is a paucity of data as to whether primary care residency programs are associated with careers in primary care.

Methods: We performed a cross-sectional email questionnaire of UCSF internal medicine (IM) residency alumni from 2001 to 2010. Graduates were asked about demographics, primary career role, and whether ambulatory experience during residency influenced career choice. Respondents answered a 5-point Likert scale from strongly disagree to strongly agree. Responses were dichotomized. We performed Chi-Square analysis comparing responses of primary care and categorical residents.

Results: Of 511 UCSF IM graduates, we identified 481 contacts of which 322 responded (67%). Fifty-four percent of primary care residents agreed that the majority of current work is in primary care medicine vs. 20% of categorical residents (p<0.001). While 92.5% primary care residents were interested in primary care careers prior to residency, only 63% were interested after residency. Thirty of 34 primary care residents (88%) who lost interest in a primary care career during residency agreed that ambulatory experience during residency influenced career choice.

Discussion: The UCSF IM residency has developed primary care tracks which help meet calls to expand the primary care workforce. Ambulatory clinic experience influences most primary care residents’ career choices. Improving and emphasizing the outpatient clinic experience may be an important factor to further interest in primary care.

Reflective Critique: Data was presented in “work-in-progress” PRIME residency track sessions and feedback was used to adjust data interpretation. Oral presentation: California/Hawaii SGIM.

The Social Media Index: Measuring the impact of medical education websites

Michelle Lin, MD, UCSF Department of Emergency Medicine, Associate Professor, Michelle.Lin@emergency.ucsf.edu; Brent Thoma, MD, MA, Massachusetts General Hospital, Department of Emergency Medicine, thoma.brent@gmail.com; Jason Sanders, MD, PhD, University of Pittsburgh, Department of Epidemiology, jasonleighsanders@gmail.com; Quinten Paterson, University of Saskatchewan, College of Medicine, quin-tenpaterson@gmail.com; Jordon Steeg, University of Saskatchewan, College of Medicine jbs986@mail.usask.ca; Teresa Chan, MD, McMaster University, Division of Emergency Medicine, teresa.chan@medportal.ca

Areas abstract covers: UME, GME, CME

Domain(s) addressed: Computers and Technology, Evaluation of Programs

Purpose: To develop and evaluate the Social Media Index (SMi) using data from emergency medicine and critical care (EMCC) blogs and podcasts to measure the quality and impact social media sites.

Background: The number of online education resources has increased dramatically resulting in problems finding quality content and challenges assessing their scholarly contribution. In this paper we describe the SMi, which combines altmetrics to measure the impact of digital education resources.

Methods: The SMi was derived using 245 EMCC blogs and podcasts, which were written in English, active within the previous 6 months, and not hosted on an institution’s or medical journal’s website. Data from Google PageRanks, Alexa Ranks, Facebook, and Twitter were gathered for each site. Ordinal, Logarithmic and Raw versions of the SMi were normalized and evaluated with descriptive statistics. The SMi was then applied to relevant EMCC journals and correlated with journal impact metrics (journal impact factor, its derivatives, and Eigenfactor Metrics).

Results: The logarithmic version of the SMi was the most statistically robust. The SMi demonstrated extremely strong temporal correlation over three weeks (r = 0.991, 0.796, 0.806; p<0.001). When applied to journals, the SMi correlated significantly with all impact metrics with the strongest correlations seen with Immediacy Index and Article Influence Score (Pearson’s r = 0.609, 0.608; p<0.001). Furthermore when the SMi scores for EMCC blogs and podcasts were compared to journals, a few popular sites were as impactful as many EMCC-specific journals.

Discussion: The SMi has the potential to be a reliable and accessible indicator of impact for social media websites. This could benefit medical professionals by identifying high impact resources and scholars by quantifying the value of their digital scholarship.

Reflective Critique: The initial derivations of the SMi was posted for public comment on the website Academic Life in Emergency Medicine, which informed this study.

End of Oral Presentations section
**A pilot project to encourage faculty involvement in quality improvement activities in outpatient clinics**

Glenn Rosenbluth, MD, UCSF, RosenbluthG@peds.ucsf.edu; Jeffrey Tabas, MD, UCSF, jeff.tabas@emergency.ucsf.edu; Stacey Samuels, UCSF, SamuelsS@ocme.ucsf.edu; Tymothi Peters, UCSF, PetersT@ocme.ucsf.edu; Robert Baron, MD, UCSF baron@medicine.ucsf.edu

**Areas abstract covers:** GME, CME, Maintenance of Board Certification

**Domain(s) addressed:** Faculty Development, Quality Improvement

**Purpose:** We piloted a curriculum to teach faculty skills to supervise residents to perform quality improvement (QI) activities in outpatient clinic settings.

**Background:** There is increasing recognition of the need for clinical faculty to role model, teach, and demonstrate requisite competencies in quality and safety in the context of their everyday work. "Successful programs (to teach QI) have adopted principles of adult learning, combining experiential learning with didactic sessions. The best outcomes are when learners received individualized coaching, performance data, or process improvement tools, such as educational material for patients and decision support for clinicians (Shojania Silver and Levinson, 2012).

**Methods:** Faculty were provided a review of QI principles and asked to identify a QI project based on local needs of their practice that was amenable to housestaff participation. If requested, or recommended based on review of the project application, an onsite workshop was provided to reinforce QI principles, stimulate independent goal development, and translate knowledge into local context. We used the incentive of Part 4 MOC credit to encourage completion of the projects. Provision of credit for participating providers includes self-reflection.

**Evaluation Plan:** We completed the first year’s cohort of 8 projects and have started to assess the characteristics and quality using a previously validated assessment tool which addresses multiple domains of QI projects at levels appropriate for learners at UME, GME, and CME levels.

**Dissemination:** Within UCSF, we will expand the program throughout the medical enterprise to include 15 medical boards. We will engage clinical chairs to encourage their faculty’s involvement. We will develop a website to allow easy dissemination of training application materials. We will share best practices with a consortium of institutional multi-specialty MOC providers across the nation.

**Reflective Critique:** Feedback from our faculty learners has informed the educational curriculum and application and reporting processes. Our next step is to assess resident satisfaction.


**Advancing Shared Decision-Making in the Inpatient Setting: The UCSF Patient Engagement Project (PEP)**

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**Areas abstract covers:** GME
Domain(s) addressed: Curricular Innovation, Patient Care, Quality Improvement, Research

Purpose: To improve patient engagement using a train-the-trainer shared decision-making (SDM) workshop and ongoing patient engagement campaign.

Background: Patient engagement and SDM are often lacking in inpatient settings. Evidence indicates that patients are both willing and able to participate in SDM which improves satisfaction, understanding, and confidence. Unfortunately, SDM rarely occurs and most providers have had little training in SDM or patient engagement. Both provider skills and institutional cultural changes are likely necessary for the adoption of SDM.

Methods: Based on a comprehensive literature search and SDM expert consultations, we developed a Patient Engagement Program (PEP) consisting of a train-the-trainer workshop, bedside observations and coaching (using a validated SDM checklist), EHR screensaver messages, pocket cards, and noon conferences. Core materials were piloted in late Fall 2013. Baseline bedside SDM scores and patient interviews will be conducted in early 2014. Full scale launch of PEP will occur in April 2014 with subsequent ongoing evaluations.

Evaluation Plan: (Pilot) Learners were administered a pre/post retrospective survey measuring their confidence in using SDM strategies. N=20 medicine residents, fellows, and hospitalists participated with all showing improved confidence in using SDM tools (mean increase = 0.456 on a 4-point scale). PEP will be evaluated using pre-post retrospective surveys (workshop), satisfaction surveys (e-value), focus groups (learners), pre-post patient interviews, and pre-post SDM expert checklist ratings.

Dissemination: This curriculum has been accepted as an abstract at the Society for Hospital Medicine and as an SDM workshop at WGEA (March 2014).

Reflective Critique: All materials were iteratively developed with input from experts, learners, and literature then pilot tested. Multisource data from patients, learners, and SDM experts will be used to evaluate curricular effectiveness and shape future revisions.

Development and Evaluation of an Interprofessional Curriculum to Improve Colorectal Cancer Screening Rates

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Areas abstract covers: UME

Domain(s) addressed: Clinical Instruction and Performance, Curricular Innovation, Interprofessional Education, Quality Improvement

Purpose: To increase colorectal cancer (CRC) screening rates among patients and demonstrate the potential of medical assistants (MAs) as physician extenders through implementation of a curriculum for MAs taught by third-year medical students in a primary care clinic at Kaiser Oakland.

Background: Screening has been shown to significantly reduce morbidity and mortality associated with CRC. A primary CRC screening modality includes annual completion of an at-home Fecal-Immunochemical Test (FIT). A needs assessment of inadequate CRC screening rates, especially among minorities, revealed unclear FIT instructions, low patient motivation and inadequate staff training as root causes.

Methods: Medical students participating in the Policy, Leadership and Systems Engineering (PuLSE) course of the Kaiser Longitudinal Integrated Clerkship designed a CRC screening curriculum for MAs as a quality improvement intervention to increase screening rates. The ninety minute curriculum facilitated by medical students included four modules: reflection on personal experience surrounding CRC; CRC epidemiology and risk factors, with a focus on ethnic disparities; training on actual use of the FIT kit; and workflow management strategies for discussing CRC with patients.
and teaching FIT kit instructions.

**Evaluation Plan:** FIT kit completion rates were measured for two months before and after implementation of the curriculum in February 2014. A survey assessing knowledge acquisition and attitudes was completed by MAs before and after the course. A patient survey will provide additional qualitative data.

**Dissemination:** Students presented their proposal at the SFGH Primary Care Leadership meeting in November 2013 and submitted an abstract to the UC Davis Healthcare Quality Forum. They will present their evaluative data to Kaiser Oakland administrative leaders in April 2014.

**Reflective Critique:** While single interventions cannot address all the causes of CRC screening gaps, a scalable MA curriculum can empower staff and improve patient understanding of CRC. By designing an intervention centered around MAs, students acquired practical experience in interpersonal communication and collaboration.

**Development of a Standardized Curriculum for the Medical Student Radiation Oncology Elective**

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**Areas abstract covers:** UME, GME

**Domain(s) addressed:** Career Choice, Curricular Innovation, Residency

**Purpose:** We have implemented a formalized curriculum within the UCSF Radiation Oncology Elective rotation with the goal of improving medical student understanding and appreciation for principles unique to the practice of radiation oncology. Ultimately, we hope to improve student experiences and support more informed decisions towards pursuit of a career in radiation oncology.

**Background:** Principles and practice of radiation oncology are generally not covered as part of core UME. With a paucity of research and experience in Radiation Oncology education within the UME setting there is currently no consensus on a formalized curriculum (1). We sought to develop a curriculum encompassing core components of Radiation Oncology academic clinical practice based upon the approach by Kern et al (2). Moreover, we devised resident participation for implementation of the curriculum, as the model of resident-as-teacher has been demonstrated beneficial for both students and residents (3).

