Innovations in Medical Education
Transforming Health Professions Education through Innovation

February 21-22, 2015

Hilton San Gabriel
225 West Valley Boulevard
San Gabriel, California, CA 91776

Presented by
Division of Medical Education
and
Office of Continuing Medical Education

Keck School of Medicine of USC
University of Southern California
Saturday, February 21, 2015

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<td>8:15 – 8:50 am</td>
<td>Ballroom AB</td>
<td>Keynote Speaker</td>
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<td>&quot;The Keynote address has been cancelled due to personal crisis&quot;</td>
<td>Gaba, David</td>
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<td>9:00 am – 10:30 am</td>
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<td>Teaching with Technology</td>
<td>Advancing Surgical Autonomy with Social Learning Techniques</td>
<td>Haglund, Michael</td>
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<td>9:00 am – 10:30 am</td>
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<td>The Effect of Audience Response Systems on Metacognition in Graduate Students: A Two-Year Mixed Meth</td>
<td>Brady, Melanie; Rosenthal, Jane; Forest, Christopher</td>
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<td>9:00 am – 10:30 am</td>
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<td>Teaching with Technology</td>
<td>A Pilot Comparison Between SMS Texting and Email for Emergency Medicine Residents’ Knowledge Retent</td>
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<td>Development and Evaluation of a Tele-Education program for NICU health professionals in Armenia</td>
<td>Sarin-Gulian, Lily; Lee, Thomas C.; Choe, Uni Ja-yoon; Ficher, Sharon</td>
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<td>Improving PICU Resident Education by Using an Audience Response Smartphone app</td>
<td>Chung, Hoyoun; Kallay, Ton; Anas, Nick; Bruno, Diana; Decamps, Jose; Evans, Dan; Vilasagar, Niveditha; Mink, Richard</td>
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<td>Santa Barbara</td>
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<td>Poorly performing residents: Remediation101</td>
<td>Joubran, Rima; Tierney, Tracey; Lee, Jan; Stapelton, Kelly; Marianne Ward; Thompson, Michelle</td>
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<td>Achieving Mastery Learning in Central Venous Catheter Insertion</td>
<td>Webb, Alaina; Gallo de Moraes, Alice; Dong, Yue; Dunn, William</td>
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<td>Leading Family Meetings – Are fellows getting the training they need?</td>
<td>Anna Ganster; Ashwini Lakshmanan; Claire McLean; Cha-Chi Fung</td>
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<td>So you want to put your course online? A primer on making the transition from the classroom.</td>
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<td>Exploring the Kolb’s cycle and experiential learning using a session of Dialogue in the Dark (DID)</td>
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<td>Assessment Radiology Hunger Games: Evaluating the diagnostic utility, safety, and accuracy of medical imaging</td>
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<td>Assessment Junior Anesthesiology Resident “Readiness for Decreased Supervision” Tool</td>
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<td>Assessment Script Concordance Testing (SCT) to identify the effect of attitudes on clinical reasoning: Part 1</td>
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<td>Asynchronous Learning Efficacy of iPad iTunes U Electronic Curriculum in Emergency Medicine Education</td>
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<td>Asynchronous learning Educating Primary Care Clinicians Using an Online Portal to Improve Patient Outcomes and Safety</td>
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<td>Classroom Teaching &amp; Learning UNflipping the classroom: going beyond prerecorded lectures to create effective blended learning</td>
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<td>Communication Teaching motivational interviewing techniques to psychiatry residents</td>
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<td>Communication Pediatric Intensive Care Curriculum for Attaining Doctoring Expertise (PICC-ADE)</td>
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<td>Impact of Social and Cultural Interviewing on Providing Patient Care to Urban Underserved Populations</td>
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<td>Health Disparities, Special Population, Cultural Competence</td>
<td>Enhancing family medicine resident knowledge and care of patient with low literacy</td>
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<td>Health Disparities, Special Population, Cultural Competence</td>
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<td>Health Disparities, Special Population, Cultural Competence</td>
<td>Training Family Medicine Residents in Chronic Pain Management Amid An Opiate Epidemic</td>
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<td>Teaching Geriatrics and Transitions of Care for Vulnerable Elderly to Internal Medicine Residents</td>
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<td>Health Disparities, Special Population, Cultural Competence</td>
<td>Teaching unconscious bias through learners’ development of video vignettes</td>
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<td>Health Disparities, Special Population, Cultural Competence</td>
<td>Intersections of LGBTQ Health: Increasing Student-Doctor Awareness of LGBTQIA Communities</td>
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<td>LGBT Health Immersion Day; Measuring the Impact of an LGBT Health Education Intervention</td>
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<td>Succeed in Learning about Research?</td>
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<td>3:50 pm -</td>
<td>Ballroom</td>
<td>Oral Session</td>
<td>Potpourri</td>
<td>Miller, Karen; Ziegler, Craig; Elam; Carol; Dunavor, Linda; McDowell, Susan; Rowland, Michael</td>
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<td>5:20 pm</td>
<td>AB</td>
<td>#56</td>
<td>Assessing the impact of versimilitude training on realism ratings</td>
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<td>3:50 pm -</td>
<td>Santa</td>
<td>ACIME Workshop</td>
<td>ACIME Workshop</td>
<td>Nyquist, Julie; Kenneth Saffier</td>
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<td>5:20 pm</td>
<td>Barbara</td>
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<td>Making every minute count twice: Teaching in Time Restricted</td>
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<td>Durham, Melissa; Lie, Desiree; Ham, Phuu</td>
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<td>Diego</td>
<td>Workshop</td>
<td>An Introductory Session on IPE for Health Professionals: Best</td>
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<td>3:50 pm -</td>
<td>Ballroom</td>
<td>Special Poster</td>
<td>UME-Assessment</td>
<td>Farahat, Elf; Heine, Nancy</td>
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<td>5:20 pm</td>
<td>C</td>
<td>Session: UME #1</td>
<td>An Interprofessional OSCE Improves Readiness for Clinical Placement</td>
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<td>3:50 pm -</td>
<td>Ballroom</td>
<td>Special Poster</td>
<td>UME-Assessment</td>
<td>Hagiwara, Yus; Ross, Jeanette; Reilly, Angela; Lee, Shuko; Garza, Mary; Sanchez-Reilly, Sandra</td>
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<td>5:20 pm</td>
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<td>Session: UME #2</td>
<td>Innovation with Family Meeting OSCE for Medical Students</td>
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<td>3:50 pm -</td>
<td>Ballroom</td>
<td>Special Poster</td>
<td>UME-Assessment</td>
<td>Christos Theophanos; Marla Kalashinkova; Claire Sadler; Elizabeth Barreras; Madeleine Bruning</td>
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<td>Session: UME #3</td>
<td>Educating Medical Students about Military Health and Culture: Results</td>
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<td>3:50 pm -</td>
<td>Ballroom</td>
<td>Special Poster</td>
<td>UME - Classroom Teaching</td>
<td>Shoemaker, Eric; Johnson, Cory; Fung, Cha-Chi</td>
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<td>Using a Flipped Classroom to Teach Typical child Development to</td>
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<td>Pre-Clinical Medical Students</td>
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<td>3:50 pm -</td>
<td>Ballroom</td>
<td>Special Poster</td>
<td>UME - Classroom Teaching</td>
<td>Mushtarafieh, Umayya</td>
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<td>Integrating and standardizing clinical skills learning through</td>
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<td>Objective Structured Clinical Teaching</td>
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<td>3:50 pm -</td>
<td>Ballroom</td>
<td>Special Poster</td>
<td>UME - Classroom Teaching</td>
<td>Gureczny, Jaydn; Giustini, Nicholas; Zia, Stephanie</td>
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<td>Session: UME #6</td>
<td>The effectiveness of audience response system training on UME tutors</td>
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<td>3:50 pm -</td>
<td>Ballroom</td>
<td>Special Poster</td>
<td>UME - Communication</td>
<td>Johnson, Emily; Maldonado, Lauren</td>
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<td>Session: UME #7</td>
<td>Medical student led counselling service on end-of-life care planning</td>
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<td>3:50 pm -</td>
<td>Ballroom C</td>
<td>Special Poster</td>
<td>Comparing Outcomes for Pediatric Clerkship Students on a Hospitalist</td>
<td>Molas-Torreblanca, Kira; Cannon, Jennifer</td>
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<td>5:20 pm</td>
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<td>Session: UME #8</td>
<td>Service at Different Sites</td>
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<td>3:50 pm -</td>
<td>Ballroom C</td>
<td>Special Poster</td>
<td>Linking the Basic &amp; Clinical Sciences – The Bench to Bedside course</td>
<td>Stefan, Kurt; Cohen, Gary; Pfeifer, Kurt; Muntz, Martin; Franco, Jose;</td>
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<td>5:20 pm</td>
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<td>Session: UME #9</td>
<td>at MCW</td>
<td>Krausert, Theresa</td>
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<td>3:50 pm -</td>
<td>Ballroom C</td>
<td>Special Poster</td>
<td>Patient-Centered, Trans-Disciplinary Oncology Clerkship Experience</td>
<td>Kundu, Palak; Telli, Melinda; Schillinger, Erika</td>
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<td>5:20 pm</td>
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<td>Session: UME #10</td>
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<td>3:50 pm -</td>
<td>Ballroom C</td>
<td>Special Poster</td>
<td>Teaching teamwork and team communication to medical students</td>
<td>DeTata, Cynthia</td>
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<td>5:20 pm</td>
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<td>Session: UME #11</td>
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<td>3:50 pm -</td>
<td>Ballroom C</td>
<td>Special Poster</td>
<td>Improving Goals of Care Discussion: Innovative Training for Fourth</td>
<td>Hagiwara, Yuya</td>
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<td>5:20 pm</td>
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<td>Session: UME #12</td>
<td>Year Medical Students</td>
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<td>3:50 pm -</td>
<td>Ballroom C</td>
<td>Special Poster</td>
<td>Integrative medicine in the pre-clinical years: Impact upon medical</td>
<td>Roehl, Kristin; Austin, Armary</td>
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<td>5:20 pm</td>
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<td>Session: UME #13</td>
<td>students as future clinicians</td>
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<td>3:50 pm -</td>
<td>Ballroom C</td>
<td>Special Poster</td>
<td>Curriculum for Teaching Osteopathic Manipulation Techniques to Allopathic</td>
<td>Varallo, Matthew; Thrasher, Kenneth</td>
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<td>5:20 pm</td>
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<td>Session: UME #14</td>
<td>Family Medicine Residents</td>
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<td>3:50 pm -</td>
<td>Ballroom C</td>
<td>Special Poster</td>
<td>A New Preclinical Curriculum to Improve Medical Students' Pediatric</td>
<td>Zarrabi, Yasaman; Kiresich, Eleonore</td>
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<td>5:20 pm</td>
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<td>Session: UME #15</td>
<td>Skills: A Pilot Study</td>
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<td>3:50 pm -</td>
<td>Ballroom C</td>
<td>Special Poster</td>
<td>A Longitudinal Program for Early Identification and Remediation of</td>
<td>Herzberger, Kathy; Heine, Nancy</td>
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<td>5:20 pm</td>
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<td>Session: UME #16</td>
<td>Medical Students' Clinical Skills</td>
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<td>3:50 pm -</td>
<td>Ballroom C</td>
<td>Special Poster</td>
<td>Medical student well-being and burnout: a systems dynamics approach</td>
<td>Khesbak, Ziyad; Sigalov, Victor</td>
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<td>5:20 pm</td>
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<td>Session: UME #17</td>
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<td>8:00 am -</td>
<td>Ballroom AB</td>
<td>Oral Presentation</td>
<td>Under Graduate Medical Education: Mental Rotation Test for Evaluation of Visual-Spatial Abilities in Ultrasound Guided Regional Anesthesia</td>
<td>Gucev, Gligor; Arnaudov, Dimitar; Hagos, Marina; Nguyen, Chuck; Tom, Michael; Bang, Jason; Movahedi, Rana</td>
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<td>8:00 am -</td>
<td>Ballroom AB</td>
<td>Oral Presentation</td>
<td>Under Graduate Medical Education: Using Student Opinion of Computer Based Testing (CBT) to Shape Successful Full-Scale Implementation</td>
<td>Michaelsen, Veronica</td>
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<td>8:00 am -</td>
<td>Ballroom AB</td>
<td>Oral Presentation</td>
<td>Under Graduate Medical Education: Evaluating an Online Training to Promote Standardized Medical Student Feedback on Reflective Writing</td>
<td>Rankine, Jacquelin; Jiao, Jocelyn; Feld, Lauren; Oakland, Hannah; Bakshi, Salina; Nickerson, Jillian; Meah, Yasmin; Gault, Allison</td>
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<td>8:00 am -</td>
<td>Ballroom AB</td>
<td>Oral Presentation</td>
<td>Under Graduate Medical Education: Online Modules for Behavioral Competency Development: Resources and Remediation</td>
<td>Savi, Christine; Hartmark-Hill, Jennifer</td>
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<tr>
<td>8:00 am -</td>
<td>Ballroom AB</td>
<td>Oral Presentation</td>
<td>Under Graduate Medical Education: Implementing Milestones in UME: A Collaborative Model</td>
<td>Savi, Christine; Restifo, Karen</td>
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<tr>
<td>8:00 am -</td>
<td>Santa Barbara</td>
<td>ACIME Workshop</td>
<td>ACIME Workshop: Getting your cool idea off the ground</td>
<td>Fisher, Dixie; Rice, Gail; Richards, Anita; Willett, Lisa</td>
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<tr>
<td>8:00 am -</td>
<td>San Diego</td>
<td>Conference Workshop</td>
<td>Conference Workshop: Redrawing the Line on Professionalism: &quot;Views on professionalism across the educational continuum</td>
<td>Hodgson, Carol; Smyth, Penelope</td>
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<tr>
<td>8:00 am -</td>
<td>San Francisco</td>
<td>Conference Workshop</td>
<td>Conference Workshop: Finding Feelings: Teaching empathy to clinicians using improvisational theatre training techniques.</td>
<td>Fu, Belinda</td>
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<td>9:50 am -</td>
<td>Ballroom AB</td>
<td>Oral Presentation</td>
<td>Under Graduate Medical Education: Creating a Video Situational Judgment Test to Predict Future Student Success</td>
<td>Cunningham, Tara K; Willis, Brigham C.</td>
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<td>9:50 am -</td>
<td>Ballroom AB</td>
<td>Oral Presentation</td>
<td>Under Graduate Medical Education: An interactive faculty development program to enhance faculty feedback skills</td>
<td>Milan-Flanigan, Alicia</td>
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<td>9:50 am -</td>
<td>Ballroom AB</td>
<td>Oral Presentation</td>
<td>Under Graduate Medical Education: Incorporation of First-Person Video to Improve the Assessment of Procedural Skills</td>
<td>Wiechmann, Warren; Toohey, Shannon; Ogbu, Uzor C; Youm, Julie; Chakravarthy, Bharath</td>
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<td>9:50 am -</td>
<td>Ballroom AB</td>
<td>Oral Presentation</td>
<td>Under Graduate Medical Education: A Dual Handover Station in a Second Year Resident Multi-Station Clinical Examination</td>
<td>Samaniego, Luis; Wohlmuth, Cinna; Barrio, Juan; Mathis, Stanley; Gates, Stephanie; Reese, Leroy; Nyquist, Julie</td>
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<tr>
<td>9:50 am -</td>
<td>Santa Barbara</td>
<td>ACIME Workshop</td>
<td>ACIME Workshop: Are you with me? Grabbing and Holding Learner Attention</td>
<td>Fisher, Dixie; May, Win, Walsh, Anne</td>
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<td>9:50 am -</td>
<td>San Diego</td>
<td>Conference Interactive Discussion</td>
<td>Conference Workshop: Film-based anticipatory reflection regarding medical career pathways</td>
<td>Brett-MacLean, Pamela; Lewis, Danielle; Hellerman, Andrea; Walton, Jennifer; Oswald, Anna</td>
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<td>9:50 am -</td>
<td>San Francisco</td>
<td>Special Session (non-CME credited)</td>
<td>Special Presentation: Beyond Exams: Innovative Applications of Examination Software</td>
<td>Close, Brandy; Thompson, Dan</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #61</td>
<td>Learning Aids: Universal Notes: The Future of Medical Education?</td>
<td>McGuffin, Aaron; Hayes, Rebecca</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #62</td>
<td>Learning Aids: Medical Triage Web Platform -- EMTriage.com, Surgerytriage.com, MedicineTriage.com, an open access tool</td>
<td>He, Shuhan; Wu, Brian</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #63</td>
<td>Learning Aids: Multimodal Procedural Learning Resource for Emergency Medicine Residents</td>
<td>Tabatabai, Ramin; Montano, Manuel</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #64</td>
<td>Medical Knowledge: A multifaceted approach to enhancing medical knowledge and improving board examination scores</td>
<td>Daly, Timothy</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #65</td>
<td>Medical Knowledge: Leveraging Institutional Policy to Enhance Student Immunization Knowledge and Skill</td>
<td>Stefan, Kurt; Havas, Nancy</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #66</td>
<td>Medical Knowledge: Boot camp for Oncology Fellows: Using Multimodal Teaching Techniques Early in Oncology Fellowship</td>
<td>Sikaria, Swati</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #67</td>
<td>Medical Knowledge: Teaching a Core Concept in Physiology: Oxygen Binding to</td>
<td>Breckler, Jennifer</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #68</td>
<td>Medical Knowledge</td>
<td>The Effect of Repeated and Spaced Formative Testing on Final Exam Performance in Medical School</td>
<td>Chang, Edward; Wimmers, Paul</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #69</td>
<td>Medical Knowledge</td>
<td>Peer-based anatomy tutoring: updated data from the 2013-2014 academic year</td>
<td>Harrison, David; Lentz, Jacob; Escovedo, Cameron; Schmalz, Naomi; Stahl, Lesley; Thakur, Sanka; Parker, Neil; Stark, Elena</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #70</td>
<td>Outpatient Medicine</td>
<td>Rotation Makeover: An Innovative Approach to Teaching Outpatient Family Medicine</td>
<td>Bene, Kristen</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #71</td>
<td>Outpatient Medicine</td>
<td>Clinic Work Flow Efficiency Improvement for Physician Residents Utilizing Electronic Medical Record</td>
<td>Djokakljan, Juliana; Vasquez, Marissa; Graham, Nzlinga</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #72</td>
<td>Outpatient Medicine</td>
<td>Bridging Internet Point of Care (PoC) with Healthy People 2020</td>
<td>Patricia Stubenberg; Emily Weyant; David Petersen; Howard Teitelbaum</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #73</td>
<td>Outpatient Medicine</td>
<td>Learning Together Eval: Innovative Approach to Teaching Residents the Value of Practicing in a PCMH</td>
<td>Medina, Gilberto; Flores, Hector; Gates, Stephanie; Watts, Linda</td>
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<td>Ballroom BC</td>
<td>Poster Session II: Poster #74</td>
<td>Outpatient Medicine</td>
<td>Out of the dark; a new take on shadowing in the outpatient pediatric clinic</td>
<td>Collins, Jolene</td>
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<td>Ballroom BC</td>
<td>Poster Session II: Poster #75</td>
<td>Outpatient Medicine</td>
<td>Putting the Continuity back in Continuity Clinic: A Resident-Driven, Longitudinal QI Pilot Project</td>
<td>Brandt, Kirsten; Koehler, Elizabeth</td>
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<td>Ballroom BC</td>
<td>Poster Session II: Poster #76</td>
<td>Peer Evaluation/Feedback</td>
<td>Develop skills for giving and receiving feedback among family medicine residents in an Arab Culture</td>
<td>Khan, Abdul Sattar; Nyquist, Julie</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #77</td>
<td>Professional Formation &amp; Learning Environment</td>
<td>Rural community immersion curriculum</td>
<td>Conley, Amy; Hatton, Twana</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #78</td>
<td>Professional Formation &amp; Learning Environment</td>
<td>“El-Sir” - Early leadership sensitization and informal reinforcement</td>
<td>Osmani, Syed Suhail Naser; Nazil, Lubna</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #79</td>
<td>Professional Formation &amp; Learning Environment</td>
<td>A Mentoring Curriculum for Family Medicine Residents: leveraging the power of all to achieve equity</td>
<td>Svetaz, Maria Veronica</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #80</td>
<td>Professional Formation &amp; Learning Environment</td>
<td>Filling the Gaps: Implementing a Capstone Course to Better Prepare Students for Pediatrics Residency</td>
<td>Waloff, Kevin R.; Gay, Anna Card</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #81</td>
<td>Professional Formation &amp; Learning Environment</td>
<td>Assessing the Perception of Medical Students Towards Social Media Behaviors and their Reasoning</td>
<td>Aribindi, Vamsi; Zia, Stephanie; Lee, Desiree; Fung, Cha-Chi</td>
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<td>Ballroom BC</td>
<td>Poster Session II: Poster #82</td>
<td>Professional Formation &amp; Learning Environment</td>
<td>Mindfulness in Emergency Medicine</td>
<td>Chung, Arlene S.</td>
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<td>Ballroom BC</td>
<td>Poster Session II: Poster #83</td>
<td>Professional Formation &amp; Learning Environment</td>
<td>Recognizing excellence of resident teachers in undergraduate medical education to promote cultural c</td>
<td>Thang, Christine; Chung, Melody; Laiwalla, Azim; Szumski, Meredith; Fried, Joyce</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #84</td>
<td>Professional Formation &amp; Learning Environment</td>
<td>Relationship of Student Personality and Empathy for Outcomes of a New Medical School Curriculum</td>
<td>Treat, Robert; Tews, Matthew</td>
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<td>Ballroom BC</td>
<td>Poster Session II: Poster #85</td>
<td>Professional Formation &amp; Learning Environment</td>
<td>Challenges and solutions in developing an assessment process of a longitudinal Physicianship course</td>
<td>Tan, Amy; Lai, Hollis; Hillier, Tracey</td>
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<td>11:30 am -</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #87</td>
<td>Program Evaluation</td>
<td>Systematic Reviews as a Service: Correcting Misconceptions from the Top Down</td>
<td>Kysh, Lynn; Johnson, Robert</td>
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<td>Ballroom BC</td>
<td>Poster Session II: Poster #88</td>
<td>Program Evaluation</td>
<td>Using Student Feedback to Improve the OSCE as an Assessment of Clinical Skills</td>
<td>Agarwal, Ravi; Zobel, Michael J.</td>
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<td>Ballroom BC</td>
<td>Poster Session II: Poster #89</td>
<td>Program Evaluation</td>
<td>Decreased didactic during Introduction to Scholarly Pathways did not affect first-choice enrollment</td>
<td>Hayes, Meaghan; Kraus, Jennifer</td>
<td>151</td>
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<td>11:30 am – 1:00 pm</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #90</td>
<td>Program Evaluation</td>
<td>Mixed-methods to identify opportunities for improvement in clinical research fellowship program</td>
<td>Burke, Rita; Goodhue, Catherine; Upperman, Jeffreys</td>
<td>152</td>
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<tr>
<td>11:30 am – 1:00 pm</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #91</td>
<td>Program Evaluation</td>
<td>Preceptors' and Physician Assistant Students' Views about the Value of Clinical Site Visits</td>
<td>Mitzi D'Aquila; Désirée Lie</td>
<td>153</td>
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<td>11:30 am – 1:00 pm</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #92</td>
<td>Skills</td>
<td>Emergency Medicine Resident-Run Cadaver Lab</td>
<td>Brandon, Caroline; Tabatabai, Ramin</td>
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<td>11:30 am – 1:00 pm</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #93</td>
<td>Skills</td>
<td>Dedicated Breast rotation service for surgery residents to learn management of breast cancer</td>
<td>Kuwajerwala, Nafisa MD FACS; Dekhne, Nayana MD FACS</td>
<td>155</td>
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<tr>
<td>11:30 am – 1:00 pm</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #94</td>
<td>Skills</td>
<td>Cadaver based curriculum for point-of-care Emergency Medicine ultrasound education.</td>
<td>Abdi, Amin; Berona, Kristin; Seif, Dina; Chilstrom, Mikaela; Mailhot, Thomas; Kang, Tanina</td>
<td>156</td>
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<tr>
<td>11:30 am – 1:00 pm</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #95</td>
<td>Technology in learning</td>
<td>Bedside ultrasonography augments medical student gross anatomy education</td>
<td>Abdi, Amin; Berona, Kristin; Seif, Dina; Mailhot, Thomas; Kang, Tanina; Chilstrom, Mikaela</td>
<td>157</td>
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<tr>
<td>11:30 am – 1:00 pm</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #96</td>
<td>Technology in learning</td>
<td>Using a simulation laboratory to enhance newborn curriculum in an urban family medicine residency</td>
<td>Lopez, Cynthia; Lopez, Alma</td>
<td>158</td>
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<tr>
<td>11:30 am – 1:00 pm</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #97</td>
<td>Technology in learning</td>
<td>Training Sports Medicine Fellows to Perform Musculoskeletal Ultrasound Using Bedside Simulation</td>
<td>Vasquez, Marissa</td>
<td>159</td>
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<td>11:30 am – 1:00 pm</td>
<td>Ballroom BC</td>
<td>Poster Session II: Poster #98</td>
<td>Medical Knowledge</td>
<td>Peer Assisted Learning in a Gross Anatomy Dissection Course</td>
<td>Chung, Eun-Kyung, Han, Eui-Ryoung, Nam, Kwang-II</td>
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</table>
Welcome to Innovations in Medical Education