**Methods:** We developed a didactic series, covering core elements of clinical academic radiation oncology practice including patient care workflow, principles of radiation biology and physics, evidence-based clinical care, and treatment planning. Resident-led sessions were held weekly over the course of the rotation, culminating in a dosimetry lab practicum, where students generated simulated patient radiotherapy plans.

**Evaluation Plan:** We conducted a post-rotation anonymized survey to collect student feedback on the perceived utility and quality of the lectures, as well as the impact of the course on their career subspecialty selection. In addition, a resident-survey was utilized to obtain their perspective on course delivery.

**Dissemination:** Results of our experience will be submitted for discussion at the American Society for Therapeutic Radiation Oncology annual meeting. Moreover, we will submit for publication our experience as part of a newly formed multi-institutional cooperative group examining medical student education in radiation oncology.

**Reflective Critique:** Our initial survey responses suggest positive reception of the curriculum by both medical students and residents. We will further refine and update the curriculum based on survey results. A challenge to evaluation has been the limited number of annual participating
medical students, with differing extent of prior experience in radiation oncology. However, this limitation may be addressed through the expansion to multiple institutions, providing greater feedback for analysis.


Development of pediatric cases to parallel preclinical curriculum

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Areas abstract covers: UME

Domain(s) addressed: Career Choice, Curricular Innovation, Longitudinal Educational Activities

Purpose: This six part cases series aimed to add a "pediatric lens" to the first year medical curriculum, allowing interested students to learn pediatric physiology and disease processes, develop pediatric-specific communication skills, and explore the breadth of a pediatric career.

Background: As a response to recent calls for individualizing the medical school learning process, the AAMC is sponsoring Education in Pediatrics Across the Continuum (EPAC), where participating schools design pilot curricula using a competency-based framework from the beginning of medical school to the end of residency. Recognizing the limitation that the traditional curriculum does not broadly expose students to pediatrics until third year clinical rotations, we developed a six case series (PedsCases) that parallels the existing preclinical curriculum as part of the EPAC pilot.

Methods: Six interactive cases in pediatric emergency medicine, cardiology, pulmonology, nephrology, metabolism and nutrition, and neurology and psychiatry were developed to supplement each first year preclinical block. The cases introduce the approach to a pediatric patient; while doing so, they discuss differences in disease presentation in pediatric populations and explore childhood determinants of adult diseases. Cases additionally include a hands-on activity to understand underlying pediatric physiology and reinforce concepts from the preclinical curriculum, and explore relevant pediatric career tracks.

Evaluation Plan: Likert scale evaluation and free-response comments are collected following each case presentation. Select individual interviews are conducted to assess student experience. Three questions related to the pediatric emergency medicine case were added to the Prologue midterm to compare EPAC with non-EPAC student performance.

Dissemination: Abstract accepted to WGEA. Additional dissemination targets include MedEd Portal and UCSF Posterpalooza.

Reflective Critique: Feedback is regularly obtained from EPAC Director, participating students, and Health Professions Education (HPE) Pathway Works-in-Progress sessions. Subsequent case content and delivery are accordingly modified. An HPE MD with Distinction Thesis Committee is scheduled to view cases in MedEd Portal format and provide critique.

Easing the Transition from Student to Physician: Improving Self-Confidence through an Intern Boot Camp

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Areas abstract covers: GME

Domain(s) addressed: Curricular Innovation, Patient Care, Residency

Purpose: To address gaps in clinical skills in new interns and to improve self-confidence in performing required duties.

Background: Undergraduate medical education varies widely. New interns have different skills and confidence in their ability to perform as physicians. The transition from student to intern is arguably the most difficult in medicine. Intern Boot Camps (IBCs) have been described as a way to
facilitate this change. Most IBCs are small and specialty-specific. Our IBC is institution-wide and includes 80 interns entering 9 different specialties at UCSF-Fresno.

**Methods:** Interdisciplinary groups rotate through 8, 50-minute stations led by faculty and residents. Each station includes a didactic followed by individual practice using: task trainers, role-playing, or simulation mannequins on the following: 1) suturing, 2) airway management, 3) transitions of care, 4) pediatric resuscitation, 5) aseptic technique and informed consent, 6) central line placement, 7) surviving night-float, and 8) emergency stabilization. These topics are based on residency leadership recommendations and past IBC participant evaluations. Trainees receive immediate feedback and coaching on specific skills. Avoidance of common pitfalls is emphasized.

**Evaluation Plan:** Self-confidence was rated from 0-9 (9=extremely confident) in the ability to perform the skills required during internship before and after IBC. The mean confidence was 4.887 before IBC and 5.546 after IBC. The mean change in confidence was 0.659 (p-value <0.001). Satisfaction was measured on a 5-point scale (1=strongly disagree, 5=strongly agree) in response to the statement, "This session was useful and will help in my new role as an intern." Station Mean (SD) / Suturing 4.29 (0.53) / Transitions of care 4.28 (0.66) / Airway management 4.41 (0.63) / Pediatric resuscitation 4.10 (0.84) / Aseptic technique / Informed consent 4.26 (0.63) / Central line placement 4.55 (0.57) / Surviving night-float 4.48 (0.62) / Emergency stabilization 4.40 (0.56)

**Dissemination:** We will submit the curriculum to MedEdPortal.

**Reflective Critique:** Participants completed evaluations immediately and 1 month after starting internship.

**Editing Wikipedia: Feasibility study of 4th year medical student elective**

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**Areas abstract covers:** UME

**Domain(s) addressed:** Communication, Curricular Innovation, Evaluation of Programs, Medical Information Literacy

**Purpose:** To develop a prototype and assess the feasibility of a 4th year medical student credit-bearing elective to edit and improve heavily-used Wikipedia health articles.

**Background:** Wikipedia is the most visited website for medical information in the world. This is the first US-based class in which medical students received elective credit exclusively for revising health-related Wikipedia articles. The class provided an authentic learning experience for students to construct knowledge and deliver an edited article consciously aimed at a target audience. Students needed to revisit and sharpen information literacy skills, synthesize information, learn Wikipedia (WP) editing and etiquette, while balancing the realities of the open WP environment and the intelligibility needs of the readers.

**Methods:** In November, 2013, 5 fourth-year medical students attended 2 days of in-person orientation in which baseline information was collected, class goals, project context, Wikipedia editing, and information seeking were discussed. Students met with faculty, librarians, members of the WikiProject:Medicine & Wikipedia Education communities, and ContentRules (a readability improvement software company). Students worked singly to edit heavily-used Wikipedia healthcare articles of their choice for the remainder of the 4 weeks with distance support from the groups mentioned above.

**Evaluation Plan:** Baseline: Student knowledge and attitudes about Wikipedia assessed. / Mid-rotation: Individual interview sessions with course instructors. End of rotation: Survey reassessing student knowledge and attitudes about WP. Students discussed outcomes and challenges during a virtual session attended by faculty, librarians, and class advisors. / The class closed with a faculty-led confidential debriefing session. The WP articles were also evaluated at baseline and end of rotation to assess the students’ contributions.
Dissemination: We have proposed a WGEA 2014 workshop, and are working on an Academic Medicine submission.

Reflective Critique: Review of 360 degree feedback confirms it was valuable and should be repeated. Potential areas of improvement include: 1) Pair editing of an article, 2) Peer editing, 3) Commentary or brainstorming, 4) Increased faculty and advisor oversight of the editing process, and 5) Creation and submission for traditional publication of a revised version of the Wikipedia article.

Having Death & Dying Discussions: Educating Second Year Medical Students Through Large Group Testimonial “Lectures” by Patients or Family Members

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Areas abstract covers: UME

Domain(s) addressed: Communication, Curricular Innovation, Professionalism, Reflection

Purpose: We piloted a novel curricular component in the second year pre-clerkship curriculum aimed at increasing student comfort with having death and dying discussions. By deliberately deviating from the classic lecture format learning session, we hoped to address this important topic in a more impactful manner early in medical training.

Background: Countless patients and families cope with the complicated experience of facing death. Unfortunately, historically little medical school curricular time has focused on this topic. Furthermore, the most effective educational methods for this content are not fully clear. Our novel curricular component was informed by (1) a prior learning session piloted at UCSF, (2) a learning session disseminated by colleagues at a different medical school, and (3) educational strategies of direct patient interactions, active learning activities, and facilitated reflection.

Methods: The curricular module included two parts: (1) A large-group facilitated encounter with either a terminally ill patient or the family member(s) of a patient who had died of a terminal illness. After the patient or family member shared their experience, we transitioned to facilitated question and answer discussion with the students. This was directly followed by (2) breaking off into small groups of six students and two facilitators. In these small groups students and facilitators had a chance to discuss and debrief reactions to the large group encounter. They also partook in the active-learning activity pertaining to the process of how one navigates priorities at end-of-life.

Evaluation Plan: After the learning session, students completed evaluations assessing attitudes towards this topic in pre-clerkship years, efficacy of the format of the learning session, and an open-ended qualitative question about the experience. Assessment of data (currently being gathered) will be incorporated into presentation.

Dissemination: We have been accepted to present a poster at WGEA.

Reflective Critique: Learner evaluation data is currently being gathered for assessment to inform our reflective critique/next steps.

HOME
Interprofessional development of online curriculum modules that prepare future health professionals for community engagement

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Areas abstract covers: UME, GME

Domain(s) addressed: Community Medicine, Computers and Technology, Curricular Innovation, Interprofessional Education

Purpose: To develop online modules that prepare UCSF health professions trainees for authentic community engagement, following Kern’s curriculum development framework[1].

Background: The CDC defines community engagement as “the process of working collaboratively with and through groups of people affiliated by geographic proximity, special interest, or similar situations to address issues affecting the well-being of those people.” It is important for improving the health of a community and its members, and health professionals should receive adequate preparation. However, UCSF’s existing community engagement curricula are not available to all UCSF learners nor designed for multidisciplinary audiences.

Methods: Our interprofessional team included faculty and students from the Schools of Dentistry, Medicine, Nursing, Pharmacy, and Graduate Division, along with university staff and community partners. We conducted a targeted assessment of needs and resources, including focus groups with community members and UCSF learners, to inform the selection of five module topics and format. Working groups were formed to develop each module’s goals, learning objectives, and educational strategies. Strategies included incorporating photographs and videos into narrated presentations, using Articulate software and Moodle 2.0. Three cycles of internal review by the team resulted in modifications during the formative stage.

Evaluation Plan: Each module contains an evaluation to assess viewer knowledge, attitudes, and satisfaction. Pilot testing in all UCSF schools and with community organizations indicates 85% reporting improved knowledge (n=129).

Dissemination: The modules are available on CLE and UCSF’s Office of University Community Partnerships website. We have presented at national conferences and plan to submit an article for publication.

Reflective Critique: Our interprofessional and community engaged process worked well. Community partners suggested a module about partnering with UCSF. We found the Articulate software difficult to use for revisions.

Introductory Learning Modules for Drug Dosage Forms and Delivery Routes

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Areas abstract covers: GME, CME

Domain(s) addressed: Basic Science Education, Patient Care

Purpose: The goal of this project was to provide novice pharmacy students with a consolidated and technologically-enhanced introduction to drug dosage forms and delivery routes to eventually apply this knowledge in further coursework and internships.

Background: Currently, the curriculum does not offer a comprehensive review of drug dosage forms and delivery routes. The content is spread over many classes and taught in different times. We are bringing all of this information together and presenting it to first-year students to help prepare them for future courses and internships.

Methods: The project includes 5 phases which were adapted from the Kern methodology, a validated method of curriculum development: (1) review of current practices, (2) curriculum design, (3) creation of media, (4) implementation, and (5) evaluation. In phase 1, we reviewed which topics in drug dosage forms and delivery routes were currently covered in which courses across the curriculum to identify gaps, inefficiencies, and areas of confusion. In phase 2, we developed a curricular outline for 5 audiovisual learning modules – introduction to dosage forms, oral delivery, parenteral delivery, delivery via inhalation, and topical delivery. Next, we detailed learning objectives and technical content for each module including a unifying patient case, pictures, videos, and supplementary resources. In phase 3, the multimedia modules were created using Articulate Presenter. In phase 4, the modules were launched to all the first-year pharmacy students (N=120).

Evaluation Plan: For phase 5, evaluation includes both phased online student surveys (eg, satisfaction, recommendations for improvement, practicality for internship) and instructor surveys (eg, perceptions of preparedness and cohort grade comparisons).

Dissemination: Access to these modules will be through a link on the school’s online course page and results will be presented in a poster at the American Pharmacist Association’s National conference in March 2014

Reflective Critique: I received feedback primarily from my advisers, other faculty, and content experts.

iROCKET Reader: Launching an Online Learning Platform to Support Longitudinal Integration

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Areas abstract covers: UME

Domain(s) addressed: Computers and Technology, Curricular Innovation
**Purpose:** 1. Develop an interactive, engaging, inquiry-based online learning platform that provides flexibility for self-directed learning, improved content delivery, and innovative teaching modalities. / 2. Develop efficient ways for faculty to collaborate on learning content.

**Background:** A challenge for medical schools with highly integrated pre-clerkship curricula and longitudinal themes is presenting a wide range of content across courses and over time. Emerging educational technologies offer opportunities to transform traditional course materials using dynamic, easily updated, and interactive online learning platforms.

**Methods:** We partnered with Odigia to develop an online learning platform (iROCKET Reader) that supports improved presentation of images, inclusion of digital content (e.g., videos), and assessments to monitor student progress within a course and across the pre-clerkship curriculum. / In a pilot, we explored ways to leverage the strengths of the Odigia system, meet students’ needs, and provide opportunities for a “flipped classroom”. Student benefits included: embedded self-assessments, integrated multimedia, hyperlinked glossary, modular organization of content, and progress tracking. Faculty benefits included: ease of updating content, interactive features, and quizzes. Students requested better annotation, glossary, and flashcard capabilities. / In an iterative collaborative process between Odigia, the UCSF Technology Enhanced Learning team, faculty, and students, we developed a “prototype” using content from genetics, molecular biology, and epidemiology, which was used in Fall 2013. We will expand to other disciplines, and two courses will transition their entire syllabus content to iROCKET Reader in 2014.

**Evaluation Plan:** We are conducting evaluations, including a survey and focus group, to assess the effectiveness of the platform for improving learning and instruction.

**Dissemination:** This project has been presented at: AME Education Day 2013, APHMG 2013, ABCD 2013, TLC Day 2013, WGEA, 2013 and 2014.

**Reflective Critique:** We are soliciting feedback from students and faculty, and will work with Odigia to improve the system.

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**Quality Improvement, Patient Safety, and Leadership Curriculum**

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**Areas abstract covers:** GME

**Domain(s) addressed:** Health Systems, Patient Care, Quality Improvement, health care costs

**Purpose:** The purpose of the Quality Improvement, Patient Safety, and Leadership curriculum is to impart practical quality improvement (QI) skills through experiential learning, foster awareness and support innovative approaches to delivering high-value care, provide communication skills to enhance patient experience, and introduce leadership skills for working in a team-based primary care clinic, the General Medicine Clinic (GMC) located at San Francisco General Hospital.

**Background:** We received a grant from the Friends of Medicine group within the UCSF Foundation to expand our successful longitudinal 2 year QI curriculum to include new topics: (a) high-value care, or attention to the relationship between health outcomes and health care costs1; (b) patient experience; and (c) systems leadership, or skills needed to practice in a transformed outpatient clinical environment. Leaders have defined cost-consciousness as a gap in medical education2, and hands-on training to improve the patient experience has been defined as a priority for health care more broadly3. Similarly, trainees themselves have asked for more leadership training4.

**Methods:** In addition to the individual or small-group QI project each learner undertakes, curricular activities have been expanded in these three areas. For high-value care, this includes didactics from national experts and local operational health system leaders, site visits to high-performing primary care clinics and to a Medicaid-managed care plan, and LEAN “waste-walks.” Residents receive their individual performance-data with
benchmarks in an interactive session. For patient experience, learners participate in an extended, hands-on communication skills workshop, attend the Patient Advisory Board, and perform a structured patient shadowing experience. Leadership activities include self-reflection and an interactive session with a coach at the UCSF Center for Health Professions.

**Evaluation Plan:** In addition to leader-completed evaluations, metrics include (1) Pre- and post-testing using the Quality Improvement Knowledge Assessment Test5 (2) learner participation in the Department of Medicine Quality and Safety Symposium; (3) incorporation of learner-led projects into practice at GMC; (4) staff and patient feedback on learners’ skills.

**Dissemination:** We aim to present this curriculum as a workshop at the Society of General Internal Medicine Annual Meeting should it prove effective and disseminate it via other peer-reviewed avenues. Should it be of interest, we will make materials available to other primary care residency programs.

**Reflective Critique:** We elicit written feedback from learners, perform direct observation of their primary care activities, and conduct a formal feedback session with graduating residents. Faculty and staff also have structured opportunities to provide input into curriculum.

**References:**

**Renewal In Residency: A Novel Curriculum for Medical Residents to Improve Well-being and Increase Personal Meaning of Physicianhood**

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**Areas abstract covers:** GME

**Domain(s) addressed:** Curricular Innovation Medical Humanities, Reflection, Residency

**Purpose:** To develop a standardized well-being curriculum for resident physicians that broadens the culture of medical residency training to include issues such as calling, service intent, and the formation of a service community.

**Background:** Distress among residents in graduate medical education programs is a common and increasingly recognized problem. While the problem is well established, there is a dearth of interventions proven to effectively prevent it or curtail its effects. Dr. Rachel Remen, who developed the popular curriculum for medical students titled “Healer’s Art”, has developed a new curriculum for medical residents titled “Renewal in Residency”. The course offers a safe learning environment for in-depth exploration of the values of service, healing relationship, reverence for life, and compassionate care.

**Methods:** The Renewal in Residency curriculum is in the pilot phase and currently offered to all second and third year residents in the UCSF Internal Medicine Primary Care tract. It includes two 90-minute required sessions, facilitated by a trained small group educator and offered during business hours as part of the outpatient didactic curriculum, as well as monthly voluntary sessions offered in the evenings and facilitated by a trained physician volunteer.

**Evaluation Plan:** The curriculum will be evaluated with data collected by way of a short questionnaire administered at 0, 6, 12, and 24 months. The questionnaire includes demographic information, questions regarding lifestyle habits, and standardized measures of burnout, resiliency, empathy, positive emotions, and job satisfaction.
Dissemination: We plan to disseminate this curriculum by publishing a detailed description of the curricular intervention as well as its effects on our predetermined outcome measures in a peer-reviewed journal and at local talks on the UCSF campus.

Reflective Critique: We will solicit feedback from participants by way of written evaluations and focus groups at the end of the first academic year and every 6 months thereafter.

Residents building meaningful community partnerships through a team-based, longitudinal Community Pediatrics rotation

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Areas abstract covers: GME

Domain(s) addressed: Community Medicine, Curricular Innovation, Longitudinal Educational Activities, Residency

Purpose: We re-designed our Community Pediatrics rotation to foster meaningful partnerships between residents and their surrounding community. We describe the feasibility of a longitudinal, team-based collaboration with an elementary school in an impoverished area of Fresno, CA.

Background: Before 2011, second and third year residents on their Community Pediatrics rotation visited sites of key child health services. With support of an AAP Community Pediatrics Training Initiative (CPTI) grant, we re-designed this "passive" learning model utilizing site visits, to an active learning model employing mentored, resident-driven, team-based projects starting from Year 1 of residency.

Methods: A structured curriculum of didactics, protected time for project teamwork, and access to resources including faculty mentors was implemented. Residents (PGY-1,2,3) from four continuity clinic teams develop projects at Yokomi Elementary, a public school located across from continuity clinic in the heart of downtown Fresno.

Evaluation Plan: All four resident teams have collaborated with Yokomi on projects ranging from teaching about good hand-washing, to leading an outdoors group dance session, to a cafeteria observation of lunchtime eating behaviors. One team obtained IRB approval for their project, with results accepted for regional conference presentation. We now have a stronger partnership with Yokomi, the county school district, and other organizations. On a program level, there have been an increased number of community-based scholarly activities and improved prioritization of Community Pediatrics training in our residency curriculum. Important lessons learned include carving out more protected time for projects and including flexibility for residents interested in partnering with organizations other than Yokomi. Pre and post-tests on Community Pediatrics-related knowledge, attitudes, and behaviors are in development.

Dissemination: We will share our results at discussion forums for pediatric residency training in community health/advocacy.

Reflective Critique: We have received feedback from residents, faculty, community partners, and CPTI mentors, and will continue to modify our curriculum accordingly.
Teaching Global-Health Ethics Using Simulation: An Interprofessional Curriculum

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Areas abstract covers: UME, GME, Nursing, Pharmacy, Dentistry Education

Domain(s) addressed: Cultural Competence, Curricular Innovation, Global Health, Simulation

Purpose: The goal is to expose prospective global-health trainees to ethical dilemmas they are likely to encounter during their clinical work abroad and to help them develop strategies to deal with ethical issues characteristic of their destination.

Background: The content of the curriculum was informed by extensive literature research, review of existing curricula, and three focus groups of 16 interdisciplinary faculty. This preliminary work shows a pronounced need for a curriculum that prepares trainees for distinct ethical issues they encounter during global-health training.

Methods: The curriculum consists in four simulation exercises set in what appears to be a resource limited setting and features trained actors in the roles of patients and medical staff. Each simulation is followed by a debriefing session with a faculty facilitator, featuring a series of standardized questions that address key ethical issues.