The USC Registration Desk will be located in the San Gabriel Ballroom foyer and will be open through the day and staff will be available to assist you throughout the course. Continental Breakfast will be provided on Saturday, February 21st in San Gabriel Ballroom Foyer. Hot Breakfast Buffet will be provided on Sunday, February 22nd in the San Gabriel Ballroom Foyer. Lunch will be provided on Saturday, February 21st in the San Gabriel Ballroom Foyer.

For those who wish to have verification of attendance, a form is provided that must be completed and validated by USC Registration Desk Staff the last day of your attendance. A course evaluation questionnaire is provided that we would appreciate your completing prior to your departure. This will help plan future meetings.

Please place cell phones and beepers on vibrate and take any calls outside the meeting room.

For those participants that are also faculty please note: As this program was approved for CME, the following information must be provided for your review although in most cases, it will be irrelevant to your presentation/s.

Identifying products and discussing unlabeled uses of products during an accredited CME activity

- Generic and Trade Names
  Presentations must give a balanced view of therapeutic options. As a speaker, your use of generic names contributes impartiality. If trade names are used, those of several companies should be used rather than that of a single company.

- Unlabeled Use of Products
  When you discuss an unlabeled use of a commercial product, or an investigational use not yet approved for any purpose, during an accredited CME program, ACCME guidelines require that you as a speaker inform the audience that the product is not labeled for the use under discussion, or that the product is still investigational.
The Keck School of Medicine of USC takes responsibility for the content, quality and scientific integrity of this CME activity.

As part of the new commercial guidelines, we are required to disclose any real or apparent commercial conflict(s) of interest (COI) of all persons in control of educational content for this activity, specifically, but not limited to: faculty/presenters, CME committee members and/or planners. Any disclosed real or apparent commercial conflict(s) of interest (COI) have been resolved through a conflict resolution process prior to the beginning of this activity.

The Keck School of Medicine further requires that, if applicable, faculty/presenters disclose to the audience their intention to discuss the off label and/or investigational (not yet approved for any purpose) use of pharmaceuticals or medical devices at the beginning of their presentation.

**Course Directors**

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<tr>
<th>Faculty Member</th>
<th>Commercial Interest</th>
<th>Conflict/Resolution</th>
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<tr>
<td>Chachi Fung, Ph.D.</td>
<td>I do not have any relevant financial relationships with any commercial interests.</td>
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<tr>
<td>Julie G. Nyquist, Ph.D.</td>
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**Faculty Speakers**

All faculty speakers do not have any relevant financial relationships with any commercial interests.

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<th>Facilitators/Moderators/Poster Presenters</th>
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<td>The facilitators, moderators and poster presenters do not have any relevant financial relationships with any commercial interests.</td>
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| Office of Continuing Medical Education   | The planners in the Office of Continuing Medical Education do not have any relevant financial relationships with any commercial interests. | None                |

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<tr>
<th>Time</th>
<th>Sessions</th>
<th>Location</th>
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<tr>
<td>7:30 – 8:30 am</td>
<td>Continental Breakfast and Registration (Poster Setup)</td>
<td>Ballroom Foyer</td>
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<td>8:30 – 8:50 am</td>
<td>Welcome by Conference Chair - Julie Nyquist, PhD</td>
<td>Ballroom C</td>
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<td>FIME Certificate Workshop: Creating a simulation scenario</td>
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<td>9:00 – 10:30 am</td>
<td>Oral Presentations: Teaching with Technology (Moderator: Korin, Tatum)</td>
<td>Ballroom C</td>
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<td>Conference Workshop: Poorly performing residents: Remediation101 (Jubran, Rima; Tierney, Tracey; Lee, Jan; Stapelton, Kelly: Marianne Ward; Thompson, Michelle)</td>
<td>Santa Barbara</td>
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<td>Conference Workshop: Getting past Zero: Increasing your success of getting a paper published and cited (Johnson, Claire; Green, Bart)</td>
<td>San Francisco</td>
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<td>10:30 – 10:50 am</td>
<td>Break (Refreshments)</td>
<td>Ballroom Foyer</td>
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<td>FIME Certificate Workshop: Developing teams in Medical Education (Nyquist, Julie; Fung, Cha-Chi)</td>
<td>Santa Barbara</td>
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<tr>
<td>10:50 – 12:20 pm</td>
<td>Oral Presentations: Graduate Medical Education (Moderator: Richard Mink)</td>
<td>Ballroom C</td>
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<td>Conference Workshop: Teaching medical students about people with disabilities (Carol Hodgson: Penelope Smyth; Clair Birkman)</td>
<td>San Diego</td>
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<td>Conference Workshop: So you want to put your course online? A primer on making the transition from the classroom. (Warren Wiechmann; Julie Youm; Shannon Toohey)</td>
<td>San Francisco</td>
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<td>12:20 – 2:00 pm</td>
<td>POSTER SESSION I - Lunch reception (hot buffet)</td>
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<td>POSTER SESSION II - Lunch reception (buffet)</td>
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<td>POSTER SESSION III - Lunch reception (buffet)</td>
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<tr>
<td>2:00 – 3:30 pm</td>
<td>Oral Presentations: Classroom Teaching and Learning (Moderator: Johnson, Claire)</td>
<td>Ballroom C</td>
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<td>FIME Certificate Workshop: Technology smackdown: The best apps, tools, gadgets, and tips from you and your peers (Crispen, Patrick)</td>
<td>Santa Barbara</td>
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<td>Conference Workshop: Two Birds with One Stone: Improving Wellness and Collaborative Efforts by Appreciating Differences (Bughi, Stephanie; Rosenthal, Jane)</td>
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<td>Conference Workshop: Can faculty development improve teaching skills (Cloud, William; May, Win)</td>
<td>San Francisco</td>
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<td>3:30 – 3:50 pm</td>
<td>Break (Refreshments)</td>
<td>Ballroom Foyer</td>
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<tr>
<td>3:50 – 5:20 pm</td>
<td>Special Poster Session: Undergraduate Medical Education (Session hosts: D'quila, Mitzi; Bughi, Stefan)</td>
<td>Ballroom AB</td>
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**THEMES**

- Arts & Humanities
- Assessment GME
- Asynchronous Learning
- Classroom Teaching & Learning
- Communication
- Evidence, Research, Quality, Safety
- Faculty Development
- Global Health
- Health Disparities, Special Population, Cultural Competence
- Cultural Competence
- Integrative Medicine
- Skills
- Well Being
## Meeting Agenda

### Sunday, February 22, 2015

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<tr>
<th>Time</th>
<th>Sessions</th>
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<td>7:00 - 8:00 am</td>
<td>Breakfast &amp; Registration</td>
<td>Ballroom A/Foyer</td>
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<tr>
<td>8:00 - 9:30 am</td>
<td><strong>Oral Presentations:</strong> Undergraduate Medical Education (Moderator: Obadia, Sharon)</td>
<td>Ballroom C</td>
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<td><strong>ACIME Certificate Workshop:</strong> Getting your cool idea off the ground (Fisher, Dixie, Rice, Gail, Richards, Anita; Willett, Lisa)</td>
<td>Santa Barbara</td>
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<td><strong>Conference Workshop:</strong> “Redrawing the Line on Professionalism:” Views on professionalism across the educational continuum (Hodgson, Carol; Smyth, Penelope)</td>
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<td><strong>Conference Workshop:</strong> Finding Feelings: Teaching empathy to clinicians using improvisational theatre training techniques. (Fu, Belinda)</td>
<td>San Francisco</td>
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<td>9:30 - 9:50 am</td>
<td>Break (Refreshments &amp; snacks)</td>
<td>Ballroom Foyer</td>
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<tr>
<td>9:50 - 11:20 am</td>
<td><strong>Oral Presentations:</strong> Best of Cool Ideas (Moderator: Nyquist, Julie)</td>
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<td><strong>ACIME Certificate Workshop:</strong> Are you with me? Grabbing and Holding Learner Attention (Fisher, Dixie; May, Win)</td>
<td>Santa Barbara</td>
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<td><strong>Conference Interactive Discussion:</strong> Film-based anticipatory reflection regarding medical career pathways: “Doctor’s Diaries” and beyond (Brett-MacLean, Pamela; Lewis, Danielle; Heiterman, Andrea; Walton, Jennifer; Oswald, Anna)</td>
<td>San Diego</td>
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<td><strong>Special Presentation:</strong> Beyond Exams: Innovative application of examination software (Close, Brandy; Thompson, Dan)</td>
<td>San Francisco</td>
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<td>11:30 - 12:40 pm</td>
<td><strong>Poster Session II - Lunch Reception</strong> (deli style)</td>
<td>Ballroom AB</td>
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<td><strong>THEMES</strong></td>
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<td>Learning Aids</td>
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<td>UME - Medical Knowledge</td>
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<td>Outpatient Medicine</td>
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<td>Technology in learning</td>
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<td>12:50 - 1:00 pm</td>
<td><strong>Award Ceremony &amp; Closing Remark</strong></td>
<td>Ballroom AB</td>
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Advancing Surgical Autonomy with Social Learning Techniques

Haglund, Michael

Duke University Division of Neurosurgery, Departments of Surgery, Neurobiology and Global Health

Problem statement: Enhance the surgical autonomy of junior neurosurgery residents through a surgical autonomy initiative that incorporates use of social learning techniques, independent learning and guided practice.

Rationale: Multiple requirements including duty hour restrictions, more time for scholarly activity, and mandated outpatient clinic time have led to a decrease in surgical case volume for junior residents (1). Further, it is not just the number of hours spent in surgery, but the number of hours of deliberate practice that impacts the development of competence, from novice to expert. While simulation has been utilized to provide this level of practice in some surgical arenas, it is more difficult and less common within neurosurgery. Neurosurgery needs a new approach to build skills within actual operations. The surgical autonomy project will ultimately develop a set of activities for each key operation within neurosurgery. The goal is to integrate knowledge more efficiently and affect autonomy through the use of preoperative simulation and intraoperative videos, along with focused instruction during each operative case.

Methods: This project will be the first step in the Surgical Autonomy Project (SAP) and will focus on a single operation: anterior cervical disectomy and fusion (Spine Module #1). The participants in this pilot will include PGY-2 and PGY-3 residents in neurological surgery (n=6). In preparation for the launch of Spine Module #1 in February 2015, we will be developing 1) evidence-based materials, 2) video game simulation, 3) expert video with completed steps, 4) faculty and resident session for ZPD review and teaching on each resident encounter with Spine Module #1. In February residents will begin to utilize the materials and the social learning principles to enhance their development of skill acquisition. Using preoperative simulation and intraoperative videos along with Vygotsky’s zone of proximal development (ZPD) as a tool this project will advance training. The ZPD is defined as the place where maximal learning occurs just outside their known skills (2). Based on a condensed video of the operation and the expert surgeon’s description of every step of the procedure, the resident will identify the key portion of the case they are motivated to learn, i.e. their ZPD. During the operative case, the faculty surgeon will build appropriate scaffolding and slow down the procedure to teach the resident the ZPD for the case. At the end of the case, the resident will perform a metacognitive self-assessment and the faculty surgeon will evaluate the resident’s performance based on modified evaluation form from a smartphone application.