Evaluation Plan: All the participants completed pre-simulation and post-simulation surveys, and some of them participated in a post-pilot focus group where we discussed the effects of the curriculum. Both approaches show a notable increase in exposure to and ability to deal with ethical dilemmas in global health. Next steps will include evaluating the impact of the curriculum once trainees return from their rotations.

Dissemination: Our work has been accepted for presentation at six different conferences (SGIM (where we received an award for outstanding research), CUGH, IMSH, ATBH, GHIC, and UCSF GH Research Symposium). We have submitted a critical review paper to the Journal of Bioethical Inquiry and are currently writing two additional manuscripts – one on the methods we used to design the scenarios, and the other reporting our evaluation findings.

Reflective Critique: We presented our pilot at one medical education and two academic research meetings at UCSF. We will also present at the Kanbar Institute monthly simulation feedback workshop. Soon after the pilot was completed, we ran a focus group with participants.

Teaching Safe Transitions: A Post-Discharge Follow-up Pilot for Third-year Medical Students

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Areas abstract covers: UME

Domain(s) addressed: Communication, Curricular Innovation, Health Systems, Reflection

Purpose: Adverse events are common during transitions of care (TOC), including discharge from the hospital. By engaging medical students in analyzing their patients’ transitions, we aimed to develop awareness and skills.

Background: Acknowledging the critical role that the healthcare system plays in determining quality of care, medical schools are focusing increasingly on systems-based practice.
Methods: All UCSF core medicine clerkship students attended a didactic session about TOC emphasizing common adverse events that occur during TOC, risk factors for these events, and evidence-based strategies to prevent them. Students reviewed the EMR and called a patient whom they discharged from the hospital. They assessed patients' comprehension of their medical conditions and treatment plan, as well as their adherence. They recorded risk factors for, and occurrence of, AEs. Students reflected on ways they will change their clinical practice. They shared their work and received feedback.

Evaluation Plan: Surveys from 32 students who completed a pre-survey and 14 students who completed a post-survey show that the percentage of students who feel knowledgeable about TOC increased from 31% to 86%. The percentage of students who feel confident in their ability to identify risk factors for adverse events during TOC increased from 38% to 93%; confidence in their ability to mitigate adverse events increased from 6% to 64%. Eighty-six percent of students feel that this exercise fills an educational gap and recommend continuing the exercise. The rate of successful completion of two multiple-choice questions about TOC increased from 16% and 94% prior to the exercise to 36% and 100% after the exercise.


Reflective Critique: Feedback from students shows some concern with the time required to complete this exercise. We are streamlining the documentation and seeking to protect students’ time.

The “Building Blocks” of Anti-Retroviral Therapies: A Novel Way to Teach Trainees about ARVs

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Areas abstract covers: GME

Domain(s) addressed: Competencies, Curricular Innovation, Interprofessional Education, Residency

Purpose: During general medicine rotations at SFGH and during any Infectious Diseases or HIV rotations, students and residents must be able to have fluency in the core antiretroviral (ARV) drugs. Yet so often, students and residents are able to name “Truvada” or “Atripla” without knowing that Truvada = Emtricitabine + Tenofovir or Atripla is Emtricitabine + Tenofovir + Efavirenz. Moreover, students and residents must be comfortable with the abbreviations AZT/3TC/FTC etc. and must know the mechanisms of the drugs (NRTIs, NNRTIs, PIs, etc.), which are challenging to memorize. This project uses Lego(TM)-like building blocks that are labeled with the different drugs and classes so students and residents will be able to re-create various drug combinations to gain more fluency with them.

Background: Medical education at many levels is undergoing a shift from classroom-based lecture-based learning to more simulation-based learning in order to reach out to learners with multiple learning styles. This project uses the concepts of visual and tactile learning to supplant memorization of some challenging yet important concepts.

Methods: I partnered with the Business Impact Group to create customized Lego-like blocks labeled with the names of different anti-retroviral drugs and color-coded depending on the class of drugs. Learners at multiple levels (medical students, pharmacy students, residents, fellows) can use the blocks to learn about ARVs and design the appropriate drug cocktails based on their learning.

Evaluation Plan: Pre-and-post survey assessments will be used to assess learners’ baseline knowledge of HIV pharmacology before and after manipulating the blocks. Qualitative feedback on the blocks will also be encouraged.

Dissemination: We hope to publish the results after 12 months have elapsed of learners using the new learning tool. We hope to present and publish at medical education conferences and journals, respectively.
Reflective Critique: I solicited feedback from Dr. Gandhi, Education Director of the HIV/AIDS division at SFGH and Dr. Zimmerman, Professor of Clinical Medicine at UCSF, on block design and pre-and-post learner surveys.

Toward a Curriculum to Review, Assess, and Improve Retention of Medical Knowledge

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Areas abstract covers: UME

Domain(s) addressed: Assessment and Testing, Basic Science Education, Longitudinal Educational Activities, Remediation

Purpose: Our goal is to create tools that enhance knowledge retention and application among medical students without sacrificing performance in coursework.

Background: Positive response to an optional, integrative review self-assessment incorporated into the first year (Nahas-Vigon, Fulton, and Zimmerman, unpublished) suggested the need for more such review tools. Spaced education is a review and assessment method that is perceived by learners to be time-efficient and enjoyable, and has been demonstrated to foster long-term retention.

Methods: We created two spaced education courses using the Qstream™ platform, which delivers questions to learners’ mobile devices or computers with robust explanations and visuals. We curated key questions from existing self-assessment and remediation exercises, reducing the effort required to create such questions de novo. The courses focused on pharmacology and cardiovascular physiology/medicine. We tested the validity of the questions and piloted the courses with several audiences including MS2s and groups of 4th years and faculty.

Evaluation Plan: Assessment of engagement, and performance data from pilot courses is underway and will be discussed in this presentation. We also intend to use a customized comprehensive exam that students take in the spring, after the completion of the spaced education courses, as a performance outcome to evaluate the intervention effect.

Dissemination: Our curriculum development process and preliminary data has been presented to curriculum oversight committees, and received the Dean's Prize for Research and Scholarship. Plans are underway to develop more spaced education courses for MS1s and MS2s, as part of their core coursework, and for summer subject-specific remediation.

Reflective Critique: Faculty, curriculum ambassadors and MS2s who took the first round of courses have provided extensive feedback on content and process from the user perspective. During the development process we also benefited from input from local faculty who have experience with the platform (E. Mathes, G. Rosenbluth, S. Ranji).

Using mobile apps to transform medical education and clinical decisions for patient care

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Areas abstract covers: UME, GME, CME

Domain(s) addressed: Clinical Instruction and Performance, Computers and Technology
**Purpose:** To determine the feasibility of using data analytics to track clinician usage and thus, gain a better understanding of educational needs and practice patterns through a custom clinical decision support mobile app.

**Background:** Mobile apps are tools increasingly used for educational bedside clinical decision-making. Data analytic software can instantly capture each user’s “digital footprint”; however, little is known about how to meaningfully understand the applicability of mobile apps for learning and clinical practice. Such analytics may serve to identify gaps in medical education.

**Methods:** Medical information was curated from the educational website, Academic Life in Emergency Medicine and its Paucis Verbis (PV) Cards, which contains referenced, quick, topical summaries for emergency medicine providers. These were made freely available as an in-app resource within the mobile app, AgileMD. A customized data analytic performance tool permits usage monitoring.

**Evaluation Plan:** Initial results reveal that 18,100 unique users have downloaded and currently have access to mobile PV cards since June 2013. The users were self-identified as students, residents, physicians and other clinical providers (eg, EMS and nurses) located worldwide. An anonymized, descriptive analysis of PV Card usage will be performed on a monthly basis, beginning May, 2014. We will analyze use-frequency, retention, and popularity of each card topic as well as usage by individual, groups, and geography over time to better understand the adoptability of this tool into clinical practice.

**Dissemination:** As the app continues to add more PV Cards and monitor ongoing data analytics, we hope to publish this as a brief innovation report in a medical education or emergency medicine journal.

**Reflective Critique:** Improvements in this novel app will be continuously made in an iterative process through in-person, online survey groups and an existing in-app button for feedback. Initial feedback has already informed changes to the content and user experience.
A pre-clinical interprofessional curriculum in antimicrobial stewardship improves knowledge and attitudes toward interprofessional healthcare in two professional schools

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Areas abstract covers: UME

Domain(s) addressed: Curricular Innovation, Interprofessional Education

Purpose: To develop and implement a joint interprofessional curriculum in two professional schools that focuses on the importance of rational antibiotic use and determine the effect of this activity on knowledge and attitudes towards interprofessional healthcare teams.

Background: Antibiotic misuse can have serious effects on patient safety and is collaboratively addressed in the health care setting by physician and pharmacist run teams. However, these concepts are not comprehensively taught in the UME curriculum.

Methods: Following a literature search and development of learning objectives, we created an online learning module and branched-logic interactive clinical cases for a small group session that combined pre-clinical medicine and pharmacy learners, with faculty. We used validated questions (Likert scale) to assess knowledge and attitudes regarding antimicrobial stewardship and interprofessionalism. We used chi-squared tests to assess differences before and after the curriculum.

Results: Of 280 second-year medical and third-year pharmacy students enrolled, 91% participated in the study. Learners agreed or strongly agreed that online (90%) and small group (93%) activities were valuable learning experiences. There was no significant change in students’ perception of antibiotic resistance as a major public health problem (99% vs. 100%; P>0.20). Compared to the pre-curriculum survey, more students post-curriculum could describe the role of each profession in antimicrobial stewardship (36% vs. 81%; P<0.001), communicate in a manner that engages the interprofessional team (77% vs. 96%; P<0.001), and describe collaborative approaches to appropriate antibiotic use (47% vs. 89%; P<0.001).

Discussion: A curriculum that models an interprofessional work experience can be successfully implemented in pre-clinical UME. Combining two professional schools for an IPE curriculum substantially improves knowledge and attitudes in interprofessional domains.

Reflective Critique: Feedback from post-intervention surveys indicated that education activities rooted in pre-existing curricula is an effective way to learn interprofessionally.

An Objective Assessment Tool for Basic Surgical Knot Tying Skills

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Areas abstract covers: GME
Domain(s) addressed: Assessment and Testing, Clinical Instruction and Performance, Feedback, Residency

Purpose: To develop and validate an objective assessment tool for surgical knot tying, incorporating kinesthetic technique components.

Background: Every surgical trainee must master the fundamental skill of knot tying. However, our teaching frequently fails to describe and emphasize critical steps. The kinesthetic method explicitly teaches maneuvers necessary for obtaining and maintaining stable working distances and correct relative suture lengths. In previous studies, kinesthetic teaching resulted in significant performance improvements (Huang et al., 2013).