Results: Monitor the project’s schedule (pilot, six month; project two years) and note any deviations and reasons. Resident reaction and suggestions for enhancement of Operation #1, including data on working with SAP surgeons versus pre-SAP surgeons. Resident knowledge, skills and performance will be assessed in multiple ways. First, using a modified Zwisch scale (3) for grading both cognitive and technical skills with a four point Likert scale, the residents will be assessed for one month before the SAP is instituted and will then undergo evaluation from a cognitive level with the simulation video and by the faculty on factual, conceptual, and psychomotor knowledge before and during the operation. After the operation is completed, the resident with perform a psychomotor self-assessment on the ZPD and then a formative review of their performance on their technical skills. The six residents will be tracked over the first twenty cases and reviewed by the PD. The validity of the assessments will be based on case difficulty and number of cases performed by the residents versus the Zwisch scale.

Potential Impact: The Surgical Autonomy Project has the ability to maximize learning and efficiency while dramatically changing how surgery is taught in the operating room.

References:
The Effect of Audience Response Systems on Metacognition in Graduate Students: A Two-Year Mixed Methods Study

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Problem Statement: The use of educational technology, such as clickers, to engage learners continues to grow at a rapid pace. Studies of the effectiveness of clicker use find that when clickers are utilized with research-based instructional strategies the learning experience in large lectures is enhanced. In a study with undergraduates (n=198) metacognitive self-regulation seems to improve when clickers were utilized in this manner. Comparison (low technology) and experimental (clickers) methods each demonstrated significance influence on learner metacognition, clickers with the summer cohort and the comparison method with the fall. However, when performance outcomes and qualitative data were factored in, clickers demonstrated a high degree of significance (p>.01). This current mixed methods study of audience response systems and metacognition investigates whether the experience for graduate health science candidates (e.g., 1st year Physician Assistant candidates 2013 and 2014) is consistent and to what degree between group.

Rationale: The importance of these investigations lies in the growing body of research that self-regulated and metacognitively aware learners tend to have improved outcomes and that metacognition and self-regulation are teachable. Research suggests when clickers are utilized with instructional strategies (e.g., questioning and peer instruction), performance outcomes increase and metacognition may be affected. Metacognition, the regulation of cognition and self-knowledge, is an essential component in the learning process in order to become a self-regulated learner. This mixed methods comparative study examines the extent to which high-tech devices (clickers) and low-tech devices (paddles) influence learner metacognition. Thus, we hypothesize that the response device that more effectively influenced metacognition would be associated with higher performance outcomes. Based on the results of the undergraduate study we predicted that use of clickers would lead to less social comparison which could enable more productive learning; use of paddles would lead to more social comparisons that could interfere with the learning process.

Methods: Data were collected from 54 graduate candidates in 2013 and 51 graduate students in 2014 during a behavioral sciences course. This comparative, mixed-methods study employs several measurement instruments and a pre- and post-test design to compare the two response systems. The components of metacognition of interest in this study are Metacognitive Judgments and Monitoring and Metacognitive control and self-regulation. Mean in class quizzes during response device use were utilized for performance outcomes. Quantitative measures included pre-test data and demographic information, Motivated Strategies for Learning Questionnaire (MSLQ), and two instruments that measure feedback systems and metacognition. Qualitative measures Participants completed an on-line qualitative survey using Qualtrics© that consisted of open-ended questions to elicit reflections about response device use. Interviews were conducted following week 15 of the semester.

Results: Differences were found on formative performance between the 2013 cohort (M = 87.38, SD = 5.86 and the 2014 cohort: (M=75.41, SD=6.27) demonstrating differences in metacognition during lecture of the two groups (t(52) = 10.263, p = .001). Significance was demonstrated between groups for both instruments measuring influence of metacognition during lecture, and the attribution of metacognition to the response device (t(52) = 4.84, p = .001; t(48) = 5.83, p = .001). Qualitative analysis results were similar between groups. Clickers were perceived as a more effective way to monitor learning and the low technology method resulted in conformity and reduced pressure to prepare for lectures.

Potential Impact: Clickers influence metacognition by enhanced learning, improved formative feedback and learner preparation for lecture.

References:
A Pilot Comparison Between SMS Texting and Email for Emergency Medicine Residents’ Knowledge Retention

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Problem Statement: To evaluate the knowledge retention of information delivered via bi-daily text messages as compared to a single e-mail to Emergency Medicine (EM) residents.

Rationale: Technological advancements have generated many new methods of information distribution. Email and SMS texting are types of “push” technology utilized by educators. SMS texting is effective in patient education but has yet to be firmly utilized in graduate medical education. If effective, this may enhance health professionals’ learning and retention of information.

Methods: This is a prospective, randomized controlled study in an ACGME accredited academic center. Sixteen EM residents were randomized within each year of training into two groups to receive educational information via a twice-daily text message (n=7) or a one-time email handout (n=9). Material was created from the AAEM textbook, Emergency Medicine: A Focused Review of the Core Curriculum. Information consisted of EM relevant brief facts that were formulated by a second year EM resident and evaluated by academic faculty prior to dissemination. Knowledge retention was assessed with a 30-question test administered a couple weeks before and after information delivery. Questions were derived from the PEER VII and VIII collection. Data was analyzed using T-test analysis. The study received IRB approval.

Results: The average level of education was a second year EM resident. Between the two groups, the mean age was similar, with males more prevalent than females. In the SMS text group, the mean pretest score was 75.46 and the post-test score was 76.19. In the email group, the mean pretest score was 77.49 and the post-test score was 71.47. Results showed that the mean post-test score in the text group increased 0.73 (95% CI -11.80 to 13.26) when compared to the pretest score, whereas the mean post-test score in the email group decreased 6.02 (95% CI -10.99 to -1.06) from the pretest score (p=0.21). Test scores showed a trend in improvement in the text group compared to the email group.

Potential Impact: The preliminary study results illustrate that SMS text messages show a promising trend in improving knowledge retention and may possibly be a valuable education tool for graduate medical education.

References:
Development and Evaluation of a Tele-Education program for NICU health professionals in Armenia

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Problem statement: Armenia, a small Eurasian country with a population of 2.9 million, has continuously struggled with poor child health indicators. While the Infant Mortality Rate has steadily declined to 14 per 1000 in 2013, neonatal mortality rate still represents nearly 70% of all infant mortality cases.

Rationale: A review of Armenian pediatric hospital services reveals a lack of specialized neonatology training among NICU health professionals and demands improvement in the knowledge and skills of NICU staff. To address these concerns, our team designed, implemented, and evaluated a tele-education program for NICU health professionals in Armenia. Given the large time zone difference, the language barriers, and the multiple sites of course administration, an online tele-education format offered the most feasible method by which to translate and transfer advanced educational material to health professionals working remotely in Armenia. We hypothesize that there will be a statistically significant increase in knowledge of participating health professionals after completion of our tele-education course.

Methods: In conjunction with Critical Nurse Specialists at Children’s Hospital Los Angeles (CHLA), an online tele-education course on Intrapartum Complications and Newborn Assessments was designed for the NICU nurses of two major hospitals in Armenia. The CHLA NICU nursing training course was videotaped. The content was converted into a video presentation using Final Cut Pro, and the audio track was translated into Armenian. The completed video was then uploaded to YouTube. 31 nurses completed a diagnostic pretest, course viewing, a posttest and a satisfaction survey. The pre/post test consisted of a series of multiple-choice questions designed to test the material provided in the course. Each question was edited and approved by a Critical Nurse Specialist with teaching experience. The difference in knowledge was defined as the number of correct test answers obtained before and after viewing the course. Participant satisfaction with various aspects of the online educational course was measured using a Likert scale.

Results: The averages of combined test results were 52.5% on pretest and 75% on posttest. A paired sample t-test of the test results revealed a statistically significant difference with a p-value <0.05. 95% of the nurses either agreed or strongly agreed with all of the satisfaction parameters of the course.

Potential Impact: The statistically significant improvement in knowledge combined with the overwhelmingly positive satisfaction survey results, suggest our tele-education model’s efficacy in providing the necessary education for neonatal health professionals in Armenia. Our results support 3 possible deployments of tele-education in the context of Armenia: 1) utilize a similar model for future training courses on different neonatal topics, 2) develop an official neonatal nursing certification program with tele-education courses, and 3) establish similar education programs for neonatologists and other Armenian health care professionals.

References:
Improving PICU Resident Education by Using an Audience Response Smartphone app

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Problem Statement: Teaching to improve residents’ identified knowledge gaps by using an audience response smartphone app in the PICU.

Rationale: Pediatric critical care medicine is an essential rotation for residents in which they acquire in-depth knowledge about different life threatening diseases and the appropriate management. Much of the teaching in the Pediatric Intensive Care Unit (PICU) occurs during rounds using the Socratic method. This type of teaching may not be optimal for the new generation of residents who are accustomed to using technology for learning. We envision a more effective way of educating the PICU residents by incorporating a mobile technology to provide focused teaching. We used an audience response system (ARS) smartphone app in the Pediatric Intensive Care Unit (PICU) to identify resident knowledge gaps and utilized this information to guide teaching. We hypothesized that using ARS based education in the PICU would improve residents’ critical care knowledge and be well received by the participants.

Methods: Third year residents rotating through the PICU were selected to participate in ARS. Study subjects completed an ARS quiz on 1 of 10 common critical care topics for a pediatric resident using the Socrative® app on their smartphone. The quiz was completed prior to making rounds with selection of the day’s topic based on the diagnoses of patients in the PICU. Residents were given 10 minutes to take the quiz while the fellow predicted the residents’ test performance. Once the principal investigator graded the quiz, results were immediately texted to the residents and fellow along with points for discussion based on the number of incorrect responses. The fellow provided teaching to improve the identified knowledge gaps. Control subjects did not use ARS and received traditional teaching in the PICU. To assess the residents’ knowledge on pediatric critical care medicine, all residents completed 25 multiple choice pre-rotation (PRE) and post-rotation (POST) tests. Also, the residents and fellows filled out a brief survey to evaluate their experience on using ARS. The difference between the PRE and POST test results were analyzed using a t-test. Data are mean±SD. The agreement between fellow’s prediction of resident performance and actual results was evaluated using Cohen’s kappa.

Results: 13 residents have participated in ARS education and 12 in control. The baseline PRE scores between the two groups were similar (ARS 70±10%, CTL 70±11%; p>0.05). Residents in the ARS group did not perform better than control (POST-PRE difference 6±11% vs. 7±10%; p>0.05). The fellows’ prediction on resident performance improved over time as evident by three-fold increase in percent agreement; week 1=10%, week 2=20%, and week 3= 29%. All residents felt that ARS helped them learn better because it identified their knowledge gaps, enhanced the fellow’s teaching, and they wanted to see more of its use in the PICU. The fellows’ impression was that ARS improved their teaching to be more effective and efficient.

Potential Impact: Using ARS in the PICU to provide focused teaching to the residents may be an effective teaching method but other outcome measures may be needed to demonstrate its efficacy.
FIME Workshop: Creating a Simulation Scenario

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Workshop rationale: High-fidelity simulation utilizing patient scenarios is a widely accepted methodology for teaching and assessing learners in the health professions. K.T. Waxman states that “properly designed scenarios are key to promoting optimal student learning outcomes.” As an engagement for experiential learning, simulation has the ability to address three learning domains - cognitive, kinesthetic, and affective, thus simulation scenarios can be complex. This workshop will provide the foundation for participants to develop an engaging and educational simulation scenario.

Intended participants: Faculty interested and/or involved in high-fidelity simulation.

Workshop Objectives:
At the end of this workshop, participants will be able to:
1. Identify the components required to develop an effective simulation scenario
2. Write goals & objectives for a simulation scenario
3. Develop a basic simulation case using a scenario template

Instructional methods:
- Introductions of speakers and participants – 5 min
- Presentation to large group (powerpoint)- Definition of scenario; Scenario components: case must be evidence-based (accuracy and best practices); use a template to assure completeness; goals and objectives (clear, concise, relevant) drive the scenario not technology; scripting the scenario – triggers which cause change; equipment considerations; moulage and props; piloting a must; debriefing (which is beyond the scope of this workshop) – 20 min
- Introduction of a scenario template – 5 min
- Break into pairs or small groups and utilize the template to draft a simulation scenario – 45 min
  - Decide on case content / overall case plan – 5 min
  - Write G/O – 5 min
  - Write critical actions – 10 min
  - Decide on actors, personnel, props required – 5 min
  - Write play of case guidelines – 20 min
- Large group to share experiences in creating the scenario – 10 min
- Workshop evaluations – 5 min

Take-home tool: template and references
Poorly Performing Residents: Remediation 101

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Workshop rationale: Remediation of residents and fellows is a common problem that educators face. It is fraught with many challenges but most will agree that early identification of residents requiring focused intervention is key. Remediation can be defined as having 3 components based on criteria proposed by the Federation of State Medical Boards: “First deficiencies in an individual’s performance are identified through an evaluation process. Second an attempt is made to provide remedial education to the individual. Third, after remedial intervention, the individual is reassessed in the area of his/her deficient performance.” Common obstacles to effective remediation include lack of faculty engagement in providing useful assessment data and discomfort in holding learners accountable for expectations in performance outside of medical knowledge. This workshop aims to demystify the remediation process and provide educators with tools for more effective remediation.

Intended participants: Program directors and faculty involved in graduate medical education

Learner outcome objectives: After participating in this workshop participants will be able to:
1. Describe best practices in resident remediation
2. Develop and implement a remediation plan

Instructional methods:
Activities:
0-20 minutes: Introduction on underperforming residents and didactic on best practice in resident remediation and review components of a remediation plan
20-45 minutes: Small group activity-develop remediation plan for a provided scenario
45-60 minutes: each group shares their proposed plan with audience
60-80 minutes: role play difficult conversation at each table with standardized resident (how to communicate plan and expectations)
80-90 minutes: lessons learned from the audience

Take home tools: Remediation plan template
Getting past zero: increasing the success of your paper being published and cited

Johnson, Claire; Green, Bart

National University of Health Sciences

Workshop rationale: Innovations in medical education should be shared with others to continue to improve the quality of medical education. Publication in the peer reviewed literature is an important process for dissemination of new knowledge and development of our scientific knowledge base. For our work to be meaningful, others must be able to access and cite our papers. We must know not only how to publish, but how to publish in a way that our work is accessible and cited. Therefore, the purpose of this workshop is to help authors better understand the publication process from the viewpoint of citation.

Intended participants: This workshop is intended for those who are interested in professional development and scholarship through publication and authors who wish to increase citation of their publications.

Learner outcome objectives: Participants will: prioritize traits that could increase the chances of citation, describe characteristics and functions of the Hirsch index and Impact Factor, create an ORCID profile, select key words using MeSH to increase access and potential citation of a paper, recognize components of an effective title and abstract, and develop a personal toolbox of resources that will improve publication success.

Instructional methods:
Large and small group activities will lead the participants through exercises that will address key areas in citation.

LECTURE (10 minutes):
1. Introduction of speakers and purpose for the session;
2. Presentation on the importance of publication and citation. Impact Factor and Hirsch index, what are they, what are they for, how are they calculated

LARGE group activity – Citation Game (20 minutes):
1. Identify factors that may increase citation rate.
2. Discuss and summarize lessons learned for factors that are easy to include when writing and publishing a paper.

LECTURE - Demonstration of selected items identified in Citation Game (20 minutes):
1. Demonstration of how to create an ORCID profile. ORCID (Open Researcher and Contributor ID) is a code to uniquely identify scientific authors.
2. Demonstration of how to select key words using MeSH function in PubMed website. MeSH (Medical Subject Headings) is the NLM vocabulary for PubMed.
3. Demonstration of what to include in a title and abstract to make them citable.

SMALL group teams – Publication Desert Island (20 minutes):
1. Publication Desert Island exercise;
2. Small groups will be asked to report their findings to the large group.

LARGE group (10 minutes): Small group leader/recorder reports and discussion. Discussion of lessons learned.

LECTURE (5 minutes): Summary and takeaway points.

Take-home tool: Participants will receive a list of resources/links to websites (eg, standardized reporting resources, papers on how to publish, ORCID, MeSH, etc).
Achieving Mastery Learning in Central Venous Catheter Insertion

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Rationale: The aim of this study is to analyze the effectiveness of a mastery learning workshop for central venous access, across multiple disciplines. An estimated five million central venous catheters (CVC) are placed in the United States annually1. Complications associated with these procedures occur in 5-26% of patients and occur more frequently with inexperienced practitioners2. Methods to successfully teach CVC insertion are transitioning to simulation due to demonstrated educational efficiency, morbidity, and cost effectiveness. Simulation can provide a safe, objective, effective training environment and function in assessment of skills3. Our institution utilizes a structured CVC placement workshop using a validated scale for training and assessing demonstrated proficiency2. We aim to analyze: 1) the effectiveness and consistency of our training regarding the number of attempts necessary for demonstration of mastery key safety requirements 2) the areas responsible for failures in certification and 3) the differences in passing rates across disciplines.

Methods: We performed a retrospective analysis of learner performances within all CVC mastery learning workshops from July 2011 to August 2014. Data was collected and managed using the REDCap (Research Electronic Data Capture) toolset. Pre-workshop materials included: online literature review; 30 video-based clinical presentations with radiographic correlates depicting complications associated with CVC placement; video review of key procedural components; and online knowledge assessment (passing score of 90%). Workshop expert- mentored components included safety-oriented central venous access anatomic review; central venous cannulation (internal jugular and subclavian veins); and dynamic ultrasound training on a CVC simulator. Prior to mastery assessment, learners were allowed to practice each phase of CVC insertion. Mastery performance required internal jugular and subclavian catheterization and proficiency of multiple institutional safety and quality-driven steps. Performance was videotaped and graded using the CVC Proficiency Scale2. Learners unable to demonstrate mastery were given specific feedback on deficiencies and the station was repeated. Data collection included: number of attempts, healthcare discipline (including trainee PGY year), and area of deficiency (if mastery not attained on first attempt). Data was analyzed using JMP Software (2012, SAS institute).

Results: Participants included: Trainees (PGY1-8) from the Departments of Anesthesiology, Internal Medicine, Emergency Medicine, General Surgery, Family Medicine, Critical Care faculty physicians and nurse practitioner/physician assistants and students. 476 participants completed the Workshop. First attempt pass rate was 81% (385 learners). All learners were able to complete the requirements for mastery level, with a maximum number of four attempts (2% of learners). There was no difference in the number attempts required for certification per year, p=0.64. There was no significant difference in first pass certification when comparing those with medical doctoral degrees to those with other degrees (p=0.85). Among the 19% not achieving first pass certification, the most common error was breach in universal sterile precautions (48% of failures). This included hand hygiene, cap, gloves, gown, and sterile drape. Other errors included absence of a procedural pause (28%), inability to demonstrate appropriate utilization of ultrasound for venous puncture (internal jugular and subclavian 23%) and venous transduction (16%). Arterial puncture occurred in 7% of failures.