Methods: 74 first-year medical students attended a two-hour knot tying session. After one week of independent practice, we videotaped and timed them performing four tying tasks. 10 “experts” were also videotaped. Three raters globally assessed deidentified videos using a validated visual analog scale; three different raters scored tasks using an 8-item kinesthetic checklist. We summed checklist scores for overall performance and used regression to predict global score from checklist score and time. We assessed the ability of the checklist to differentiate experts from novices using a t-test.

Results: Data from 67 students and 10 experts were included. Rater reliability was .94 for global and .95 for checklist scores. Total score on the checklist predicted global assessment score, $R^2=.78$; with time explaining an additional 3.9% of variance. Checklist scores distinguished experts from novices across tasks ($p<0.001$).

Discussion: This study supports validity of an objective assessment tool based on kinesthetic technique components.

Reflective Critique: The checklist accurately reflects expert knot tying, and we will use it to provide formative feedback that, combined with a kinesthetic approach to teaching, can accelerate trainee learning.


Anatomical enlightenment – can a fresh frozen cadaver course for surgical residents in training improve the gaps in their anatomical knowledge and operative understanding?

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Areas abstract covers: GME, CME

Domain(s) addressed: Clinical Instruction and Performance, Competencies, Residency, Simulation

Purpose: To determine the current impression of anatomy knowledge amongst surgeons in a large teaching institution. Design a course that fulfills any requirements outlined by the findings of the questionnaire, and demonstrate that it has educational value.

Background: In accordance with Lave and Wegner’s theory of situated learning, the best opportunity for trainees to learn should be in the operating room. However, a recent decrease in training hours has reduced trainees’ exposure to operative cases and potentially their anatomy knowledge. It may be possible to bridge this gap with simulation using the fresh frozen cadaveric (FFC) model.

Methods: A questionnaire, developed from the literature, was distributed to the surgical department. A simulated training course was developed (based on Gaba’s principles), utilizing the data from the questionnaire. Course attendants completed a verbal and written pre and post-course test,
Results: There was an 84% response rate from the questionnaire. 83% of responders felt that anatomy knowledge had reduced and that there should be anatomy teaching for post-graduate year (PGY) 1-4. 7 PGY3 residents attended a pilot laparoscopic training day using FFC. All attendees felt the FFC was a good training model and that they gained a better operative understanding. There was some demonstrable improvement in both the written and verbal pre- and post-tests.

Discussion: These data demonstrate a need for graduate anatomy teaching. The FFC appears to be a feasible, acceptable and effective simulated operative training model. Although only pilot data from a small number of trainees, the results are encouraging as there is a suggested improvement in both anatomical and operative knowledge and understanding. These results will be disseminated through departmental meetings.

Reflective Critique: Feedback was given from the course attendees using a questionnaire. Peer review will be sought through the educational scholarship conference (ESCAPE).

CaseAce: Online Case Challenge for Preclinical Medical Students

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Areas abstract covers: UME

Domain(s) addressed: Assessment and Testing, Clinical Instruction and Performance, Curricular Innovation

Purpose: To evaluate the efficacy of a longitudinal online case challenge for preclinical medical students.

Background: Case-based learning (CBL) is a widely used educational modality that teaches important skills such as self-directed learning, knowledge integration, and pattern recognition. We assessed the effectiveness of CaseAce, a UCSF student-created CBL website which engages students to solve challenging cases through an online community.

Methods: The online platform www.CaseAce.org was introduced to first and second year students from October 2013 to January 2014. Complex cases corresponding to but distinct and independent from students’ core curriculum were written by course directors and fourth year students. Participants were invited to submit answers online using anonymous usernames. Responses containing thorough reasoning and accurate differential diagnoses were recognized alongside official explanations. Website data was gathered using Google Analytics. After 4 months, students were surveyed on their motivation and perceived benefits of CaseAce.

Results: The website received 1,700 visits with 6,997 views and 182 answer submissions from 56 students for 39 cases. Students spent an average of 39 minutes per case. Of surveyed students (n = 20), the most commonly cited reasons to participate in CaseAce included ‘More preparation for third and fourth year’ (75%), ‘Having cases on an accessible and interactive website’ (70%), and ‘The fun of working through cases’ (60%). Students most strongly agreed that CaseAce helped them with ‘Utilizing outside resources’ (80% of students), ‘Recognizing presentations of specific diseases’ (80%), ‘Increasing interest in diagnostic challenges’ (75%), and ‘Forming differential diagnoses’ (60%).

Discussion: Our study suggests that CaseAce is an effective CBL tool that helps students with knowledge acquisition (self-directed learning, leveraging outside references), application (forming differential diagnoses, integrating past knowledge), and retention (adding case experience, solidifying understanding of key facts). CaseAce’s online platform shows promise for other clinical environments.

Reflective Critique: Feedback from faculty advisors and participants was incorporated in case selection.
Curriculum Revision to Engage Learners and Optimize Interprofessional Teaching

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Areas abstract covers: UME-Nursing

Domain(s) addressed: Clinical Instruction and Performance, Curricular Innovation, Interprofessional Education, Longitudinal Educational Activities

Purpose: To revise a chronic disease management course for advance practice nursing students to more actively engaged learners while capitalizing on the strengths of the interprofessional teaching team.

Background: The Management of Complex Health Conditions (N427) in the Department of Community Health Systems (CHS) is a required course for most students participating in nurse practitioner training programs in the School of Nursing (SON). This course introduces some of the more complex yet common clinical problems encountered in primary care and is co-taught by two faculty members, one from the SON and one from the School of Medicine (SOM). In 2008, this lecture-based course was completely overhauled to from passive to active learning approaches, increasing student participation and emphasizing interprofessional teaching.

Methods: To overhaul the course, three changes were employed. First, lecture material was transferred to a web-based narrative power point to be viewed before each session. Second, longitudinal case studies were designed for in-class discussion. Third, student groups were formed to work on cases as a team. In addition, the nursing and medicine faculty members divided teaching tasks and recruited a fourth year medical students as the Teaching Assistant.

Results: Summative annual evaluations reveal that N247 has been consistently ranked higher than other CHS course. Faculty leads (SON and SOM) were ranked higher than visiting lecturers. N247 has become a model for innovative teaching methods throughout the SON.

Discussion: Abstracts describing the success of N247 have been submitted for this conference and Family and Community Medicine Colloquium.

Reflective Critique: Designing a course to actively engage learners using a variety of teaching methods and capitalizing on the strengths of interprofessional teachers can be extremely successful.

Can you see me now? Video supplementation for pediatric teledermatology cases.

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Areas abstract covers: GME

Domain(s) addressed: Computers and Technology, Patient Care, Primary Care, Quality Improvement

Purpose: To assess whether video in addition to still images can improve residents’ diagnostic and management accuracy and confidence with pediatric teledermatology cases.

Background: Digital video is widely available and used sporadically in clinical settings to evaluate and triage patients; however, its ability to improve clinical care has not been researched. Video has many potential advantages: it overcomes zoning limitations, captures full disease extent, portrays 3D texture, mobility, and additional patient characteristics.
Methods: Dermatology residents from UC Davis, UCSF, and Stanford were invited to take an online assessment and survey with pediatric teledermatology cases presented with still images only or still images plus video (mixed). Residents were stratified by institution and alternately assigned to groups by response order. Participants provided free text diagnoses and management recommendations and rated their confidence and image qualities on a 5-point Likert scale. Responses were scored using a modified script concordance grading key based on experts’ responses to the same cases. Cases were developed based on both common and rare conditions seen in the UCSF pediatric dermatology clinics.

Results: Dermatology expert response rate was 100% (n=10). Cases with mean image quality less than 3.6 (5 cases) or low consensus were excluded from the resident survey. Of 14 resident responses (8 still, 6 mixed), participants in the mixed group scored slightly higher on diagnostic [mean(sd) 117.4(13.0) vs 111.2(14.6)] and management accuracy [81.3(13.4) vs 69.6(17.2)]. Participants in the mixed group were more confident in their diagnoses (average 3.5 vs 2.8) and management recommendations (3.5 vs 2.7). Image quality ratings did not differ between the groups (3.8 vs 3.7). Further statistical analyses pending.

Discussion: This novel study suggests that video is a good supplement to still images and may improve clinical confidence.

Reflective Critique: Case selection, validation, scoring and group assignments were modified based on feedback from ESCaPE, Sulzberger Foundation, and UCSF IT. Publication submission pending.

Educational Scholarship in the Digital Age

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Areas abstract covers: UME, GME, CME

Domain(s) addressed: Computers and Technology, Research

Purpose: To conduct a thematic analysis of digital education products using the framework of Boyer’s model for scholarship

Background: In 1990, Boyer published his famous framework of scholarship, which included the scholarships of discovery, integration, application, and teaching. The subsequent growth in digital communication platforms could not have been accounted for in this model. With increasing numbers of scholars producing and integrating digital products in the realm of medical education, determining their scholarly role is of increasing importance.

Methods: A literature review was conducted in December 2013 of Medline, EMBASE, ERIC, and PSYCHinfo for a wide range of keyword variations to capture digital education. Abstracts were classified independently by two authors and classified into Boyer’s model.

Results: 524 abstracts were included in this review. Digital scholarly activities could mostly be mapped to the scholarship of teaching (85.4%), followed by integration (7.6%), application (5.5%), and discovery (1.5%). Web-based learning and computer assisted instruction (41%) was the most common of the 19 types of digital education products. Social networks, instructional videos, open-access repositories, podcasts, online courses, vodcasts, and blogs were less common, collectively comprised 37% of the publications.

Discussion: As demonstrated by the growing number of descriptions of digital scholarship, academic educators are increasingly using the Internet to disseminate knowledge and engage in scholarly dialogue. Digital education scholarship should be valued as a form of academic practice, since it is impactful, quantifiable, and fits the established frameworks outlined by Boyer. We propose that future directions should focus on (1) incorporating digital scholarly efforts in the Educator Portfolio, as delineated by the Glassick-framed AAMC Toolbox for Evaluating Educators and (2) creating
more widespread professional development opportunities towards understanding, building, and implementing digital tools.

Reflective Critique: The initial conceptual framework for this manuscript was reviewed by Dr. David Irby, which greatly informed the writing and discussion section of the paper.

Employing a peer-led and flipped-classroom teaching model to promote interprofessionalism between pharmacy and physical therapy students

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Areas abstract covers: Pharmacy Education (Graduate Level)

Domain(s) addressed: Curricular Innovation, Interprofessional Education

Purpose: The purpose of this project was to design, implement, and evaluate a pharmacy student-led “flipped” pharmacology course for physical therapy (PT) students.

Background: Recent literature highlights a pedagogic model called the “flipped” classroom to enhance active learning. In 2013, the school of pharmacy used this approach in a pharmacology course for the PT program. To add an interprofessional component, senior pharmacy student teaching assistants (TAs) developed the course content and led the in-class case discussions.