Potential Impact: • Largest set of reported data on simulation based mastery learning in CVC training • Breach in universal precautions was the most common deficiency • There was no outcome difference between different specialties and education levels, suggesting that the impact of mastery learning experimental workshops is independent of learner background.

References:


Leading Family Meetings – Are fellows getting the training they need?

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Idea: At our center, neonatal-perinatal medicine (NPM) fellows are not exposed enough to leading family meetings but the reasons are unclear.

Rationale: Communication is an integral skill for physicians. The ACGME (1) and the “Milestones Project” (2) recognize “Interpersonal and communication skills” as one of the main competencies. Pediatric subspecialty fellowship programs are expected to demonstrate teaching efforts in this area. (2) However, most NPM fellowship programs do not have an explicit curriculum addressing the need for teaching those skills. (3) Family meetings are important venues to discuss diagnosis, treatment goals, prognosis and end-of-life care with families. National data show that NPM fellows may not get enough opportunity to practice communication skills during family meetings. (3) At our center, a quaternary care pediatric academic medical center, there are on average 3-5 family meetings held per week. The goal of this study was to conduct a targeted needs assessment amongst current and graduated fellows at one of the largest NPM fellowship programs in the US to further curriculum development. Specific questions were aimed at identifying gaps in the educational environment pertinent to learning communication skills, characterizing fellows’ participation in family meetings and exploring possible barriers to the learning experience.

Methods: We conducted a targeted needs assessment via an anonymous web-based survey (SurveyMonkey.com) of current (n=16) and graduated (n=15) NPM fellows. IRB approval was obtained. Using a mixed-methods approach, we adapted a previously published national survey of graduates from NPM programs (3) and added a qualitative component. The survey consisted of 5 open-ended, 7 multiple choice and Likert-type questions (scale from 1-“not well at all” to 7-“very well”). The survey was designed to elicit information in 3 major domains: perceived preparedness to address common themes in parent-physician communication, characteristics of participation in family meetings, and respondents’ experience with feedback about their communication skills. Descriptive statistics are reported on individual items. Qualitative content analyses of open-ended questions was conducted by 3 investigators and themes are reported on.

Results: The response rate was 71% with a comparable number of graduated (11/15) and current fellows (11/16). Fellows reported attending family meetings “sometimes” (< 5 times in 3 years of training) in 25% and leading family meetings “sometimes” in 60%. Ten percent reported “never” leading a family meeting. When leading family meetings, 50% of fellows reported receiving feedback on their performance “sometimes” or never. Fellows felt better prepared to discuss goals of care (Mean 5.3, SD 1.3), morbidity and mortality (Mean 5.1, SD 1.5), or treatment options (Mean 5.4, SD 1.3), than to present palliative care options (Mean 4.9, SD 1.7), or to discuss spiritual and religious beliefs pertinent to the care of the baby (Mean 4.4, SD 1.5). Fellows felt also less prepared to address conflicts of opinion between parents and health care providers (Mean 4.5, SD 1.5) or conflicts of opinion among the health care providers (Mean 4.5, SD 1.6). The major theme for not participating in FMs was time constraints (68% of respondents). Two major themes emerged as reasons for not leading FMs with an equal amount of respondents (9/22, 41%): time constraints and a “feeling of being left out”. Helpful learning experiences were mostly categorized under “observing FMs” (41%) and “leading FMs” (44%). Themes for helpful feedback included actually receiving feedback, as well as timeliness and constructive suggestions.

Potential Impact: These date have identified gaps in our educational environment. Implications on curriculum development are the need to address time constraint issues and concerns about the feedback process, as well as to improve inclusion of fellows FMs to increase learning opportunities.

References:
Improving FAST Utilization by General Surgery Through Training by Emergency Medicine: A Pilot Study

Kim, Albert J

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Idea: Our hypothesis is that education of surgical residents by Ultrasound Fellowship trained Emergency Physicians will increase understanding and familiarity with the exam, leading to increased utilization in trauma patients.

Rationale: The Focused Assessment with Sonography for Trauma (FAST) is utilized by Emergency Physicians for rapid assessment of free fluid in the trauma patient. Unfortunately, the FAST exam may often be underutilized due to lack of familiarity. In 2008 the Council of Residency Directors Emergency Ultrasound Consensus Committee recognized that the FAST exam is a core Emergency Medicine (EM) Ultrasound application. As such, all EM residency programs must aim to ensure all graduates obtain competency in this exam. Though ultrasound usage is mentioned in the General Surgery Milestones, there is less consistency in FAST education among surgical residencies.

Methods: A pre/post-intervention trial of FAST exam education of general surgery residents in an urban tertiary care Department of General Surgery by four Ultrasound Fellowship trained Emergency Physicians. 28 PGY3-5 residents were convenience sampled based on clinical scheduling. Intervention consisted of didactic lectures and a multi-station teaching exercise using high-fidelity ultrasound simulators and standardized patient. Questionnaires were completed to assess prior FAST experience, knowledge, and confidence in performance. After intervention, questionnaires were completed assessing knowledge and self-reported use in clinical practice. At 4 months, follow-up questionnaire measured knowledge, use in clinical practice, and if use had changed clinical management.

Results: 50% (14/28) had performed a FAST exam on a live patient pre-intervention. Knowledge scores on an 8-question exam pre-intervention was 59.8% (95% CI, 53.1-66.5), and showed good improvement post-intervention, 88.8% (95% CI, 84-93.0) that was statistically significant (P<0.01). Significance remained at 4 months, 76.4% (95% CI, 63.8-88.9, P=0.036). On 9-point Likert scale, statistically significant improvement in confidence on interpreting a negative FAST (4.25 pre, 6.85 post, and 7.11 at 4 months, P<0.01), positive FAST (4.93 pre, 7.25 post, and 7.33 at 4 months, P<0.01) and likelihood to use FAST exam in practice (4.5 pre to 6.55 post, P<0.01) that was not retained at 4 months. At 4 months, 67% of participants report the FAST exam had changed management and 83% report the FAST exam had improved disposition planning.

Potential Impact: Dedicated instruction by Emergency Physicians leads to increased knowledge, confidence, and utilization of the FAST exam by general surgery residents.
Cost awareness among physicians in the neonatal intensive care unit

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Idea: The burden of rising healthcare costs in neonatology is widely recognized, but little is known about how physician providers consider cost in their practice.

Rationale: 1) To describe the prevalence of cost-awareness among physician providers in neonatology and 2) to describe predictors of cost-awareness

Methods: A 54-item survey was administered to members of the Section on Perinatal Pediatrics of the American Academy of Pediatrics (10% response rate with the first wave with a second wave planned). The primary outcome was cost-awareness, a newly constructed variable that combined 1) self-reported cost-consciousness in daily decision-making and 2) knowledge of cost of common medications, imaging and laboratory evaluations. These values were identified by Clinical Transaction Codes from the Pediatric Health Information System Cost Master Index. In multivariable logistic regression, the adjusted odds of cost-awareness were estimated in association with potential predictors.

Results: Analysis of the 599 complete surveys showed the median (IQR) number of years in practice of participants was 12 (2, 25). 68% worked in an academic setting, 31% had completed training and 9% had some level of education about healthcare costs. 77% stated that trainees should have a formalized instruction about healthcare costs. 41% reported cost-consciousness in daily decision-making and 11% had objective knowledge of costs of common medications, imaging and laboratory evaluations. 37% of participants had cost-awareness (based on the constructed variable that combined self reported cost-consciousness and having knowledge of common medications and tests). Adjusting for years in practice, gender, training level, type of practice setting, knowledge of billing and reimbursement, formalized education about costs and practicing more than 15 years were associated with increased cost-awareness, adjusted OR (95% CI), 2.5 (1.1-5.7) and 2.6 (1.4-4.6) respectively.

Potential Impact: Although a majority of responders reported a desire for trainees to have a formalized education about healthcare costs, few reported that they had a formal education about costs themselves. Formal education about costs and experience over 15 years was associated with increased cost-awareness, suggesting that this knowledge can be gained over time in practice or more rapidly through a structured curriculum. Results of this study show the desire for increased education amongst neonatal practitioners and the potential increase in cost-awareness from education and experience.
Pharmacy Near Misses: Effects of Real-Time Educational Sessions on Pharmacy Call-Backs

Oh, Jane; Jalian, Elsie; Deavenport, Alexis; Ben-Isaac, Eyal

Children’s Hospital of Los Angeles

Idea: Determine if real-time education on preventable medication errors 1. Decreases the number of pharmacy callbacks to residents, 2. Results in any systems changes.

Rationale: The Institute of Medicine report on preventing medication errors noted that errors occur most often during the prescribing and administering stages. Previous quality improvement efforts include the use of electronic ordering systems and unit-based pharmacists. There is a need to evaluate the effects of interdisciplinary education on pharmacy near misses.

Methods: We conducted a retrospective study from 2011-2013. We created a curriculum where a floor pharmacist reviews the log of callbacks for incorrect orders every month, and uses that data to provide weekly education for residents. Data was analyzed using descriptive statistics and one-samples-test.

Results: From 2011-2013, there were 2,967 patients admitted to the med-surg floors and 1,509 pharmacy callbacks to residents during that time (mean of 75 per month). From 2011-2012, there were 493 callbacks to residents (mean of 62 per month; SD=14.6). A one-samples-test showed a statistically significant decrease from Nov. 2011 to June 2012 with t(7) = 3.62, p = 0.009. From 2012-2013, there were 1016 callbacks to residents (mean of 85 per month; SD=21.1). A one-samples-test showed no statistically significant decrease from Nov. 2012 to June 2013 with t(7) = 0.73, p = 0.487. To account for variable factors that may affect the rate of callbacks, we looked specifically at PGY-1 residents (who have the highest participation in the curriculum) and their rate of callbacks on a specific ward, 5E (where most patients are on resident teams). This data showed a decrease in rate of callbacks in both years of our study. From Nov. 2011- June 2012, there was a statistically significant decrease with t(7) = 3.94, p = 0.006. The following year, from Nov. 2012-June 2013, there was a statistically significant decrease in the rate of callbacks for interns in 5E, with t(7) = 3.7, p = 0.008. Through this curriculum, a systems change was also made in the way IV fluids were ordered.

Potential Impact: This intervention demonstrates that direct communication in an educational setting between pharmacist and resident provider successfully resulted in a systems-change which stopped a recurrent and potentially harmful error (very high [K+] in IVF). When looking at PGY-1 residents on a specific ward, there was a statistically significant decrease in the rate of callbacks when comparing Nov. to June of one academic year, and this finding was reproducible over both years of our study. However, when looking at the rate of callback to all residents, there was a decrease in 2011-2012, but from 2012-2013, the decrease was not significant.

References:


FIME Workshop: Developing Teams in Medical Education

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Keck School of Medicine of USC

Workshop rationale: In today’s medicine all health care professionals are expected to work in teams. Lack of teamwork has been cited as one cause of medical errors that result in patient harm, while excellent teamwork can prevent such errors. For faculty leaders this means that they must be prepared to help learners gain these skills. That is the focus of this workshop. It is intended that participants take the techniques demonstrated and resources provided and use them in their home programs and institutions to teach team skills to students, residents, staff, and/or faculty.

Intended workshop participants: Health professions’ educators seeking activities for team development for use in the classroom.

Learner outcome objectives: By the end of the session the participants should be able to:

1) Identify the characteristics of effective teams.
2) Use a variety of exercises to build teams in own program.
3) Discuss team-building resources.

Instructional methods: The 90 minute workshop will be divided into three segments. The first segment (30 minutes) will focus on exercises that can be used to introduce principles and characteristics of excellent teams. Methods utilized in this segment will include 1) use of attention grabbers like brainstorming and video clips, 2) small group tasks, 3) use of surveys and profiles. Participants will actively engage in several brief example exercises.

The middle segment (40 minutes) will focus on use of “skill builders” to help learners gain team skills. These include simulation, games, and formal presentation. After a brief introductory presentation presenting several models of team excellence, the participants will be divided into “teams” and will participate in 10 minutes of short exercises from the TeamSTEPPS curriculum. Then introduced to a variety of “games” where each small group will complete a different exercise including constructing the “tallest” tower and building a Lego™ vehicle. Each activity will include three steps: 5 minutes to make their plan for their team exercise; 10-15 minutes to engage in the exercise, and 5 minutes to debrief.

The final segment (20 minutes) will be a discussion about team building resources available for free, or for purchase. The session will close with each participant completing a commitment to change exercise where each learner states two things they will do differently in their teaching or patient care based on what was learned in the session. If time permits, these commitments will be shared within the group.
Teaching Medical Students about People with Disabilities

Hodgson, Carol S; Smyth, Penelope

University of Alberta Faculty of Medicine and Dentistry

Workshop Rationale: In the US, the government defines a disability as “a physical or mental impairment that substantially limits one or more major life activities of such individual.”

The 2010 US census data indicate that of those people over age 15, 21.3% have a disability and 14.8 have a severe disability. Care of people with disabilities is an important health care issue across all ages as many health care disparities exist for people with physical and cognitive disabilities. This may be partly due to the fact that historically medical schools have not included curricula on people with disabilities.

Care of people with disabilities is an important health care issue across all ages as many health care disparities exist for people with physical and cognitive disabilities. Studies show that physicians report feeling uncomfortable and unprepared to care for people with disabilities. In one study of a 4-year curriculum to teach about disabilities, some attitudes were more positive for the intervention group, but concerning results indicate that other attitudes were more negative for the intervention group, especially among male medical students.

Target Audience: The target audience includes curriculum developers, “doctoring-type” course directors, and advocates for people with disabilities.

Learner Objectives: Participants will be able to: discuss why teaching about people with disabilities is an important health professions educational topic, describe at least 3 ideas for teaching trainees in the health professions about care for people with disabilities, describe the use of different teaching methods for this content, compare pros and cons for requiring this content, and describe methods for overcoming barriers to including this content in the required curriculum.

Instructional Methods: This highly interactive workshop will include both larger group and small group discussions. The workshop will begin with participants discussing reasons why a medical school would/should include this content area in their formal or informal curricula. Facilitators will probe for reasons why this content is often not included in the formal curriculum. Participants will be asked to indicate if, when, and how this content is being taught in their schools. Participants will then work in small groups to brainstorm ideas for teaching about the care of people with disabilities. They will be asked to consider the following: what content areas should be included; should this curriculum be required; when should it be taught; what teaching methods would be best; how should/can people with disabilities be included? Groups will share what they decided with the larger group. After the larger group discussion, some examples of successful methods will be described by the workshop facilitators. The session will end with a larger group discussion of how to work with curriculum leaders and course, clerkship, or program directors to include this content.

05 minutes: Introductions
10 minutes: Large group discussion of why
05 minutes: Where is content being taught
40 minutes: Small groups discuss what, where, when, & how
15 minutes: Large group sharing of ideas
10 minutes: Examples of disability curricula by facilitators
05 minutes: Large group discussion of how to integrate content

References:

So you want to put your medical course online? A primer on making the transition from the classroom

Wiechmann, Warren; Youm, Julie; Toohey, Shannon

University of California, Irvine School of Medicine

Workshop Rationale: In this workshop, we would like to introduce you to educational technologies that can help you bring your teaching online, enabling the ability to better address scheduling constraints of medical students and residents. Taking advantage of an online delivery mechanism offers a wider reach and flexibility for your learners as well as opportunities for independent and self-directed learning. Discussion will include: private vs. public online platforms (e.g., iTunesU, Tumblr, wikis), learning management system (LMS) considerations (e.g., Learning Tools Interoperability (LTI) and LMS alternatives such as Schoology, iTunesU), pros/cons of MOOCs such as Coursera and edX, video streaming options such as Mediasite and Google Hangouts, social media and backchannel conversation integration (e.g., Twitter, TodaysMeet.com), blended/hybrid learning, the faculty role and time management, and instructional strategies.

Intended participants: Deans, faculty, students, educational technologists, researchers and librarians interested in incorporating educational technologies

Learner Outcome Objectives: Workshop attendees will be able to: make more informed decisions about taking a course from a traditional classroom decisions to an online format, identify technologies to put course materials online (private vs. public platforms, LMS tools, MOOCs), participate in a demonstration of a video stream for a synchronous online session, practice the use of social media for educational purposes, and understand the role of online faculty instructors and online instructional strategies.

Instructional methods: The 90-minutes session will be conducted as follows:

Introduction to Online Courses and Technologies (55-minutes)
1. An overview of the rationale to develop the online components for the UC Irvine Health 2.0 and Emergency Medicine Residency Curriculum as examples for the audience
2. Technologies to deliver these two courses (iTunesU, Tumblr, Schoology) compared/contrasted with other technology options (traditional LMS, wikis, MOOCs).
3. Technologies to deliver didactic content (Mediasite for livestreaming – synchronous sessions), podcasts for content on demand – asynchronous sessions) compared/contrasted with other technology options (Google Hangouts, YouTube).

The Faculty Role in Online Instruction and Instructional Strategies (15-minutes)
1. The faculty role and managing time commitments in online instruction
2. The use of social media and backchannel conversation as an instructional strategy to engage with online learners
3. Active learning opportunities including discussion boards, use of wikis, audience response and polls/quizzes.

Question and Answers (20-minutes): If technology permits in the conference hall, this session will be conducted using the same multimodal online learning approach implemented in the UC Irvine courses. Delivery of the session will include:
1. A live, synchronous webcast of the presentation. An invitation to join in backchannel conversations during the presentation to ask questions and share comments with the instructors and each other.
2. An invitation to respond to online polls.

Take-home tools: Many technologies employed in this presentation are free and easily accessible to workshop attendees. Information on accessing these freely available resources will be shared with attendees.
Benefits of Creative Writing Seminars in Preclinical Curriculum

Simon, Hannah

*Rutgers Robert Wood Johnson Medical School*

*Idea:* The implementation of creative writing workshops into the preclinical curriculum to improve qualities of humanism and empathy among medical students.

*Rationale:* Nearly half of aspiring physicians become emotionally, spiritually, and physically overwhelmed over the course of their training, resulting in a loss of empathy in the patient-doctor relationship (Baruch 2013). Several studies have found a direct link between empathy and creative writing in medical students, residents and practicing physicians. Yet despite the benefits of creative writing, the majority of medical schools do not emphasize medical humanities as component of the educational curriculum. This pilot study will use both quantitative and qualitative analysis to evaluate the benefits of implementing creative writing workshops into the preclinical curriculum.

*Methods:* Once-monthly creative writing workshops will be offered on a volunteer-basis for first and second year medical students. Before engaging in the workshops, students will complete a pre-assessment evaluation designed to measure their aptitude on qualities including empathy, interpersonal skills, communication, introspection, and self-reflection. The workshops will be structured whereby students will have a prompt- a poem, short story, or narrative related to a major theme in medicine. They will spend 15 minutes discussing the piece and the remainder of the 80 minute creative writing session will be devoted to producing their own work related to the theme. The themes include death and dying, empathy, disease, the physician as healer, patient-doctor relationship, and will feature work from prominent physician-writers and physician-poets. Workshops will span approximately 8-9 months, for a total of 8 workshops.

*Evaluation Plan:* At the end of each session, students will complete a brief questionnaire where they reflect on the writing experience. At the conclusion of the year-long workshop, students will complete a post psychometric assessment designed to measure qualities such as empathy, communication, interpersonal skills, creativity, and introspection. They will also complete a subjective evaluation of the creative writing course.

*Potential Impact:* Results of this pilot study may be useful to design future medical humanities curricula in medical schools with the ultimate goal of training physicians who demonstrate effective communication and interpersonal skills as well as empathy and compassion towards others.

*References:*


Telling Tales: Introducing and Nurturing Skills as Storytellers in Medical Education

Ventres, William

Institute for Studies in History, Anthropology and Archeology at University of El Salvador

Idea: Use of a two-step faculty development model to promote change in faculty members in relation to use of storytelling in their teaching.

Rationale: The teaching of medicine involves telling stories—stories of overcoming clinical challenges, managing steep learning curves, and developing professional identities (Frank, 2010; Clandinin and Cave, 2008). Along with other art forms, storytelling has been recommended as a useful teaching modality (Kumagai, 2012). However, instruction about how to cultivate skills as a storyteller in medical education is virtually non-existent. The poster will describe a model for faculty development that includes 1) a workshop to introduce medical educators to storytelling as an important teaching tool and 2) personal follow-up over a three month period. This project is about faculty members learning the skills of telling a “good” story, incorporating these skills into their professional repertoires, and maximizing the teaching potential of stories in formal and informal educational environments. The impact on participants will be assessed.

Methods: Family Medicine faculty members (N < 30) will attend a one-hour session during a national educational meeting (2015 STFM Annual Conference). The workshop is intended to help participants identify important events from personal histories, refine the key elements of a story, and build a repertoire of communicative styles for telling stories. Participants will listen to key stories from the presenter’s own history in Family Medicine, evaluate the educational rationale for becoming a skilled storyteller, learn about the components of telling effective stories, and practice storytelling in an open and encouraging environment. The objectives are that on completion of this session, the participants should be able to: 1) List three important reasons to develop storytelling skills in medical education; 2) Identify three or more key components to telling effective stories; and, 3) Incorporate at least three of these specific components into a story presentation. The second portion of this intervention is to continue the dialogue about storytelling between the presenter and each participant. This will be conducted through email interchanges where the presenter continues to share stories and storytelling hints. This is intended to build the personal relationships required to foster both storytelling in home environments and the desire to complete a three-month online follow-up questionnaire.

Evaluation Plan: The evaluation focuses on learner self-reported skills and behaviors. Participants will be asked to: 1) Evaluate their familiarity with storytelling skills using a pre- and post-assessment questionnaire; 2) Share key stories with their learners and report, in narrative fashion after three months, on their successes or failures; and, 3) Assess their willingness to continue learning about storytelling skills at that three-month evaluation. Data will also be gathered on learner reaction to the workshop session and subsequent email conversations using iterations of the post-assessment questionnaire during and at the completion of the three-month follow-up period.

Potential Impact: This two-part model for faculty development that combines a workshop with personal follow-up could provide an effective alternative for engaging faculty in a personal change process.

References:


Exploring the Kolb’s cycle and experiential learning using a session of Dialogue in the Dark (DID)

Ali, Nasloon; Ong, Chin Fung; Seah, Darren

Health Outcomes and Medical Education Research, National Healthcare Group; Khoo Teck Puat Hospital; National Healthcare Group Polyclinics

Idea: To what extent do residents in Family Medicine undergo experiential learning in a single session that simulates the dynamics of visual impairment for the resident?

Rationale: Visual impairment and disability is often taught using didactic teaching in the NHG-AHPL Family Medicine Residency program. Residents need to be cognizant of the issues that persons with visual impairment go through to empathize with them as well as feel the necessity to provide patient centered care. There is a large body of evidence that simulations as cognitive tools instantiates experiential learning, and, in turn, foster conceptual change (1). Dialogue in the dark (DID) is a facility where blind guides escort one through every day activities – in complete darkness. To better understand our patients, we need to experience their day to day struggles of living with impairment. This facility simulates such an experience.

Methods: Residents in the program undergo DID which is a 90 minute session. During the session, environments such as parks, riversides, traffic and cafes will be modeled in the tour. Residents will be presented with a cane and blind guides will assist them to navigate through the environments – in complete darkness. Thereafter, they attend focus groups discussing their views on the session. There will be a total of two focus groups to be held. An independent facilitator will conduct the session. Transcripts will be coded and thematically analyzed to understand the learning occurring during the session.

Results: Results will be captured on the first week of January where the residents undergo DID. 13 residents will be attending the session and focus group discussion. Questions will be asked pertaining to the Kolb’s learning cycle (2) and the resident’s reflection (Reflective Observation), experimentation (Active Experimentation) conceptualization (Abstract Conceptualization) and implementation (Concrete Experience) capabilities after one session. Other themes we will be looking for will include the perception and processing continuums. This is to understand how the residents think about and process tasks.

Impact: We see this to have educational impact in two areas. Through experiencing “blindness” we hope the residents will better appreciate the importance of sight. This may translate into practice such as actively screening for preventable eye disease or screening for chronic conditions that may lead to visual loss such as in diabetic retinopathy. We also hope that the awareness would result in empathy and more thoughtfulness in the planning of management care plans for these patients as well as the planning of facility set ups to reduce the barriers in accessing care in all patients with impairment/disability. The secondary gain will be that as a group navigating through the facilities in total darkness, team work and trust between team members are necessary. Hence on top of medical education purposes, we hope that the experience also builds team spirit among the residents in the Family Medicine Residency Program.

References:
Radiology Hunger Games: Evaluating the Diagnostic Utility, Safety, and Accuracy of Medical Imaging

Lattin Jr., Grant; Smirniotopoulos, James

F. Edward Hébert School of Medicine; Uniformed Services University of the Health Sciences

Idea: Create a large group debate that has medical students evaluate the diagnostic utility of imaging techniques in common clinical scenarios.

Rationale: Our medical school recently changed from the traditional 2x2 model to an integrated approach, resulting in organization of the curriculum into pre-clerkship (18 months), clerkship (12 months), and post-clerkship (18 months) phases. Much of the instruction has changed from a lecture format to small groups and team-based learning. Concurrently, clinical demands are increasing on our faculty, thus limiting their availability for teaching within limited departmental resources.

This “doing more with less” phenomenon is very much a reality within our new curriculum due to a number of factors, many of which are beyond our control. As a result, most departments are looking for effective ways of optimally leveraging their existing resources (faculty, money, and time). The Radiology Hunger Games is a large group activity that employs a random selection of 3rd year medical student participants in a public debate based on clinical scenarios. This teaching method effectively instructs a large number of students using fewer faculty members, and in less time (than in a small group setting), while simultaneously introducing a degree of emotion into the experience, thus mimicking a hospital decision setting and ensuring maximum participation by all students.

Methods: Our students are assigned “read ahead” materials for 3 common clinical situations. Within a 2-hour block, they discuss and plan the optimal imaging management for these 3 scenarios in 6 large groups (consisting of 25-30 students per group), each facilitated by 1 radiologist. The full class then reconvenes to debate their chosen strategy with the other groups, replicating the atmosphere experienced in a hospital setting. To keep the scheme fun yet motivational, we borrowed techniques from the post-apocalyptic science fiction novel and film, The Hunger Games. Our students were informed that after their large group discussions, we would publicly draw names to select 1 woman and 1 man from each of the 6 ‘districts’ (large groups). This would result in a total of 12 ‘tributes’ (participants) that would defend their group’s plan of management for any of the 3 assigned scenarios. By establishing this universal expectation of preparedness, and using a lottery style of selection, our students were highly motivated to remain engaged throughout the activity. The activity goal, objectives, instructions, reflective questions, and clinical scenarios were provided to the students in advance. To create a structured knowledge base, the required readings highlighted the advantages and disadvantages of various imaging modalities while establishing a minimum level of completion prior to interactions with others in a large group.

Evaluation Plan: Initial, real-time feedback from the students was very positive, characterized by cheering and clapping by all of the ‘districts’ for their ‘tributes’. Additional anecdotal responses further supported this initial observation via during post-activity student feedback sessions. Given that our initial delivery of this large group activity was essentially a proof of concept attempt, we would like to further strengthen this model by building in some degree of assessment. This will likely entail introducing a survey within our scheduled next Radiology Hunger Games in March 2015. Additionally, we plan to improve our final round of student debate by introducing a more discerning second round of higher level questions for surviving ‘tributes’ and their ‘districts’ that will be judged (using an audience response system) by our faculty facilitators.

Potential Impact: This large group teaching model has great potential to reduce the number of faculty, rooms, cost, and time required for smaller group activities while synthesizing skills such as safety, risk-benefit analysis, debate, and professionalism.

References:
Junior Anesthesiology Resident “Readiness for Decreased Supervision” Tool

Nolan, Megan; Konia, Mojca Remskar

University of Minnesota

Idea: We aim to develop an evaluation tool, which would determine resident’s readiness for decreased intensity of supervision in the operating room.

Rationale: During the initial weeks of clinical experience in the operating rooms junior anesthesiology residents are intensely supervised, usually one on one by a faculty member. Such intense supervision is not sustainable during the entire residency, and is usually limited to 4 to 8 weeks. Each residency program frequently arbitrarily decides to transition a resident to decreased supervision based on time, test results, and subjective feedback from faculty and senior residents (1). Only few attempts at designing a tool for assessment of residents’ performance have been reported, such as simulation-based assessment tools, which targets residents’ ability to manage specific conditions and critical events (2, 3). Our literature review did not find any reports of tools specifically intended to evaluate medical knowledge, patient care skills and attitudes required of anesthesiology residents by prior to transition to decreased supervision.

Methods: We approached 10 anesthesiology experts through a structured communication technique known as Delphi method. Through the iterative process, we achieved consensus on the most important competencies in domains of medical knowledge, patient care skills and attitudes, which junior residents should master prior to decreased supervision. We then identified specific components of medical knowledge, patient care skills and attitudes expected of residents for safe transition into the decreased level of supervision. The main competencies identified by experts were preoperative assessment of non-complex patients, operating room preparation for non-complex surgery, anesthesia induction of non-complex patients, airway management of normal airway, conducts normal maintenance of anesthesia and management common physiologic alterations and emergence from anesthesia for a non-complex surgery. We then asked the experts to identify specific tasks within each of these competencies, which they consider absolutely essential for safe patient care. Based on experts’ input we created a check-list, which asks evaluators to responds “yes” or “no” to the question: “Did the resident achieve sufficient skill, knowledge and attitude to function safely under decreased supervision?” / Each question of the check-list needs to be answered “yes” by all the evaluators, for resident to be able to progress to unpaired status.

Evaluation Plan: External experts will independently review the tool for logical tasks and report on the usability of the tool using one 7-point Likert scale (8); Inter-rater reliability will be determined by comparing 10 different independent raters, who will use the tool to evaluate performance of one resident on pre-recorded operating room encounter; To determine construct validity we will evaluate the performance of junior, senior anesthesiology residents and anesthesia faculty with the tool; Ten faculty will evaluate each resident with the new tool and ten faculty with the old evaluation system (ready or not ready for decreased supervision). We will compare the results of the 2 evaluation systems with X2. Eight weeks following transition to decreased supervision we will ask all 20 faculties’ whether they think each resident was actually ready (Yes/No) for decreased supervision. We will compare the results of the initial and subsequent determination of readiness with X2. We will also document any patient care challenges reported for each resident following transition to decreased supervision.

Potential Impact: Having a reliable tool to determine resident’s readiness for decreased supervision would standardize the evaluation process, eliminate subjective non-standardized assessment and possibly improve patient safety.

References:
Rendering Feedback Makeover: Implementing a Rubric to Assist Residents Along the Milestones

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York Hospital

Idea: Implementation of a feedback rubric, along with education of faculty and residents to enhance the feedback process.

Rationale: Receiving and incorporating feedback is an important component of residency education and reflects competencies in interpersonal and communication skills, practice-based learning and improvement and professionalism. Rubrics operationalize target behaviors and provide anchors useful in assisting low-performing residents. These learners often question low evaluations – rating themselves higher than others do in the areas of professionalism and communication skills (Lipsett et al., 2011). Behaviorally-anchored rubrics have been shown to assist faculty in conducting reliable evaluation of surgical residents and hold great promise for broader medical education (Gauger et al., 2005). The REFLECT rubric developed by Wald and colleagues, includes benchmarks describing skill in self-examination and is used in scoring learners’ reflective narratives (2012). Based on our experience, review of prior literature and adult learning principles, our program has developed a feedback rubric. This rubric will be used to assist faculty in providing feedback to family medicine (FM) residents, while simultaneously helping residents to receive and utilize feedback.

Methods: Both residents (n=24) and faculty (n=7) will be trained in the implementation of a newly developed rubric for performance feedback. The rubric addresses the feedback components of: accurate listening, taking ownership and personal responsibility, planning actions for self-improvement, and responding to critique. This rubric is intended to be utilized in the regular bi-annual advisor meetings for longitudinal performance feedback but can also be used for feedback related to individual encounters or incidents when the feedback might be difficult to provide or to hear (e.g., a critical incident or professionalism lapse). Implementation is planned for October 2014 and the form and any initial data in relation to usage, reaction and self-reported learning will be shared in our poster.

Evaluation Plan: The evaluation will include tracking of usage of the feedback form that includes the rubric. The training sessions for faculty and residents will be assessed for new learning and how they will use this information in their own learning or teaching. In relation to the feedback process, faculty will be surveyed regarding their experience implementing the feedback form in terms of added value and effectiveness with learners at different developmental levels (novice, advanced beginner, competent or above). Residents will be surveyed regarding their experience in terms of a) how usage impacted the feedback experience, B) perceived learning from the feedback sessions, and c) self-reported behavioral changes or plans to change practice behaviors based on the feedback sessions. These data will be incorporated in our residency program’s continuous quality improvement process and guide future changes in the rubric and its usage.

Potential Impact: Rubrics can enhance assessment and feedback. If our rubric adds educational value to the feedback process it will become a tool that can be shared with interested residency programs.

References:


Efficacy of Electronic Fact Feeds on Emergency Medicine Resident Education

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University of California, Irvine

Idea: We propose using a live fact feed on an iPad in a common area of the Emergency Department in order to help residents prepare for their annual exams.

Rationale: Due to the extensive number of hours worked per week by an emergency medicine resident, it can be difficult to find a sufficient amount of time outside the hospital to study and prepare for the annual In-Training exam. A large survey of almost 500 emergency medicine residents performed over the past 12 years demonstrated that their lack of time has kept them from keeping up-to-date with both medical knowledge and literature, hindering their overall competency at work (Marco and Kowalenko 2012). By using a live feed of facts pertaining to emergency medicine displayed on an iPad in a common area devoted to residents in the department, one may be able to take multiple short blocks of time throughout their shift to learn quick facts and study for the exam without taking time away from patient care.

Methods: This is a prospective panel study of residents at the UC Irvine Emergency Department. Throughout the 2-year study period, an iPad will be placed in a common area of the emergency department. This iPad will contain a livefeed of facts pertaining to the emergency medicine boards exam, delivered in a question-answer flashcard format. These facts will be pertinent to a preselected system and will be changed at the beginning of each 28-day block. At the end of every block, all residents in the study will take a quiz focused on the same system, but made up of questions not previously seen on the iPad. Additionally, each resident will take a survey with a validated Likert scale (Liaw 2008) measuring participant-perceived satisfaction and usefulness of the study tool.

Evaluation Plan: The data will be analyzed as a panel study. Resident will serve as both the control and the study group, depending on whether or not they will be working in the department during the block in question (and therefore have access to the fact feed). Additionally, residents will be compared to the group, as well as serve as their own individual control when they are in vs. out of the department. We will use generalized least squares random-effect regression, conditional on the resident, with terms for each quiz to estimate the effect of the fact board on quiz scores. To estimate power in a simulation model we added normally-distributed random variation by learner (sd=.06) and by quiz (sd=.067) to yield a total normally-distributed random variation with sd=.09 to the underlying probability of getting a correct answer (.69). With alpha=.05, we found a 97% power to detect an increase of 5% in the proportion correct when exposed to the fact board.

Potential Impact: If effective in residency education we are hoping that this fact board, or a similar tool, can be implemented in residency programs throughout the country, in hopes of providing a novel teaching tool and increasing scores on national board exams.

References:

First-Person Video Assessment During the OSCE: Two Google Glass Pilots

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Rationale: The OSCE provides an opportunity to assess students’ performance in areas including clinical examination, medical procedures and diagnosis skills. Though video recordings may be part of traditional OSCE evaluations, recordings are often from cameras on distant walls from a bird-eyes view. Google Glass (GG), a wearable computer with an optical head-mounted display, enables a practical way to capture first-person recordings. Video from this perspective allows a view from the “eyes of the user” such that when worn by a medical student during a procedure, in our case, a suturing and knots OSCE station, an alternative and perhaps more informative recording of students’ skills and performance can be captured. In another scenario, when GG is worn by a standardized patient during an OSCE encounter, recordings offer a complement to the standard checklist to assess students and provide feedback on performances related to verbal and non-verbal communication skills.

Methods: Participants were third-year medical students enrolled in the Family Medicine Clerkship (N=54 to date) and the Obstetrics/Gynecology (OB/GYN) Clerkship (N=24 to date). In the Family Medicine OSCE, GG was worn by the Standardized Patient (SP) at one station involving relationship counseling. The SP started recording from GG prior to the start of the station’s encounter and captured the SP’s view of the student during the entire encounter. Recordings were downloaded and cued to the interaction around a challenging SP question. Students watched the videos and received SP feedback on communication skills during a 10-minute post-encounter session. Students completed a brief survey about their GG experience prior to leaving this station. In the OB/GYN Clerkship, GG was worn by the medical student to capture their performance during a suturing and knots station. Feedback was provided to students on their suturing skills using the GG recordings. Student performance was graded by an instructor using a traditional checklist prior to the feedback from the GG recordings so that grades were not influenced. Students completed a brief survey developed by the research team to learn about their GG experience prior to leaving this station.