Methods: The course consisted of four traditional and eight flipped sessions. For the latter, students watched brief pre-recorded lectures and completed readiness quizzes prior to the TA-led case-based discussions, where they worked in groups of five or six. All technical content was developed by the TAs and validated by faculty. At the end of the course, students completed an in-class, small group, case-based final exam and individual course evaluations.

Results: Of the forty-one students in the cohort, ten responded to the standard post-course evaluation and sixteen responded to a supplemental survey. All respondents agreed that the peer-to-peer teaching model was a positive experience. 75% of respondents reported that reviewing pre-recorded lectures prior to the in-class sessions contributed to their learning experience. Respondents unanimously indicated that focusing on solving case-based clinical problems contributed to their learning. Additionally, 90% strongly agreed that small group discussion activities provided the opportunity for knowledge integration to clinical problems.

Discussion: The flipped classroom structure and peer-to-peer teaching model were well received. Small group case-based discussions helped reinforce students’ understanding of pharmacological concepts and their applications to PT treatments. This model facilitates an environment for future collaborative and interprofessional practice between physical therapists and pharmacists. This project has been shared with PT colleagues and presented at a national pharmacy meeting.

Reflective Critique: Future directions will be aimed at measuring learning outcomes from both PT and pharmacy students.

Faculty feedback on critical reflection: Is training retained over time?
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Areas abstract covers: UME

Domain(s) addressed: Faculty Development, Feedback, Reflection

Purpose: To study how time from training affects quality of faculty feedback on learners’ reflections.

Background: Critical reflection correlates with improved performance across a range of medical competencies and has been increasingly incorporated into accreditation guidelines and medical curricula. Faculty feedback on reflection is essential to learners’ development of reflective skills. It is unknown if workshop-acquired skills are used in practice and if they endure. Earlier we described a workshop that trains faculty in reflection feedback. Here we report on application and retention of feedback skills over one academic year.

Methods: Doctoring course faculty and first-year students received training in reflection in 2012-13. Faculty was also trained to provide effective feedback. Students (152) wrote three reflections over six months, and faculty (40) provided feedback. Two researchers (intrarater-reliability = 0.97) used a feedback-on-reflection rubric (score 0-18) to rate deidentified faculty feedback. We calculated descriptive statistics and compared the feedback quality at three time points to the feedback quality immediately post-faculty development workshop using a single sample test of means.

Results: Immediately post workshop, the average faculty feedback score of feedback to standardized reflections was 11.6 (sd=2.7;n=19). Three months post-workshop (time 1), the average feedback score was 12.96 (sd=2.97; p=0.004). Feedback scores seven and nine months post-workshop, were 11.26 (sd=3.89; p=0.67) and 10.18 (sd=3.46; p=0.09) respectively. These were not significantly different from immediate post-workshop feedback scores.

Discussion: The feedback scores at time one were higher than post-workshop feedback scores. This could be due to increased faculty motivation to provide feedback to actual students rather than to standardized examples. We note that although feedback quality drops over time, scores were not significantly lower than immediately post-workshop. In summary, faculty apply feedback training across the academic year. We recommend periodic reinforcement to maintain or possibly improve feedback quality.

Reflective Critique: We presented at two Works in Progress sessions through the UCSF Health Professions Education Pathway, where strategies to increase response rate were discussed. We submitted to WGEA and are awaiting reviewer comments.

Feasibility of patient-initiated feedback to inform resident performance on ED wound closure

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Areas abstract covers: GME

Domain(s) addressed: Feedback, Patient Care, Quality Improvement, Residency

Purpose: Using resident-performed wound repair, we sought to inform trainees about their clinical performance using the patient as an informant, with two main objectives: to determine the feasibility of obtaining ED patient follow-up and feedback on resident performance by use of a web survey, and to assess the usability of this data by residents to alter practice.

Background: Patient follow-up is extremely challenging for patients discharged from the emergency department (ED). Residents especially can
benefit from follow-up of their patients, utilizing patient feedback to improve on their communication, medical knowledge, and procedural skills. Minimal data exists on the ideal method of obtaining patient feedback on resident performance.

Methods: After repairing a wound in the ED, residents handed patients a link to an online survey addressing key components of the resident’s procedural performance and communication. Survey results with patient feedback were forwarded to individual residents on a monthly basis. At the end of the study period, the residents were surveyed on the educational benefit of the patient feedback.

Results: Of 78 potentially eligible patients, 14 (17.9%) patients were consented for participation, and 4 (28.6%) filled out the online survey; many patients were non-English speaking and therefore not consented. All patients answered all questions, offering specific feedback to trainees on their performance; feedback tended to focus on trainee communication and procedural competency. Trainees reported overall satisfaction with the platform, and on a scale from zero to ten with ten being “extremely interested” in using a similar platform in the future, the average value was 7.8 (SD 2.4). Though several cited practice changes based on the feedback, utility of feedback was closely linked to the ability to correlate feedback with a specific patient encounter.

Discussion: In this feasibility study using ED wound repair as a proxy, patient-initiated feedback via an online survey proved to be a useful modality to inform resident performance, although provider and patient barriers to survey completion must be considered in order to increase feedback frequency. These results have been submitted for the Society for Academic Emergency Medicine (SAEM) annual meeting.

Reflective Critique: The twelve trainee participants in this study were surveyed regarding barriers to participation, and suggestions for improvement were elicited. Future potential improvements include adding an automatic link to the web survey to patient discharge instructions, translating the survey into other languages (Spanish, Cantonese), and taping the survey flyer to wound repair kits.

First Experience with a Massive Open Online Course (MOOC): Introduction to Clinical Neurology

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Areas abstract covers: UME

Domain(s) addressed: Communication, Digital Education

Purpose: To determine the public interest in a clinical neuroscience MOOC produced by UCSF.

Background: MOOCs are a tool to deliver education to lay public and professionals alike. These free, online courses come complete with didactics and evaluations, and have a world-wide distribution.

Methods: Three faculty selected 11 topic areas to teach and recruited a total of 6 faculty from the UCSF Department of Neurology to create lectures, syllabi and examination questions. Each lecture was written in a standard format and integrated with a syllabus hosted by Coursera. Filming of the lectures was funded by an internal grant from the UCSF School of Medicine. An administrator was hired to assist in the organization of course development and launch.

Results: Filming of each lecture took an average of 1.5 hours, and all faculty completed their syllabus chapter within 2 weeks of asking. The site is due to launch February 10, 2014. Enrollment and feedback statistics will be available at the time of abstract presentation.

Discussion: The delivery of basic teaching of the neurosciences is possible with moderate effort and funding. The future impact courses such as these have for medical schools is likely positive for outreach, branding, and education of those who wish a more advanced education about diseas-
es that may affect them. In addition, the online learning environment creates a model that may be applied to local medical education in the setting of a curriculum that increasingly emphasizes milestones of achievement individualized to the learner and leverages available technology.

Reflective Critique: The effort to initiate a MOOC at UCSF was significant and likely can only work when a dedicated few individuals collaborate. Cost of production, which included video production, editing and staff effort, was $50,000-60,000. The process is likely very difficult without administrative support, and the quality of the course is significantly improved with professional filming.

Health Professional Students’ Perceptions of Interprofessional Feedback

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Areas abstract covers: UME

Domain(s) addressed: Communication, Feedback, Interprofessional Education, Research

Purpose: We performed the current study to explore perceptions of interprofessional feedback among health professional students.

Background: Interprofessional teamwork should include interprofessional feedback to optimize performance and collaboration. Based on social identity theory, it can be predicted that factors such as hierarchy and stereotypes may limit receptiveness to interprofessional feedback, but literature on this is sparse.

Methods: Students from 7 professional schools (Medicine, Pharmacy, Nursing, Dentistry, Physical Therapy, Dietetics and Social Work) participated in a team-based interprofessional exercise early in their clinical training. After the exercise, they wrote anonymous feedback comments for each other. Each student received an email link to a survey containing de-identified comments and prompts to rate each comment’s usefulness and positivity (on 5-point scales) and to guess the comment’s source. We performed ANOVA to examine interactions between feedback recipients’ and providers’ profession on usefulness and positivity ratings.

Results: Of 353 study participants, 242 (68.6%) accessed the feedback and 221 (62.6%) completed the survey. Overall, students perceived the feedback as useful (means across professions=3.84-4.27) and positive (means=4.17-4.86). We found no main effects of actual or “guessed” profession of the feedback provider, and no interactions between profession of recipient and profession of provider or between profession of recipient and “guessed” profession of provider.

Discussion: Our findings suggest that students have a positive attitude towards interprofessional feedback without systematic bias against any specific group. Whether students actually use interprofessional feedback for performance improvement and remain receptive towards such feedback as they progress in their professional education deserves further study.

Reflective Critique: This study is the first in a series of studies funded by the Josiah Macy Jr. Foundation, which underwent review by the selection committee for the Foundation’s Faculty Scholars Program. A manuscript describing study results in detail was submitted for peer review to the AAMC Research in Medical Education section.

Longitudinal Experience with an Evidence-Based Critical Care Ultrasound Course

HOME
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Areas abstract covers: GME

**Domain(s) addressed:** Clinical Instruction and Performance, Curricular Innovation

**Purpose:** To assess knowledge acquisition and retention after participation in a 2-day, evidence-based critical care ultrasound (CCUS) course.

**Background:** CCUS refers to focused ultrasound examination performed at the bedside to answer specific clinical questions immediately relevant to ICU patient care. We developed a two-day, evidence-based course, including hands-on skill sessions with standardized patients, to train critical care faculty and fellows in the use of CCUS. Although it has been previously demonstrated that CCUS can be taught during a brief course, the durability of the acquired skills and knowledge is less certain.

**Methods:** Critical care fellows and faculty are invited to attend our two-day evidence-based CCUS course. The course is offered every six months. We developed a survey instrument to assess ultrasound experience, confidence, and knowledge. The survey is administered prior to the course, immediately after the course, and at six months after the course.

**Results:** 78 participants have attended the course and completed the baseline survey. The knowledge assessment showed significant improvement from baseline (mean 68% correct) to immediately post-course (mean 89%), p value <0.01 (Wilcoxon Signed-Rank Test), with persistence of knowledge at 6 months (mean 85%) as compared to baseline, p-value <0.01. Fellows performed significantly better than attendings at all three time points. Compared to baseline self-reported confidence, confidence in ability to perform all four exams (vascular, lung, cardiac, abdomen) increased significantly immediately after the course. At the six-month time point, a significant increase in confidence remained for the lung and cardiac exams. Confidence in the vascular exam returned to an already high baseline. Confidence in the abdominal exam decreased significantly from the post-course time point, but remained significantly higher than baseline confidence. At the six-month time point, the proportion of participants who affirmatively responded to the question, “Has an ultrasound performed by you influenced your clinical care?” were 76% for vascular, 73% for cardiac, 63% for lung, and 23% for abdominal ultrasound. These numbers have trended up with each successive class.