Results: In the Family Medicine OSCE, students agreed or strongly agreed that the feedback from GG recordings was helpful (89%), that recordings allowed an opportunity for feedback that did not exist (85%), and that they saw the value of GG in medical education (91%). Though students agreed that GG did not affect their ability to effectively communicate with SPs, students did note some distractions: “I think it was great to get a chance to see through the patients eyes…it was a little distractive to make eye contact with the patient when glass was blocking a little of their right eye. But, I think I got used to it in a few minutes.” – Medical Student. In the OB/GYN Clerkship, the ability to view the procedure from this first-person viewpoint was significant in detecting errors of right-hand vs. left-hand directions, scalpel to suture placement, etc. This perspective illuminated important errors in a way that was not easily possible in previous OSCEs. In addition, unlike previous OSCEs where feedback was disjointed, students and instructors could participate in an interactive feedback session by watching the playback of the videos. Limitations related to the use of GG were also discovered including short battery life and some alteration of physical behaviors (e.g., gesturing, movement) as a result of wearing GG. Data collection will continue throughout the academic year.

Impact: The use of GG to capture first-person video from the SP perspective to assess communication skills and from the medical student perspective to provide feedback to students during an OSCE appears a feasible OSCE evaluation method. Positive student response to GG as a feedback tool suggests further research is warranted.
Script Concordance Testing (SCT) to Identify the Effect of Attitudes on Clinical Reasoning: Part 1

Crapanzano, Kathleen; Vath, Richard; Fisher, Dixie

Louisiana State University Health Sciences Center; Our Lady of the Lake Hospital; Keck School of Medicine of USC

Idea: The idea for this project is to investigate the relationship between clinical reasoning and stigmatizing attitudes towards people with mental illness and substance abuse. There are two parts to this study—the first (and the focus of this abstract) is the scoring of an SCT instrument by nationally recognized clinical experts. The second part of the study will involve administering the instruments to a cohort of residents, comparing their attitudes and clinical reasoning.

Rationale: In addition to the burden of mental illness and substance use disorders, people with these conditions also have to deal with the stigmatizing beliefs in the general public and among health care providers. Because these often-unconscious attitudes play a role in decision-making and are difficult to change (Banaji and Greenwald 2013), these hidden biases potentially contribute to the worsened health outcomes of people with mental illness and substance abuse (Parks 2006). This study will explore whether the attitudes of psychiatry residents towards people with mental illness and substance abuse affect their clinical decision-making. Subsequently exploring ways to address potential negative attitudes through graduate medical education interventions is important to maximizing the professional development of our residents and the health of our patients.

Methods: For part one of this study, leaders in academic psychiatry were asked to identify clinical experts in the treatment of six psychiatric conditions (schizophrenia, bipolar, dementia/delirium, borderline personality disorder, opiate and alcohol use disorders). These experts completed a script concordance test (SCT) in their nominated area of clinical expertise and two attitude assessments (the Medical Condition Regard Scale (MCRS) for the assigned clinical condition and either the Opening Minds scale for health care providers (OMS-HC) or the Drug and Drug Problems Perceptions Questionnaire (DDPPQ)). The SCT results were scored using the method outlined by Lubarsky (2013). A correlation analysis was performed between the SCT results for each condition and the attitude assessments.

Results: 63 people completed the instruments. SCT scores for each condition were established. There was no correlation between the SCT scores and the attitude assessments for all of the conditions except alcohol use disorder. A negative correlation was found between the alcohol SCT score and the MCRS result ($r = 0.02$).

Impact: This study resulted in SCT scores for 6 conditions which were generally independent of the reported attitudes of the expert faculty. Part two of the study can now proceed. The full study represents an expanded use of the SCT, previously used solely for assessment in medical learners. It will allow the SCT to be of use in evaluating the effect of attitudes on clinical reasoning and the effectiveness of educational interventions designed to improve attitudes.

References:


Park, Eugene; Bowman, Ariel

Los Angeles County + University of Southern California

Idea: A curriculum to guide self-study for EM residents that will address three key areas of learning on a weekly basis: EM core clinical content, EM board material, and EM-relevant medical literature.

Rationale: The emergency medicine (EM) resident, over the course of a 3 or 4 year residency, is required to demonstrate competency across a number of educational core measures prior to graduation. In addition to gaining a deep understanding of multiple presenting complaints across a wide range of medical subspecialties, the EM resident is also expected to perform well on yearly in-service board exams and to stay up to date on the latest EM-relevant medical literature. This process is made more challenging by the breadth of potential educational resources available as well as the highly varied individual schedules of trainees working clinical shifts to cover Emergency Departments that must be staffed 24/7. (Prober 2013, Mehta 2013) described the potential for a “flipped classroom” approach to medical education, where learning occurs at home, and problem solving in the lecture hall. Following this philosophy, we believe a concise, well-organized asynchronous weekly curriculum that facilitates self-study and allows residents to achieve competency in all three of the aforementioned educational areas will be of great utility.

Methods: Each week residents will be provided with asynchronous learning material geared to their specific PGY-level of training in the form of a single-page “360 Curriculum Prep Page.” Each Prep Page will cover a particular core topic in EM (e.g. Chest Pain) and over the course of the EM residency, residents will have covered all content described by the ABEM (American Board of Emergency Medicine) model of clinical practice of emergency medicine. The Prep Page has three sections and specifically addresses each of the three aforementioned educational areas of understanding clinically-relevant pathophysiology, diagnostics, and management, board exam preparation; and familiarity with the medical literature. The first section geared toward clinical content is comprised of a digestible amount of high quality online media resources and text references. Board preparation is addressed in the second section by providing 5 EMboard-style questions. Finally, references to articles from the medical literature with accompanying analysis are presented as the third component of the Prep Page. Residents will be able to use the Prep Page and the resources it provides for asynchronous learning prior to a weekly small-group session with a faculty facilitator focusing on that week’s core topic. The session will utilize the Prep Page material as a starting point for an interactive learning experience in which all three areas of competency are reviewed. Each group session consists of 10-15 residents of the same PGY level and one faculty facilitator.

Evaluation Plan: Each class of residents will be randomized into one of two groups at the beginning of the semester; Group A will receive Prep Pages prior to small group sessions and Group B will not. The groups will switch interventions in the second semester. Outcomes will be quantified via residents’ performance on short pre- and post-session assessments of understanding and competency in each individual weekly topic. Learner reaction will be assessed through a post-session satisfaction survey. In addition, the longitudinal impact will be measured via resident performance on biannual semester exams and the yearly in-service exam.

Potential Impact: This curriculum could increase resident preparation for and investment in weekly small group sessions, leading to an overall improvement in the efficacy and quality of didactic time. The curriculum could serve as a model for best practices in addressing the tripartite educational goals of clinical competency, board-preparedness, and familiarity with medical literature that could be adapted to any medical residency.

References:

An Asynchronous Online Curriculum for Emergency Medicine Intern Education

Shappell, Eric; Ahn, James

University of Chicago

Idea: To rejuvenate the emergency medicine intern didactic curriculum by “flipping the classroom” with Free Online Medical Education (FOAM) resources.

Rationale: In 2013, our residency program developed a dedicated intern didactic curriculum to cover common and essential topics in emergency medicine. Significant portions of these hour-long conferences were dedicated to review of facts and textbook material. In order to maximize discussion, questions, and transference of tacit knowledge, we chose to develop a Khan Academy-style “flipped classroom” curriculum. Capitalizing on the broad and diverse spectrum of resources provided by the increasingly popular FOAM movement, we designed a web-based curriculum combining original and shared resources under the common structure of our outlined goals and objectives.

Methods: A needs assessment was performed to determine which topics to cover in the intern curriculum. This assessment combined intern survey data, emergency department chief complaint statistics, morbidity and mortality data, and program leadership consensus. Goals and objectives for each topic were written to reflect the desired outcome of empowering interns with the ability to recognize and initiate management of common life threatening conditions. Resources were collected from multiple sources including original content created by the authors, primary literature, and web resources including blogs, podcasts and videos. Each topic page is reviewed by both authors prior to publication. A link to the curriculum (EMFundamentals.blogspot.com) is sent weekly before conferences with the written expectation that interns review material prior to conference. Intern-specific conferences facilitated by a fellow or attending are held during the first hour of each conference day and focus on interactive case discussion that utilizes the expertise of the teacher.

Evaluation Plan: The primary method of evaluation will pre- and post-participation subject competency as assessed by short exams which are currently under development. We also have created pre- and post-participation surveys to assess resident confidence with selected topics, self-assessment of knowledge and skills gained, attitudes toward the current format, and suggestions for improvement. Lastly, we will be collecting and comparing secondary test metrics including in-service exam scores and performance on board review tests.

Potential Impact: Through use of asynchronous content review, our “flipped classroom” curriculum aims to broaden the scope of learning during conferences. Our web platform allows more agile curriculum development with updates and new content deliverable in real time. Finally, our platform offers more publicity and legitimization for independent producers of FOAM.

References:


Efficacy of iPad iTunes U Electronic Curriculum in Emergency Medicine Education

Wray, Alisa; Chakravarthy, Bharath; Wiechmann, Warren

University of California, Irvine School of Medicine

Idea: A iPad based distance learning curriculum for Emergency Medicine Residents at UC Irvine includes four exercises per month.

Rationale: Recent theories in adult learning/education suggest that adult learners can maintain attention to a lecture for no more than 15-20 minutes at a time, and that adults respond better to self-directed learning over formalized learning processes. (1,2) The ACGME and the Residency Review Committee are starting to realize this and now allow 20% of required educational time to be done as “distance learning.” Previous studies have shown that as distance learning becomes more integrated in education, it will become important to assess its effectiveness; studies also suggest that routine quizzing is an adequate way to monitor educational progress, and that electronic device based quizzes are as effective as paper quizzes and do not affect satisfaction and learning. (3) As part of the evolving theories in adult education, the UC Irvine Emergency Medicine Residency Program has implemented a new Distance Learning curriculum; it is an iPad based Curriculum that includes four less than 1-hour exercises per month. As part of this curriculum the EM residents are asked to complete monthly 20 question quizzes and quarterly 50 question quizzes (available on their iPads), as well as an end of the year survey. In February of 2014 and 2015 all UCI EM residents take the annual In-Training Exam.

Methods: This project was established to measure the efficacy of a new distance learning iPad Curriculum, which was added to the UC Irvine Emergency Medicine Residency Curriculum. The proposed study will be a prospective cohort study, with a total of 18 residents for the 2013-2014 year and 21 participants for the 2014-2015 year (UC Irvine Emergency Medicine PGY-1, PGY-2 and PGY-3), will analyze the quiz, test and survey data from emergency medicine residents during the 2013-2015 academic year; the purpose of which is to evaluate how self proctored monthly didactics and their associated quizzes and quarterly quizzes will change how adult learners perform on the annual EM In-Training Exam, and to determine if such quizzes are a valuable educational tool. We hypothesize that those residents that more consistently complete the monthly didactics and quizzes will have increased In-Training Exam scores compared to those residents that do not, and compared to residents in previous years.

Evaluation Plan: Residents’ use of the iPad Curriculum will be assessed and the number of iPad Curriculum hours recorded. Once the In-Training Exam and quizzes are complete, scores and iPad curriculum hours will be de-identified and associated with an anonymous participant number. The primary outcome is improvement of quiz and in-service exam scores. Our statistical goal is to compare the mean quiz scores of residents who consistently complete the iPad curriculum (defined by completion of greater than 75% of modules) to those who do not. Our hypothesis is that exam scores will be at least 10% higher in the group that consistently completes the iPad curriculum. Sample size is limited to 18 residents for the 2013-2014 year and 21 residents for the 2014-2015 year due to the size of the residency. The statistical analysis will involve a two sample T-test, power analysis using a two-tailed alpha of 0.05 and estimated quiz means and standard deviations, and an aim to see at least a 10% difference in mean quiz scores; this gave a power of 0.696. We will also calculate confidence intervals once all quizzes are completed.

Potential Impact: We aim to show improved quiz/In-Training exam scores after the initiation of the iPad Curriculum; we will use the results of this study to help us to further shape our curriculum to be educationally beneficial. Our results and experiences will hopefully provide information that will assist other residencies in developing similar learning programs.

References:

Liu Y, Gunther D. Cognitive Styles and Distance Education. Online Journal of Distance Learning Administration. State University of West Georgia; 2013 Oct 9;II(III):1–19.

Pediatric Resident Emergency-medicine Learning & Instructional Modules: Assessing trainee performance

Gust, Caitlyn; Kwan, Karen Y.; Johnson, Leighanne; Pham, Phung K.; Jamal, Nazreen; Sobolewski, Brad; Brenkert, Ted; Little, Kim; Doughty, Cara; Mathison, David J.; Chang, Todd

Keck School of Medicine of USC; Children's Hospital Los Angeles

Idea: To characterize use of a multimedia curriculum and its relationship to clinical performance during a trainee’s pediatric emergency medicine (PEM) rotation.

Rationale: Web-based learning (WBL) has begun to supplement, or in some cases replace, traditional learning in medical schools and residency programs. New methods to educate students, residents, and physicians using the internet are emerging rapidly, with limited studies looking at the effectiveness of WBL on improving clinical performance.

Methods: A Solomon 4-group randomized-control study using a multimedia curriculum consisting of 9 multimedia modules on PEM topics was completed in 2012-2013. Half were given module access and half were controls. Faculty blinded to the study assigned 6 clinical evaluation scores based on the ACGME competencies as part of the rotation. These scores were averaged per trainee and transformed into a z-score (primary outcome variable). Mann-Whitney U tested differences among competencies between groups and adherence to assigned study protocol, defined as completion of all study components. Study components are the pre/post-tests and module usage (documented completion of 1 or more multimedia teaching modules). Spearman's Rank Order Correlation was used to examine correlations between variables.

Results: Of 179 enrolled trainees, 164 had complete evaluations included in analyses [table 1]. Z-scores ranged from -3.95–1.52. Z-scores did not differ by module usage (p = .67), but protocol adherence showed differing z-scores (medians .30 vs -.34, p=.02). Among competencies, the adherent group had higher professionalism (p=.04) and interpersonal communication skills (ICS) scores (p=.03). Year of training was significantly associated with z-scores (r=.3, p<.001). Stratified by year of training, adherence significantly correlated with professionalism (r=.36, p=.04) and ICS (r=.36, p=.04) for training years 1 and 3.

Conclusions: Adherence to the study protocol multimedia curricula, not module usage, was linked to clinical performance. Adherence to curricula is associated with professionalism and ICS scores in the clinical setting. Year of training correlated more with overall clinical performance than protocol adherence or module usage.

Potential Impact: The assessment of professionalism and interpersonal communication skills has traditionally been viewed as a subjective measure. Our protocol may potentially be used to objectively evaluate these competencies.

References:
Idea: To compare the effectiveness and ease of use of Google Glass and GoPro devices for creating first-person perspective procedural instructional videos

Rationale: Wearable first person point of view camera technology has been advancing at exponential speed. GoPro introduced the Hero camera in 2008 and has introduced 4 new models since with the most recent model capable of filming in 4K ultra high definition. Several mounting options are available to provide different camera viewpoints. In the past year, Google has released Google Glass, a wearable computer that has a built in high definition camera capable of filming in 720p. The literature has suggested that first-person point-of-view videos have instructional benefits over third-person point-of-view videos. As the cost of first-person recording equipment such as GoPro and Google Glass have also decreased, we feel that this perspective would be used more frequently, and therefore a comparison of these methodologies should be investigated.

Methods: Google Glass and GoPro Hero3 cameras were obtained and shared amongst four Emergency Medicine attendings, representing a range of comfort video production. The faculty was performing standardized procedures on task-trainer mannequins -- Central Line placement, Chest Tube placement, and Endotracheal Intubation. / Google Glass and GoPro Hero3 cameras were set to record at the highest resolution. To account for the variety of uses of the GoPro camera line, recordings were made using the Chest Mount, Head Mount, and a custom Boom-Mount that provided a "birds-eye" perspective. / Each faculty performed each procedure using each recording modality and commented on the ease of use while performing the procedure, as well as the instructional quality after viewing the recorded video.

Results: Both the GoPro Hero3 and Google Glass were easy tools to create first-person point-of-view instructional videos in high definition. Comparative benefits cited for Google Glass included its high internal storage capacity for video recordings, the camera’s "line-of-sight" angle that followed the movement of the operator's head, there was real-time feedback of the recording so you could adjust the camera position to create the best video composition, and its hands-free and voice commands made it ideal for use in a clinical or sterile OR environment. Google Glass unfortunately had a short battery life (45 minutes), was costly at $1500 per unit, and the video was shaky at times because if followed the head position of the user. The comparative benefits of GoPro Hero3 included its longer lasting battery, low cost at $200-$400 per unit, and that the Chest Mount produced very stable video. Unfortunately, there was no real-time feedback with the GoPro unless using the companion smartphone app, there were no hands-free or voice controls making it more difficult to use in a clinical or sterile environment, and that the Head Mount and custom Boom mount produced shaky video. Overall, Google Glass was felt to be best for intubation; while the Chest Mounted GoPro was thought to be best for Chest Tube and Central Line Placement in a simulated environment.

Impact: Future studies with live patients are needed to evaluate the utility in a clinical setting, but overall Google Glass and GoPro have been proven to be easy to use and provide high-quality recordings. While each has their own distinct advantages, their outputs were similar and the differences primarily were cost and the mechanics of recording.

References

Educating Primary Care Clinicians Using an Online Portal Aimed to Improve Consistency of Patient Care

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Idea: Leverage an education portal with Primary Care practice resources aimed to improve consistency of patient care.

Rationale: Within a large healthcare organization, many departments are interdependent on one another. However, information and resources supporting patient care tend to be siloed and difficult to access across departments. Examples include clinical practice guidelines and drug formulary. Improving access to such resources by physicians can avoid delays in care and undesirable variations in practice with negative effects on patient care and outcomes (Goodman et al 2012). We created a centralized tool for accessing crucial patient care resources and developed education for its usage.

Methods: Our continuing medical education (CME) team partnered with our medical center’s Chiefs of Primary Care and other key stakeholders to develop a quality improvement project resulting in an educational online portal centrally housing resources to support clinical decision making. The portal includes clinical practice guidelines, initial work-up recommendations and algorithms for common conditions, drug formulary, and patient education materials. In addition, a link to our institution’s process for documenting Point of Care CME allows clinicians to claim CME credits for just-in-time clinical questions researched that influence practice decisions. The portal content serves as the centerpiece for highly interactive hands-on workshops aimed at decreasing variations in practice, and consequently, improving patient care outcomes and safety. These CME-accredited workshops are delivered to teams in Primary Care on an ongoing basis as new content areas for various specialties continue to emerge. We are evaluating the intervention with usage data from the portal and from the Point of Care CME system to inform development of further education, and to identify opportunities for refinement of the portal’s content areas. Importantly, we are also planning to measure the impact of the portal on patient outcomes.

Results: Preliminary data show our efforts have led to improvements in the consistency of work-up and management of common conditions through better application of evidence-based medicine. For instance, since implementing the project, we have begun to see a decrease in the number of unnecessary laboratory tests and imaging studies ordered. We now have fewer inappropriate referrals to Sub-specialists for conditions that should be managed in the Primary Care setting. These improvements have enhanced continuity of care between Primary Care and Sub-specialties and improved access to Sub-specialty care. Additionally, patient education materials, which are designed to help patients adhere to treatment plans and to improve patient satisfaction, are more frequently used. We anticipate that this intervention will lead to an overall improvement in patient outcomes and safety. In addition, our clinicians are better engaged in our educational processes and more frequently take advantage of the opportunity to document their Point of Care CME.

Lessons Learned: This project brought together clinicians from 31 specialties, promoted cross-specialty collaboration, and is beginning to improve care in our institution.

References:
Introduction of a Flipped Classroom into a Resident Pediatric Anesthesia Program

Cerza, Dante

Children’s Hospital of Philadelphia

Idea: A flipped classroom strategy will be applied to an existing didactic series for a pediatric anesthesiology rotation for residents in their CA-2 year.

Rationale: In regard to graduate medical education, independent reading and teaching sessions based on a traditional lecture format serve the purpose of providing information to multiple attendees and serve as a basis for further learning, but by themselves fall short of fulfilling other educational needs of the resident, including higher-order learning, collaboration and problem solving. Furthermore, graduate medical education must be increasingly learner-centered. The flipped classroom model offers the educational benefits of both lectures and learner-centered, interactive learning activities such as problem-based learning discussions and simulations. Employing the technological adaptation of accessibility to video and audio recordings, this strategy transfers the non-interactive portion of the teaching to the learner’s time outside the classroom. The didactic session time and setting are subsequently available for more advanced interactive learning activities, and the teacher thus available to facilitate and guide them. Several studies have shown some benefits from the implementation of the flipped classroom in health care educational programs. In our department’s pediatric anesthesiology rotation, didactic sessions are provided to the rotating anesthesiology residents. Currently, these are lecture-based, with the teaching almost entirely based on the presentation of the faculty member, thus involving little learner-centered, higher-order learning activities.

Methods: The flipped classroom strategy will be applied to a didactic program provided to CA-2 residents as part of their eight-week pediatric anesthesiology rotation. Of the thirty to thirty-two sessions of thirty minutes in duration provided four mornings a week over the rotation, six to eight of these sessions will be selected for the flipped classroom intervention. The presentations of the faculty who currently teach those topics in this didactic series will be recorded. During their rotations, the residents will be assigned to view and listen to those presentations on their own time prior to the flipped classroom session that will be scheduled to cover the same topic. The same faculty members will then attend the classroom session and facilitate interactive learning activities, including problem-based learning discussions, progressive case disclosure discussions, and simulations. This intervention will be conducted over one year, which includes six eight-week rotation periods. With five to seven CA-2 residents rotating each period, up to forty residents will be recruited to participate in this intervention and its evaluation.

Evaluation Plan: The educational benefit, as well as the feasibility and acceptability, of the intervention will be evaluated. Pre-curriculum and post-curriculum tests will be administered to the residents. Improvements in scores will be measured and the residents’ performance on the items pertaining to the topics covered in the flipped classroom will be compared their performance on items pertaining to topics covered in the traditional format. Surveys of the residents will be conducted, in which they will be asked about the amount of time and effort they put in, as well as their satisfaction with the educational activities. Participating faculty members will be asked of their opinions and level of satisfaction as well as the time commitment demanded of them.

Potential Impact: If the flipped classroom's educational benefit is reproduced in this program, it will provide a rationale for expanding its use in numerous curricula, such as our own. It may become a model for more effectively and more efficiently providing the learner-centered and higher-order learning needed in graduate medical education.

References:


Transporting the Pediatric Trainee to a Higher Educational Experience

Corden, Mark; Maniscalco, Jennifer

Children's Hospital Los Angeles

Idea: We propose to design a curriculum in Transport Medicine for Pediatric Hospital Medicine Fellows.

Rationale: “Transport of the critically ill child” is one of the core competencies in Pediatric Hospital Medicine (PHM). As of the current academic year, approximately one quarter of all PHM fellowship programs routinely include a transport experience in their curriculum. Children’s Hospital Los Angeles offers an elective; however, no curriculum currently exists to guide the rotation. Therefore, we set out to develop a structured educational experience for our fellows seeking to pursue an elective in transport medicine. A review of the literature, including MedEd Portal, revealed no prior curriculum has been proposed. There is limited data on the experience of pediatric trainees in transport medicine. An older study concluded that the educational yield of a transport rotation could vary widely. A more recent 10-year follow-up survey of pediatric program directors revealed that residents’ exposure to transport was on the decline, and institutions declared an interest in a formalized curriculum for a transport rotation. Establishing a structured transport medicine elective for PHM fellows could accomplish multiple goals: -Fulfillment of a fellowship competency -Enhancement of the learner experience -Improvement in patient safety

Methods: Using Kern’s six-step approach to curriculum development, we plan to design a comprehensive experience for our PHM fellows that addresses all aspects of transport medicine. The foundation for our curriculum will be the tenets of the core competency for Pediatric Hospital Medicine, as well as multiple other sources such as hospital medicine textbook chapters and the American Academy of Pediatrics guidelines on transport. Curriculum design that has been published in similar fields will provide a template for the rotation. Our needs assessment will incorporate a survey of all program directors of PHM fellowships as well as a learner survey of current PHM fellows. Specific goals and objectives will be established at the start of the rotation. Based on the outline established by the core competency guidelines, we plan to incorporate multiple educational modalities into the transport rotation. a) direct patient care: triage of referrals and coordination of transport resources b) observation: transport of critically ill children from referring facilities to CHLA critical care units under auspices of CHLA transport physician c) didactic: formal presentations by subject experts in flight physiology, newborn and pediatric critical care d) simulation: resuscitation cases specific to transport medicine with high-fidelity simulators. We anticipate that knowledge gain through these modalities will translate into a better understanding of patient safety and quality of care.

Evaluation Plan: We will evaluate the effectiveness of the curriculum along the following domains: / Satisfaction: individual teaching session (simulation workshop or didactic) and curriculum evaluation forms / Learning: self-assessment and objective assessment of knowledge, skills, attitudes, and confidence in content areas at the beginning and end of the rotation / Learner Application: direct observation with checklist and immediate feedback of learners performing relevant predefined tasks (such as triage and coordination of resources) and simulation exercises to assess competency in principal domains / Additionally, we aim to solicit 360-degree feedback from the transport team members on-service during the fellows’ rotation. Impressions from colleagues and ancillary staff will reflect on the fellows’ performance and inform curriculum design.

Potential Impact: Currently the pediatric trainee’s experience in transport medicine is poorly organized and highly variable across institutions. We seek to establish a structured rotation that has clear educational outcomes and reinforces patient safety.

References:


Stucky ER, Maniscalco J, Ottolini MC, et al. The Pediatric Hospital Medicine Core Competencies Supplement: a Framework for Curriculum Development by the Society of Hospital Medicine with acknowledgement to pediatric hospitalists from the American Academy
UNflipping the Classroom: Going Beyond Prerecorded Lectures to Create Effective Blended Learning

Crispen, Patrick

Keck School of Medicine of USC

Idea: There is widespread confusion across education as to what it means to “flip” a classroom and how to do it effectively using research-based methods.

Rationale: There has been a lot of buzz recently about ‘flipped’ classrooms and the possible creation of an online, post-lecture-environment medical education curriculum. Beyond the hype, though, flipping a class or classroom involves so much more than just pre-recording lectures. In this evidence- and research-based presentation, you’ll learn that beyond the temporal shift of when a lecture is delivered, an effective flipped classroom involves a complete reexamination of what is being taught and assessed, when, where, and why. In particular, you’ll learn best practices for teaching, learning, creative inquiry, and assessment in blended learning environments, including flipped classrooms. You’ll also discover why asking your students to begin focusing on lower-level cognitive processes such as remembering and understanding first at home before coming to class and engaging in higher-order cognitive processes such as applying, analyzing, evaluating, and creating is, we suggest, UNflipping the classroom rather than flipping it.

Methods: This presentation provides attendees with a concrete working model and procedural knowledge of how to redesign a course to effectively incorporate research- and evidence-based blended learning/flipped classroom practices. The presenter will share a timeline, working process, and ideas for generalizing the flipped classroom model to other subject areas. This presentation will also employ an instructional design methodology based upon M.D. Merrill's (2002) five star instruction model for effective design and R. E. Clark’s (2004) Guided Experiential Learning model. To focus participants’ attention, the overall goal of the presentation will be described. To stimulate motivation, the presenter will describe the opportunity provided to the participants and the risk that will be avoided if the presentation’s content is mastered. To promote effective mental modeling, the presenter will briefly describe (and provide a visual model) of the sequence of lessons and instructional strategies that will be used in the presentation. This will lead to a discussion of new concepts, processes, and principles followed by a demonstration. The participants will then be asked to practice a particular evaluative process, which will be reviewed and checked against a list of action and decision steps derived from standard procedure.

Evaluation Plan: The participants will be asked to practice a particular evaluative process, which will be reviewed and checked against a list of action and decision steps derived from standard procedure.

Potential Impact: Moving lower level cognitive processes such as remembering and recalling factual, conceptual, procedural, and meta-cognitive knowledge from classroom lecture to home study affords faculty to spend more time one-on-one with the students to develop the students’ application, analysis, evaluative, and creative cognitive abilities.

References:

Tablets at the Table: Lessons from the Implementation and Expansion of Tablet Usage in Education

Nezami, Elahe; Florin, Andrew; Warring, Simrit

Keck School of Medicine of USC

Idea: Integration of electronic tablets as classroom tools in two intensive basic science courses led to their ubiquitous adoption into program curriculum.

Rationale: As technology makes device usage more widespread in all aspects of life, so too has technology use expanded in classrooms. A medical education master's program adopted the use of iPads in two of its core, required basic science courses to evaluate the utility of their adoption by students, staff, faculty, and teaching assistants. With various levels of previous exposure to tablets among users, new software, and for many, forced exposure to a new mode of learning, the long-term and wide-reaching desirability of integrating tablets into learning environments in medical education was unknown. Having students and faculty use tablets in their most intensive courses was a proving ground for their utility and appeal among all audiences.

Methods: Students enrolled in two, semester-long basic science courses that follow the first-year medical student curriculum were given tablets at the beginning of the semester, as were their faculty members. Students and faculty used the tablets as the primary interface for classroom management issues, note and presentation sharing, attendance, lecture sharing, and as article and reference repositories. Quiz capabilities and real-time question and answer sessions, using two applications, were also available to faculty. At the end of the semester, students' opinions about the use of tablets were gathered via blind evaluations. Faculty were also asked extensively about their use of the tablets, with requests for in-depth feedback, as well as suggestions about additional feature utilization that would be ideal moving forward.

Results: Student and faculty response was overwhelmingly positive to tablet usage in the classroom, citing ease of notation of lectures, speed of file sharing, and immediacy of data as features that were both useful and an improvement on traditional modes of learning. As a result of the success of the pilot study in the two basic science courses, tablets were integrated into the remaining courses in the program curriculum, with the exception of a three-course series that is a program offered as a hybrid with another school of the university. All faculty adopted tablet usage in their pedagogy, and classroom management tasks were effectively transferred to be offered exclusively by electronic means. Feedback for the ongoing adoption of tablets in the classroom setting has remained overwhelmingly positive.

Lessons Learned: While faculty and program administration were initially hesitant to adopt tablet usage into the classroom, the pilot study demonstrated overwhelming student support for the continued use and expansion of utilization of their functionalities by faculty and program managers. Faculty have likewise found ease of use of tablets in classrooms.

References:
http://med-ed-online.net/index.php/meo/article/view/23638

Teaching Motivational interviewing Techniques to Psychiatry Residents

Garcia, Javier

Richmond University Medical Center

Idea: To build motivational interviewing (MI) skills in psychiatry residents through interactive classroom instruction, reinforced in the clinical setting of the psychiatric emergency room.

Rationale: Motivational interviewing is a directive, patient centered approach for eliciting behavior change in patients, with evidence for its effectiveness in medicine established in randomized clinical trials (Burke 2003). A survey of residency program directors indicated that 90.9 percent believe that MI should be taught as part of standard psychiatry training program (Abele 2014). An informal survey of residents has indicated that they believe that learning MI would be valuable. It is currently not being taught. A previously published study showed that motivational interviewing skills can be effectively learned by second year residents (Triana 2012). MI training can also be used to teach milestones in ACGME competencies of professionalism, and interpersonal communication.

Methods: The learners are first and second year psychiatry residents (n=8). The learner outcome objectives will include: a) discuss the underlying spirit with which MI is practiced, b) appropriately utilize client centered MI techniques like use of open-ended questions, affirmations, reflections and summarizing (OARS) skills, and c) flexibly integrate appropriate MI interview techniques to standard ER evaluation. The foundation for the course will be taught during classroom sessions that teach principles of MI techniques integrated into a 15-hour interviewing course; 2) First and second year residents (n=8) will be engaged in the classroom using interactive techniques of brainstorming, role playing and incorporation of principles into actual patient interviews; 3) As learners move through second year, during their psychiatric emergency rotations, MI principles will be applied during emergency room (ER) patient interviews under direct supervision with feedback, and role modeling; and 4) The effectiveness of MI training activities will be assessed.

Evaluation Plan: All residents will take quiz at the end of the classroom portion to assess whether they have learned the principles of motivational interviewing. Their practice interviews and role play in the classroom will also be assessed with feedback provided using Motivational Interviewing Treatment Integrity (MITI) tool. During the ER rotation the MITI tool will be used during the first week and last week to assess the application of MI skills through a 20-minute observation. At the end of the rotation each resident will be interviewed as to their usage in practice of the new principles. Qualitative data is essential with small groups, as is the case in our program.

Potential Impact: This study can potentially serve as an option to implement training in motivational interviewing as part of the psychiatric training program. Future studies can evaluate the applicability of MI principles in the ER to enhance therapeutic alliance with patients, improve learners confidence is dealing with agitated patients, and enhancing ability of MI to improve medication compliance, safety planning and treatment follow up.

References:


Triana A, Olson M, Trevino D. A new paradigm for teaching behavior change: Implications for residency training in family medicine and psychiatry. BMC Medical education 2012, 12:64
Pediatric Intensive Care Curriculum for Attaining Doctoring Expertise (PICC-ADE)

Kuhn, Kristi; Walker, Valencia

David Geffen School of Medicine at UCLA

Idea: Implement an innovative pediatric critical care clerkship curriculum for fourth year medical students.

Rationale: Critical Care Medicine is a selective course for fourth year medical students. However, most critical care clerkships in the U.S. focus on adult critical care medicine with little to no attention allocated for the unique aspects of pediatric and neonatal critical care. Furthermore, medical students and first year residents often endorse a greater level of discomfort with the ill pediatric patient versus an adult patient in the ICU. To meet LCME Accreditation Standards for Medical Education and Critical Care Selective Objectives, medical students require a structured educational experience that provides opportunities for i) assessment and management of organ compromise, ii) attainment of proficiency in procedural skills, iii) enhanced critical and analytic thinking, iv) effective communication and team leadership, and v) the ability to practice self-reflection, deliberate discussion and debriefing. By incorporating clinical experience, didactic sessions, and simulation training, we aim to create a three (3) week clerkship curriculum designed to enhance professional competency and promote acquisition of expertise in the management of critically ill pediatric patients presenting with sepsis/septic shock.

Methods: Design and evaluation of this curriculum was informed by two conceptual frameworks: Kern’s Six Step Approach to Curriculum Development and Logic Modeling. For the program, medical students completing a pediatric intensive care rotation will be expected to attend a standardized series of didactic sessions to reinforce i) understanding of the physiology, pathophysiology and pharmacology contributing to organ dysfunction in the critical care and b) exercising the execution of skills necessary for appropriate diagnostic and therapeutic actions. Weekly simulation sessions will be required in addition to their daily clinical responsibilities. During simulation sessions, students will perform procedural skills and run mock codes with a full complement of support staff. The simulation cases will focus on the varied presentations of septic shock and will include pediatric patients in the adolescent, child, and neonatal age groups. Students will actively contribute to debriefing sessions following their simulation training experiences and maintain online, secured reflection journals for self-study.

Evaluation Plan: Prior to beginning the clerkship, students will complete a pre-rotation survey that assesses their knowledge and attitudes regarding pediatric intensive care management in patients presenting with sepsis and/or septic shock. Questions will probe their level of understanding as well as their perceived abilities and comfort level with the pediatric patient population. At the conclusion of their rotation, students will complete a post-rotation survey, and the results will be compared with the pre-rotation survey data. Feedback from the students and participating staff will be elicited and incorporated into improving upon the pilot educational model, especially given that participation and funding for complementary staff inclusion (RN, RTs, etc.) may prove to be important barriers to address. Lastly, performance scores on a critical care “shelf exam” will be compared to historical controls (students completing a pediatric critical care clerkship prior to implementation of this pilot project) and to peers completing the adult critical care clerkship.

Potential Impact: Developing and implementing a pediatric critical care curriculum that integrates clinical experience, core didactic lectures, simulation sessions and guided self-reflection will promote objectively defined performance standards and facilitate acquisition of professional competencies for fourth year medical students.

References:


Idea: Enhancing skills in medication management during care transitions with third-year pharmacy students through use of simulated patient cases.