**Discussion:** Our experience suggests that CCUS knowledge and confidence can be acquired during an intensive evidence-based course. Additionally, we showed that this increase in knowledge and confidence in CCUS persists 6 months after the course, and that course participants are using CCUS exams to influence clinical decision making. Future educational assessments should incorporate bedside ultrasound skill evaluations and patient centered outcomes.

**Reflective Critique:** An evaluation survey is administered to participants after each course. Based on feedback, we have modified lecture content and style, the size of small groups during the hands-on skill session, and the types of patients/models used for demonstration and hands-on practice.

**Medical students’ engagement in collaborative communication during an interprofessional standardized patient encounter**

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Areas abstract covers: UME

**Domain(s) addressed:** Communication, Interprofessional Education, Standardized Patients
**Purpose:** Describe medical students’ engagement in collaborative communication

**Background:** Collaborative communication is essential in providing high-quality patient care (WHO 2010, IPEC 2011). Medical students interact with interprofessional colleagues as members of healthcare teams. However, students’ communication during these interactions has not been widely studied. We explored medical students' engagement in collaborative communication during a simulated patient care encounter.

**Methods:** The setting was an objective, structured clinical examination encounter in which medical students interacted with a standardized nurse (SN) and a standardized patient. We developed a conceptual framework of collaborative communication - including elements of role identification, information exchange, decision-making and interpersonal comments - based on a literature review of interprofessional collaboration and communication. Using directed qualitative content analysis we applied this framework to a purposive sample of sixty encounters. We analyzed dialogue between the student and SN for engagement in collaborative communication, and assessed differences in engagement by student performance (the SN global satisfaction rating).

**Results:** Across encounters, medical students engaged in all elements of collaborative communication. All exchanged interpersonal comments with the SN, and all but one identified their role. Students receiving higher global satisfaction ratings by the SN were more engaged in bidirectional information exchange (seeking information from and sharing information with the SN) and collaborative decision-making (seeking the SN’s input into the care plan).

**Discussion:** Our study demonstrates that medical students engage in collaborative communication with interprofessional colleagues. High-performing students were more likely to engage in bidirectional information exchange and collaborative decision-making, findings that suggest these elements may be particularly important. We plan to publish our findings and propose that further development and use of our conceptual framework could inform curriculum development in collaborative communication and assessment of students’ interprofessional collaboration.

**Reflective Critique:** We will solicit feedback from ESCape.

**References:**

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**Perceived deficiencies in infectious diseases knowledge among fourth-year medical students: a step to creating a longitudinal medical student infectious diseases curriculum**

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**Areas abstract covers:** UME

**Domain(s) addressed:** Evaluation of Programs, Longitudinal Educational Activities

**Purpose:** We aimed to evaluate the perceived strengths and weaknesses of our current infectious diseases (ID) medical student education program as the first step in creating a longitudinal medical student infectious diseases curriculum.

**Background:** Because curricula in the pre-clinical and clinical years are often taught separately, it is challenging to translate an organism-based and pharmacology-based approach in the classroom to clinical diagnosis and treatment during patient care.

**Methods:** In July 2013 we surveyed all (N=137) fourth year medical students at UCSF, using an email via Qualtrics. We queried students on their
perceived preparedness to care for infected patients at the end of core clerkships and level of preparedness for ID content on USMLE Steps I and II. Survey questions utilized a 5-point Likert scale.

**Results:** Ninety-three (67%) of the current fourth-year students responded to the survey. 47% felt sufficiently or very prepared for ID content of USMLE Step I, however only 23% felt sufficiently or very prepared regarding ID knowledge/skills for core clerkships. In addition, 47% of respondents reported they felt sufficiently or very prepared for ID content of USMLE Step II, however only 20% felt sufficiently or very comfortable with ID knowledge/skills overall. Among 14 disease topics, topics with the lowest proportion of students feeling sufficiently or very confident were rash with systemic infection (11%), HIV with new signs of infection (15%), and overall empiric antibiotic selection (17%). The students reported highest rates of feeling sufficiently or very confident about dysuria (65%), upper respiratory tract infections (57%), and pneumonia (54%). The focus group determined that students felt uncomfortable with most of the disease topics in the survey (11/14 topics) because of uncertainty around empiric antimicrobial regimens. Educational leaders from the clinical clerkships agreed that focus should be on misconceptions in the treatment of common infections, explicitly teaching empiric antibiotic selection, and reinforce antibiotic stewardship on the wards.

**Discussion:** Students are doing a good job of learning material for USMLE Step I and II but learners felt less prepared for clinical care of ID patients, notably regarding antibiotic selection. Data support the creation of a multifaceted approach to address how students learn clinical ID throughout the UME spectrum. Interventions will include standardization of educational materials, earlier exposure to clinical approach to antibiotic selection, and reinforcement of principles in the third year with a blended learning activity.

**Reflective Critique:** Feedback from the survey results were provided by a focus group of students and through directed interviews with faculty. These discussions have shaped the curricular changes that we are currently implementing.

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**Predictors of Matching in Ophthalmology Residency for International Medical Graduates**

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**Areas abstract covers:** UME, GME

**Domain(s) addressed:** Admission and Recruitment, Diversity, Global Health, Residency

**Purpose:** To determine the predictors of international medical graduates (IMG) successfully matching into a US ophthalmology residency program.

**Background:** In ophthalmology, IMG applications represent a large number of the total application pool but only approximately 5% of the total matched positions. Given the competition among IMGs for US residency positions and the opaque nature of the selection process, factors that influence matching are important for IMG applicants and their mentors.

**Methods:** 170 successful and 170 unsuccessful ophthalmology residency applications from IMG applicants who applied from 2003 to 2008 were compared by predictor variables, including United States Medical Licensing Examination (USMLE) Step 1 and 2 scores, academic awards, letters of recommendation, research experience and publications, and postgraduate clinical experience. Logistic regression was used to determine the predictors of successful matching.

**Results:** In multivariate analysis, the strongest predictors of matching were a higher USMLE Step 1 score (odds ratio [OR]: 3.22, 95% confidence interval [CI], 1.38-7.49 [highest quartile versus lowest quartile]) and having letters of recommendation written by US ophthalmologists (3.98, 1.75-
Discussion: Having three letters of recommendation from US ophthalmologists increased an IMG’s odds of matching 6-fold. US research experience conferred 3-fold higher odds of matching. Postgraduate clinical training, including years spent in the US, was associated with 4-fold reduced odds of matching. This suggests that developing relationships and conducting research with US ophthalmologists may be more valuable in helping IMGs match into an ophthalmology residency than higher test scores and additional clinical training.

Reflective Critique: This study was modified according to feedback from co-authors and reviewers from peer-reviewed journals. We will evaluate the impact of this study on IMG applicants by monitoring the match rate of IMG applicants into US ophthalmology residency programs.

Requiring Reflection: An Assessment of Student Outcomes Between Students Who Wanted to or Did Not Want to Participate in the Healer’s Art

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Areas abstract covers: UME

Domain(s) addressed: Medical Humanities, Professionalism, Reflection

Purpose: To assess for differences on outcomes between groups of students that would or would not have elected to participate in the Healer’s Art (HA).

Background: HA is a course on professional values and humanism traditionally offered as an elective at over 70 medical schools internationally. The course has been evaluated positively by students so some educators suggest the curriculum should be required of all students. One medical school recently has required the course for all students.

Methods: All first-year medical students (n=50) at Cooper Medical School of Rowan University (CMSRU) were required to take the HA. Students completed pre- and post-course validated surveys assessing burnout, positive emotions and cynicism. We analyzed differences between those who would/would not have elected to take the course using independent and paired t-tests.

Results: Response rate was 96%(48/50). More than half the students reported they would have taken the course electively. One third (17/48) of students changed their response from baseline to end of study, with over half changing their answer from no to yes. There was no difference on any of the measures between students who would have elected to take the course and those would not. Both groups evaluated the course equally positively.

Discussion: A concern of requiring uninterested students to participate in the HA is they may not benefit or may negatively affect the experience for others. Data suggests students who elect to participate do not differ from other students in burnout, positive emotions or cynicism. Students may benefit from the course regardless of whether they would elect to take it, and a minority of students may not be able to predict if it will be of use to them.

Reflective Critique: The data will be shared with CMRSU faculty for further assessment of subjective consistency and to inform future planning for the HA course.

Resident Competence Review in Graduate Medical Education: a Qualitative Study
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Areas abstract covers: GME

Domain(s) addressed: Assessment and Testing, Competencies, Research, Residency

Purpose: To explore how residency programs understand and operationalize a new mandate for resident performance review that incorporates competency committees.

Background: The Next Accreditation System (NAS) now requires that, within graduate medical education (GME) programs, clinical competency committees (CCCs) measure residents’ progressive achievement of competence.

Methods: We conducted semi-structured interviews with 34 residency program directors (PDs) at 5 California public institutions in 2013. We used conventional content analysis to identify major themes.

Results: Programs with and without CCCs perceived their purpose and conducted their procedures in evaluating resident competence oriented toward one of two paradigms: a problem identification model, which predominated, and a developmental model. The problem identification model, which focused on identifying and addressing performance concerns, used performance data such as red-flag alerts and informal information shared with PDs to identify performance problems. Timely data acquisition and synthesis to inform individual residents’ developmental trajectory within the developmental model was described as challenging. PDs highly valued committee members’ expertise as educators to corroborate problem identification and enhance credibility of the committee’s outcomes. Faculty training in application of milestones in a developmental model to CCC work was minimal. PDs were highly committed to performance review and perceived it as adequate for residents with problems but potentially deficient for the remainder.

Discussion: Residency programs orient their resident performance review toward problem identification; a developmental approach is uncommon. Clarification of the purpose of residency performance review along with efficient information systems that synthesize performance data and engage residents and faculty in purposeful feedback discussions could enable meaningful implementation of milestones-based assessment.

Reflective Critique: We will next share our findings with leadership at each of the 5 participating institutions for their reaction. We have submitted a manuscript for publication and await reviewers’ feedback.

Resident physician perceptions of interprofessional feedback

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Areas abstract covers: GME

Domain(s) addressed: Feedback

Purpose: To examine resident physician perceptions of and response to written feedback from physicians as compared to members of other healthcare professions.

Background: Physicians need to be competent in interprofessional collaboration, which includes incorporating feedback from other health care
professionals to improve practice. Whether physicians accept and utilize interprofessional feedback is unclear. Social identity theory predicts that physicians may differentiate between feedback from members of their own profession (the in-group) and other healthcare professions (the out-group).

**Methods:** UCSF Anesthesia, OB-Gyn, Pediatrics, and Psychiatry residents were eligible to participate. We developed a 12-item survey to obtain the following measures: frequency of feedback received; value of feedback from different professionals (5-point scale); and whether they agreed with, learned something new, or made changes based on feedback. We grouped the data into in-group (attendings, residents, medical students), and out-group (other healthcare professionals). We compared frequencies with chi-squared analyses and mean ratings with paired t-test.

**Results:** 131 of 254 (52%) residents completed the survey. Approximately 80% reported receiving feedback from physicians, 26% from nurses, and <10% from other professions. Residents rated in-group feedback as more valuable than out-group feedback (4.56±0.54 vs 3.86±0.76, p<0.001). Fewer residents reported disagreement with in-group than with out-group feedback (17% vs 28%; p <0.01). More residents reported learning something new and making changes based on in-group feedback than out-group feedback (48 vs 21%; p <0.01 and 68 vs 21%; p <0.005).

**Discussion:** Residents placed higher value, and were more likely to act on physician feedback compared to other health professionals. This finding has important implications in light of the widespread implementation of interprofessional feedback in physician training and evaluation.

**Reflective Critique:** This project receives ongoing evaluation through the pathways program works in progress sessions and ESCape consultation. Further qualitative work, supported by a WGEA grant, is ongoing to examine the interprofessional dynamics that account for our findings.

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**Student Report: A novel near-peer teaching approach linking basic microbiology with clinical infectious diseases through student-created curricula**

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**Areas abstract covers:** UME

**Domain(s) addressed:** Basic Science Education, Basic Science Education, Communication, Curricular Innovation, Evaluation of Programs

**Purpose:** We implemented a near-peer teaching strategy to improve the integration of clinical concepts in infectious diseases with basic concepts in microbiology for early learners. We also theorized that curricula created by near-peer teachers could lead to improve

**Background:** Near-peer teaching is an approach in undergraduate medical education which can create a positive learning climate and improve educational outcomes. As we attempt to include more clinical content in our institution’s second-year course in microbiology and infectious disease, our faculty instructors have found it challenging to teach clinical reasoning to early learners who have not yet had robust clinical experiences.

**Methods:** The fourth year medical student teaching assistants (TAs) for our infectious disease course created a series of supplemental review sessions and were given full control of the series’ content and format. The final product was a series of optional twice-weekly interactive lectures (“student report”) which began with a clinical case presentation and subsequently reviewed three topics taught that week (both basic and clinical concepts). After the course, we administered an anonymous survey via e-mail to the students.

**Results:** Of 42 respondents, most (57%) had attended between 75-100% of the sessions, and 86% rated the sessions as “very good” or “excellent” on a 5-point Likert scale. Most respondents (97%) said that the sessions covered the topics they needed to review 75-100% of the time. When asked to comment on the series’ strengths, students highlighted the organizational frameworks created by the TAs (53% of comments) and the en-
thusiasm that the TAs brought to their teaching (38% of comments). In data from an anonymous e-mail survey, 100% of the TAs reported that they “really enjoyed” teaching, and all felt that they had been either “somewhat helpful” or “helpful”.

**Discussion:** The educational proximity of near-peer student teachers to their learners likely allowed the TAs to identify the most appropriate learning strategies for a second-year’s cognitive level, and to create curricular materials that situated basic concepts in microbiology within an accessible clinical context. The enthusiasm of the TAs and the enjoyment they derived from teaching allowed the TAs to create a comfortable and encouraging learning environment, which led to high student and TA satisfaction with this intervention. Based on the success of this program, we will compile and convey a collection of best practices to the next year’s TAs.

**Reflective Critique:** The survey administered also requested feedback from students as to how our curriculum could be improved. Students requested more reliable scheduling, better coordination between topics covered and topics tested, and more consistency between TA sessions. We will pass their summarized suggestions on to next year’s TAs.


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**Teaching Point of Care Ultrasound Skills to First-Year Medical Students: Enhancing Anatomy Education and Providing Foundational Knowledge for Clerkships**

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**Areas abstract covers:** UME

**Domain(s) addressed:** Competencies, Curricular Innovation, Simulation

**Purpose:** Establish a program to help prepare pre-clinical students for future clinical use of ultrasound while reinforcing anatomy and physical exam concepts.

**Background:** The use of ultrasound imaging, by physicians and medical students alike, is increasing in medical practice [1]. However, training is generally not a component of core curricula in medical schools and is often limited to elective courses [2].

**Methods:** To best utilize limited classroom time, students were introduced to ultrasound basics in an online module. Subsequently, students engaged in a faculty-led, hands-on session in small group format, in which students scanned each other. To provide clinical relevance and reinforce anatomical concepts, students practiced the abdominal portion of the FAST examination. This program was piloted with 154 first-year medical students and assessed through voluntary pre and post program 5-point Likert scale-based surveys.

**Results:** Students completed surveys before starting the program (106 of 154; 68.8%) and after completion (145 of 154 students; 94.2%). Post-program, students found the program educationally valuable (4.64 of 5) and reported an improvement in their understanding of ultrasound imaging (4.7 of 5) and abdominal anatomy (4.19 of 5). Many commented on the advantages of “hands-on experiential learning” (n=52). Mean confidence in identifying abdominal organs using ultrasound after the program was 3.67 of 5, significantly higher compared to pre-program (p<0.001).

**Discussion:** We piloted a successful program to teach basic ultrasound imaging skills to pre-clinical medical students. Preliminary results were presented at the Curriculum Ambassador Showcase poster presentation. Additionally, we submitted a manuscript to Academic Radiology.

**Reflective Critique:** A follow-up study investigating program participants’ ultrasound skill is underway to objectively assess performance of program participants.

Team Huddles as workplace learning opportunities: An observational study

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Areas abstract covers: GME, Interprofessional

Domain(s) addressed: Communication, Interprofessional Education, Primary Care

Purpose: To identify learning opportunities afforded by team huddles.

Background: Team huddles, or brief meetings at the beginning of clinic among team members, are a recommended strategy for high functioning teams. In an era emphasizing training for interprofessional collaboration and team-based care, we identified team huddles as a potential site for workplace learning related to teamwork.

Methods: We conducted an observational study of five teams in a VA primary care clinic from July to December, 2013. A resident, NP student, 2 staff (RN, LVN) and a coach huddle for 15 minutes once or twice per week. One investigator (BCO) observed 52 huddles, documenting team communication. The investigators analyzed the data using a grounded theory approach. During open coding, we independently identified examples of learning opportunities (content and who initiates), then discussed these to achieve consensus and develop categories that we used to code all notes. During axial coding, we looked for patterns within and across teams and over time.

Results: We found learning opportunities in five content areas: people (learning about colleagues, patients), relationships (negotiation skills), clinical (diagnostic processes, medications), team processes (schedules, communication preferences), and systems (how to do things). Most of these opportunities occurred unintentionally, through routine huddle dialogue initiated by various team members. By contrast, coaches created intentional learning opportunities by providing feedback, modeling communication strategies, and asking probing questions to prompt discussion. The majority of the content focused on systems issues and as the year progressed the conversations shifted from explanations by coaches and RNs to problem-solving discussions among the whole team.

Discussion: Team huddles offer a rich array of learning opportunities. While much may be learned implicitly, by participating in a huddle, coaches can enhance the learning opportunities by providing feedback and suggestions on team processes.

Reflective Critique: We use these findings in faculty development sessions with huddle coaches and have seen positive improvements.

Use of Racial and Ethnic Identifiers in the Clinical Clerkship Curriculum

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Areas abstract covers: UME

Domain(s) addressed: Cultural Competence

Purpose: Determine how fourth-year UCSF medical students compare to visiting students with regard to frequency of racial and ethnic identifier
Background: In 2006, UCSF issued a recommendation against the routine inclusion of racial and ethnic identifiers in the opening statements of patient presentations. A pre-post intervention study found that use of these identifiers by first-year medical students following simulated patient encounters fell from 15.9% to 0.9% (p=0.0002). Our current study aims to evaluate the long-term impact of the recommendation on the behavior of senior medical students in the clinical setting.

Methods: Medical records of general surgery and hospital medicine inpatients discharged between June 2012 and August 2013 were reviewed for the presence of notes authored by fourth-year medical students. Student notes were scored (yes/no) for the inclusion of racial and ethnic identifiers in the opening statement. A two-tailed Fisher’s exact test was employed to assess the statistical significance of the difference in frequency of identifier use between the two groups.

Results: The 5,000 patient records reviewed thus far have yielded 706 student-authored notes. 26 (4.6%) of the 570 notes authored by UCSF students and 2 (1.5%) of the 136 notes authored by visiting students contained identifiers (p=0.140). The large majority of these identifiers (19/28, or 67.9%) specified patient spoken language preference.

Discussion: There was no statistically significant difference between the frequency of identifier use by UCSF students and visiting students. Ongoing record review may alter these preliminary results, however, infrequent identifier use and the finding that identifiers were most often employed to indicate patient language preference likely reflect efforts to foster more patient-centered care rather than the reflexive practice of routine patient categorization.

Reflective Critique: Feedback from HPE pathway works in progress sessions informed project scope and record review technique. Feedback from WGEA and this poster presentation will inform further project dissemination.

Using Chart-Stimulated Recall to Assess Resident Instruction in Screening, Brief Intervention and Referral to Treatment Skills for Alcohol Use

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Areas abstract covers: GME

Domain(s) addressed: Curricular Innovation, Patient Care, Residency

Purpose: Evaluate the Screening, Brief Intervention and Referral to Treatment (SBIRT) for alcohol use disorders (AUDs) curriculum and electronic health record (EHR) SBIRT tools for IM residents.

Background: Barriers to SBIRT include inadequate provider skills and systems factors. We implemented an SBIRT curriculum for IM residents and developed EHR tools to serve as a scaffold for curricular content, facilitate documentation, and provide patient resources.

Methods: 20 IM residents participated in the 3-hour curriculum. Six months after completion, residents received a list of their continuity patients drinking above recommended limits and selected 3 patients for review. Faculty reviewed these charts using a 25-item checklist to assess SBIRT/charting tool use. Faculty performed individual chart-stimulated recall (CSR) sessions and provided feedback to residents.

Results: 16 residents participated. 39 charts met study criteria. Chart review revealed documentation of alcohol use (79%), quantity/frequency of
use (64%), assessment for an AUD (28%), use of motivational interviewing (5%), correct diagnosis of alcohol use (44%), recommendation to cut down (59%), an appropriate plan (46%) and appropriate follow-up (51%). Four residents used an SBIRT EHR tool with 5 patients. CSR interview findings included barriers to SBIRT (time, competing issues, resident discomfort and perceived patient willingness), and to use of EHR tools (limited awareness of the tools, limited baseline use of charting tools). Satisfaction with the CSR was high.

**Discussion:** Use of CSR allowed us to recognize aspects of curriculum and support tools being used and provided an opportunity to reinforce curriculum and provide feedback. While intended as a facilitator, adoption of EHR tools was low. Future curriculum needs to focus on incorporating tools into workflow to overcome perceived barriers; simulation may be useful.

**Reflective Critique:** Additional efforts have focused on faculty development so residents are encouraged to use SBIRT skills/EHR tools in real-time by preceptors.