Rationale: One in five Medicare patients discharged from hospitals are readmitted within 30 days (1). Major causes of hospital readmissions in these patients include medication adverse events related to treatment of acute myocardial infarction (MI), heart failure, pneumonia, and chronic obstructive pulmonary disease (COPD). Lack of proper medication adherence has been to shown to be a major driver of these events (2). The Affordable Care Act (ACA) in 2012 created the Readmission Reduction Program to target these readmission rates. Subsequently, an increasing number of health care agencies are interested in improving medication reconciliation, discharge medication counseling, and post-discharge patient monitoring (3). However, current pharmacy graduates receive minimal learning opportunities in each of these areas. The proposed intervention addresses this need.

Methods: The participants will be third year students (pre-clinical) at the USC School of Pharmacy (n=178). The proposed intervention will utilize the current weekly 2-hour case conferences. One pharmacy resident will facilitate each case group of up to nine students. A total of 21 case groups will be involved. Disease topics for these cases will include cardiovascular disease, pneumonia, and COPD (2). This 3-week care transition series will utilize one standardized patient case per session (3 phases of care – admission, discharge, follow-up). The facilitators will be trained to act in the role of a patient or family member to allow students to role play the skill of counseling in care transitions. Both learners and facilitators will observe and provide feedback at the end of all role play exercises. Learning objectives relate to 1) relevant knowledge of current health-system issues, 2) advocacy roles for pharmacists in establishing best practice standards in medication-reconciliation, discharge medication counseling, and post-discharge patient monitoring during care transitions; and 3) skills in providing effective medication counseling at discharge and follow-up after discharge. Small groups will also be given a take home assignment to do a medication inventory in a single patient’s home to make the impact more real.

Evaluation Plan: The evaluation will include: 1) monitoring to record how closely the 21 groups implement the cases as planned and to document changes made and reasons; 2) learners will complete a survey to provide their feedback on the quality and usefulness of the case series on care transition; 3) facilitators will evaluate each student in his or her assigned group at the end of each weekly session using a standard rubric; and 4) a pre/post quiz on relevant knowledge will be administered and 5) the facilitators will fill out a questionnaire at the end to assess the usefulness of the scripts and processes in achieving the learner outcome objectives.

Potential Impact: 1) Students would be expected to become advocates of best practice standards for medication management in care transitions to meet the current needs of our health care system; and 2) The session materials and scripts would be transportable to other pharmacy schools.

References:


Development of a Patient and Resident Centered Discharge Education Model

Koehn, Kristin

University of Missouri

Idea: Use of resident and family driven discharge education to improve patient satisfaction and resident skills in communication

Rationale: Hospital discharges are a popular target for improvement efforts. Poorly constructed discharge plans can result in low patient satisfaction, patient safety issues, and increased readmissions (1). Patient satisfaction data from our hospital has identified two areas of improvement related to patient discharge with medication instructions at the 12th percentile and transition to home at discharge at the 26th percentile in comparison to a representative group of children's hospitals. In the entire comparison group, patient satisfaction in medication instruction was modest with only 51% of parents (or other caregivers) reporting satisfaction (2). The resident is a key player at discharge and often selects written instructions and performs education with little to no oversight. Our plan is to develop a process that engages the resident in a collaborative patient and parent-centered education at discharge.

Methods: Over a 12-month period PGY-1 to PGY-4 residents rotating on inpatient pediatric wards from emergency medicine, family medicine, pediatrics, and internal medicine-pediatrics programs, will participate (n=44). All residents will attend a kick off session on patient education. Methods will include: 1) an audience response quiz on current patient satisfaction rates, 2) inter-disciplinary small groups will develop key educational points for discharge related to common diagnoses (e.g., asthma, diabetes, hyperbilirubinemia); 3) groups will then break into trios to practice using tailored role playing scenarios and the LEARN mnemonic (Listen to needs and home situation, Empathize, Acknowledge their challenges, Recommend-provide key education to meet needs, Negotiate and engage the health care system where needed to assist) (3). The session will close with a discussion of challenges in providing discharge education. A case-based discussion will be held in a follow up session to reinforce specific concepts. During family-centered rounds, residents will gather patient needs and at discharge use LEARN to work in collaboration with families and patients to provide a customized discharge experience. Faculty will observe each resident and provide feedback at least once per four week rotation.

Evaluation Plan: To assess learner reaction to the sessions and overall intervention standard rating forms will be used. Residents will complete a self-assessment of their competence in the areas of patient education and communication before and after the intervention. Using standard rating forms, chart reviews of a sample of patient discharge materials and observation of the discharge process will be performed (30 pre and post) and to ensure adherence to the common discharge items. To assess impact on patient satisfaction, data focused on the two areas of improvement (medication education and transition of care at discharge) will be tracked during the implementation period. Post discharge phone calls to a sample of families will assess comprehension of discharge plan, medications, and satisfaction with coverage of desired topics at discharge.

Potential Impact: We hope this model results in improved patient satisfaction, decreased medication errors, and readmission rates for hospitalized pediatric patients. If successful, the model could be easily adapted to other specialties.

References:
Society of Hospital Medicine Project BOOST implementation guide, 2008

University of Missouri NRC pediatric data, September 2014.

Building Bridges: An Interdisciplinary Workshop for New Interns on Improving Interunit Handoffs

Welniak, Tedd

Maimonides Medical Center

Idea: To enhance interdepartmental transitions of care though implementation of “Handoff Boot Camp” for internal medicine and emergency medicine interns.

Rationale: The Joint Commission cites failures in communication among healthcare providers, particularly during patient transitions of care, as a top contributor to medical errors in the United States (1). The transition of care between the emergency department (ED) and hospital floor in particular is complicated by differing perspectives on the handoff process, philosophic differences in expectations between departments, the presence of electronic medical records, shift-change (hand-offs of hand-offs), work-hour restrictions, and environmental distractions. Presently, two-thirds of all residents nationally cite a lack of formal training addressing interdepartmental handoff communication despite national guidelines requiring these curricula (3). The proposed intervention is designed to address this issue through a focus on interdepartmental resident relations and joint adherence to a standardized format for handoffs during patient transitions of care.

Methods: The participants will be interns in internal medicine (IM, n=26) and emergency medicine (EM, n=16). The four-hour “Handoff Boot Camp” will occur during hospital orientation in June 2015. The first hour will introduce learners to ED-to-floor transition of care and the institutionally-supported standardized handoff protocol. Methods will include: 1) an audience response system (ARS) quiz on medical error, handoff protocols, and willingness to enhance handoffs; 2) ice breakers to build community; 3) brainstorming on the purpose of having a standardized protocol, and 4) a brief formal presentation. The next 2.5 hours will conducted in interdisciplinary small groups led by attending physicians from both departments. Learners will be asked to analyze charts and audiovisual representations of cases during which medical errors resulted from interprofessional miscommunication. Pairs of learners (one EM, one IM) will then be asked to practice using the handoff protocol following a simulated case in which each participant is privy only to clinical information that they would have in an actual handoff setting. After pairs have provided feedback to each other, the faculty observers will provide specific feedback. The final half hour will include 1) a discussion of potential barriers to usage of the standard protocol; 2) completion of an assessment of the session and learner commitments to act; and 3) a repeat of the opening ARS quiz.

Evaluation Plan: 1) Learner assessment of the session to garner opinions on the “Boot Camp’s” quality and usefulness; 2) ARS quiz to assess pre and post knowledge; rating form completed by faculty on skills of interns exhibited in the final role play within the session; 3) Audio-taped review of 16 handoffs conducted 2-3 months into training to estimate resident practice behaviors. These tapes will be reviewed by trained evaluators to record relative length of conversation, proportion of dialogue per participant, presence of key clinical elements in the discussion, and adherence to hospital-supported handoff format.

Potential Impact: This study could be a building block in enhancing interdepartmental communication and handoffs and the workshop materials will be transportable to other hospital-based residencies. / 

References:
Adapting the McMaster-Ottawa Scale and Developing Behavioral Anchors for Interprofessional Education

Lie, Desiree; May, Win; Richter-Lagha, Regina; Forest, Christopher; Banzali, Yvonne; Lohenry, Kevin

Keck School of Medicine of USC

Idea: Rating scales for team performance do not provide adequate behavioral anchors for allowing formative feedback to teams and individuals. The Team Observed Structured Clinical Encounter (TOSCE) provides an opportunity to adapt and develop an existing scale for this purpose.

Methods: The McMaster-Ottawa Scale (six constructs: communication; collaboration; roles and responsibilities; collaborative patient-centered approach; conflict management; team functioning) was retooled to add behavioral anchors and converted from a 9-point to a 3-point scale. Students (four professions per team: medicine, physician assistant, pharmacy and occupational therapy) were trained to perform at three different levels (below, at and above expected) as individuals and teams. Blinded faculty raters from five professions were trained to evaluate student and team performances using the retooled scale. G-theory, using SPSS and GENOVA for analysis, was used to examine the ability of faculty to accurately rate students and teams.

Results: Four TOSCE stations (stroke) were administered to four teams over four hours with four faculty rating at each. Students performed at assigned competency levels. Faculty were comfortable rating up to four students over a 35-minute encounter. Accuracy of raters varied for students (38 to 81%) and teams (50% to 100%), with the majority of errors in the direction of over-rating student performance. Calculations for a 4-team TOSCE, in which students were “nested” within teams, showed variation in rater ability to accurately score student performance. Nearly 25% of the total variance in rater accuracy was attributable to systematic differences between raters. The largest source of error was attributable to the interaction of rater and team (variance component = 0.00487). There was no consistent pattern of error for individual raters.

Impact: The TOSCE can be administered as an evaluation of team and individual student competencies in an interprofessional setting. Faculty raters demonstrate a ‘leniency error’ rating students, even with prior training. We recommend at least two faculty per station for accuracy of rating.

References:


Student teacher based interprofessional education for medical and pharmacy students

Lehrer, Michael; Murray, Samuel; Benzar, Ruth; Stormont, Ryan; Lightfoot, Megan; Hafertepe, Michael; Welch, Gabrielle; Peters, Nicholas; Maio, Anna

Creighton University School of Medicine

Idea: Can student teacher led case based learning sessions be effective in interprofessional education of first and second year medical and pharmacy students?

Rationale: Interprofessional education has become an increasingly important aspect of undergraduate medical education. Strong interprofessional understanding and collaboration can decrease errors and improve patient outcomes. Furthermore, peer teaching has been shown to convey a number of benefits to both the student teacher and the student learner. The role of peer teachers as leaders in interprofessional education has not been extensively studied. This study is designed to assess if student teacher led case based learning sessions can be effectively used to achieve interprofessional education objectives as judged by IEPS and RIPLS tools.

Methods: First and second year medical and pharmacy students at Creighton University were recruited to participate in one hour long case based learning sessions held over the course of one year. Each learning group consisted of 8-15 students evenly split between medical and pharmacy students. Patient cases were selected from peer-reviewed journals and presented in a stepwise fashion by more senior medical students. Each case discussion was led by participating medical and pharmacy students. Following the year of learning sessions, students were invited to participate in a “Clinical Reasoning Challenge” event in which teams of 3-5 medical and pharmacy students were expected to diagnose and manage a mock patient case and present their diagnosis and treatment plan to medical and pharmacy faculty members. Student’s attitudes toward interprofessional collaboration and education were assessed using IEPS and RIPLS tools and data analyzed using Student’s t-test.

Results: A total of 113 students completed the IEPS survey (66 medical and 47 pharmacy). Baseline responses to the IEPS survey show pharmacy students perceived a significantly higher need for professional cooperation (p=.02) and interdependence (p=.002) when compared to medical students. Post intervention data showed a higher perceived need for professional cooperation among medical and pharmacy students who attended interprofessional seminars when compared to those students who did not attend (p=.002). The data also showed significantly higher perception of professional cooperation among medical students (p=.006) and pharmacy students (p=.02) who attended interprofessional seminars. In response to the single event “Clinical Reasoning Challenge”, which was evaluated using the RIPLS tool, pharmacy students saw an increase in their understanding of professional roles (p=.03) but no significant change in professional identity (p=.32) or teamwork skills (p=.95), while medical students did not perceive a change in their teamwork and collaboration skills (p=.71), understanding of professional roles (p=.95), or professional identity (p=.10).

Impact: The use of student teachers can positively impact attitudes of first and second year medical and pharmacy students towards interprofessional education. Participation in interprofessional events allows students to better understand their role in an interprofessional team.

References:


Building Resident Research Capacity in a Large, Multi-sited Regional Program

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Kaiser Permanente, Los Angeles

Idea: To strengthen research capacity in Kaiser Permanente Southern California Residency Programs using innovative methods addressing geographic barriers and distinct needs.

Rationale: Developing research capacity within Kaiser Permanente Southern California (KPSC) residency programs is an institutional goal, yet the geographic spread of the programs across a large region in California, the diversity of the specialties, and lack of previous research experience present challenges. KPSC residency programs include 31 ACGME-accredited programs across 6 medical centers in Southern California, ranging from subspecialty fellowships admitting fellows with significant previous research to community-based family and internal medicine residencies with a strong primary care practice focus. Most previous residency research capacity initiatives were conducted for a single program at a single institution. We turned to the international literature on research capacity building to find potential models for our program. We identified previous programs in the UK and Australia which sought to strengthen research capacity among primary care providers at regional levels (Reid et al. 2006; Cooke et al. 2006). These informed our approach. Key elements of our program include the use of technology to bridge geographic barriers and the creation of a cross-site research mentorship program.

Methods: Our program includes several initiatives to address needs we identified in our formative needs assessment. One initiative is an 18-month cross-site research mentorship program open to residents, fellows, or faculty members interested in conducting an original research study. This program is by application. We will select projects representing different sites. Program participants will receive mentorship through all phases of their research project. They will be held accountable for moving the project forward using a timeline and monthly writing tasks. Participants will also participate in online “research in progress” sessions and didactic lectures. Our program will also include peer review of research. All program participants are required present their work locally at their sites. They also must develop an abstract and manuscript for submission to a peer-reviewed journal. In addition to our mentorship program, we are conducting research lectures open to all residents, fellows, and faculty and are developing a residency research website to provide information on research logistics at KPSC, research accomplishments within our programs, and research opportunities. We believe our initiatives will support the culture of scholarship within our residency and fellowship programs and promote cross-site learning and collaboration.

Evaluation Plan: To measure the impact of our program, we are using a validated tool, “The Research Capacity and Culture (RCC) Tool” (Holden et al. 2012) that measures research capacity development at multiple levels. This instrument has been used in previous evaluations of research capacity development initiatives and has high reliability. We plan to survey a random sample of current residents, fellows and faculty at baseline and in five years (selecting a new random sample) and test for differences in outcomes over the two time points. Surveys will be anonymous and web-based. In addition, we are tracking objective measures of scholarly activities collected for the ACGME yearly and will conduct a time series analysis to look for evidence of trends in these outcomes. Finally, we plan to conduct process evaluation to collect resident and faculty feedback on our initiatives so we can make program modifications and improve the program over time.

Potential Impact: Our model may be informative for other programs seeking to implement research capacity building across multiple sites. Other programs may also be interested in our evaluation methodology and instruments.

References:


Using the ABCDE bundle to facilitate quality improvement training for critical care fellows

Hennessey, Erin; Lorenzo, Javier

Stanford University Department of Anesthesiology, Perioperative, and Pain Medicine

Idea: Involving critical care fellows in the hospital implementation of the ABCDE bundle is an effective way to teach a quality improvement initiative.

Rationale: The Choosing Wisely® campaign for critical care recommends physicians “do not deeply sedate mechanically ventilated patients without a specific indication without daily attempts to lighten sedation”(1). This recommendation aims to focus on patient comfort and to improve patient outcomes. The Medical-Surgical ICU at Stanford is currently using an intercollaborative approach to achieving this goal. A team of health-care champions is in place and serves as an ideal model of a faculty-mentor team to teach trainees the implementation process of a quality improvement (QI) project embedded in a hospital and national-led initiative. Currently the ACGME and ABA have placed importance on formalized training in QI for residents and fellows. Critical Care fellows at Stanford are encouraged to participate in quality improvement projects but formalized training with mentoring has yet to be established. A faculty-mentored approach to project development has been shown to be one effective teaching tool for a trainee QI curriculum(2). Furthermore, the ACGME evaluates programs ability to provide data regarding individual practice habits, a task that can be difficult to achieve in team-based, inpatient settings. This project will address this requirement by providing trainees with real-time data regarding protocol utilization and adherence as well as effect on patient outcomes.

Methods: Fellows will be paired with physician champions in charge of each aspect of the ABCDE bundle (awakening and breathing trials, coordination of care, delirium management, and early mobility). Physician champions will serve as mentors for the involved fellows and teach them aspects of QI project development. Fellows will participate in monthly intercollaborative meanings, facilitate peer-to-peer education regarding the aspects of the bundle, and evaluate the project using the Plan-Do-Study-Act approach. Fellows will work alongside nursing, physical therapists, and respiratory therapists to achieve a successful implementation of the ABCDE bundle in the Stanford Medical-Surgical ICU. This project will allow them to track data including bundle utilization, individual physician adherence, patient ventilator days, patient delirium-free days, patient length of ICU stay, and barriers to implementation.

Evaluation Plan: The evaluation methods will be twofold: assessment of the learners’ knowledge regarding quality improvement topics and assessment of learner completion of a quality improvement project. Fellows will be surveyed upon completion of fellowship regarding learner perception of preparedness for quality improvement projects. Project completion percentage for fellows involved in the new faculty-mentored curriculum compared to the previous fellowship class will be analyzed.

Potential Impact: This project has the ability to improve fellow training and create physician leaders in QI. The implementation of the ABCDE bundle will improve patient outcomes. If proven to be an effective model for QI training, further faculty-mentored intercollaborative team projects affiliated with hospital and national-led initiatives should be developed.

References:

Birth Control Knowledge & Educational Needs Among Female Patients

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Idea: Our patients have a limited understanding of how contraception works, leading to sub-optimal use of highly effective methods and unintended pregnancy.

Rationale: Counseling female patients on contraceptive options is an essential responsibility of health care providers; however, in order to appropriately counsel, it is essential to know the patient’s own understanding of the options presented and address any misconceptions or gaps in knowledge. The current literature on patient knowledge of how various contraceptive options work is largely focused on adolescents (Sokkary et al.) and Emergency Room patients (Merchant et al.); furthermore, many studies focus on perceptions or attitudes rather than knowledge. These studies have shown that women generally report good knowledge of oral contraceptive pills (OCPs) and condoms but limited knowledge of other methods, particularly highly effective methods such as intrauterine devices (IUDs) and birth control implants (Nexplanon). There is limited data on the knowledge base among routine outpatient Obstetrics & Gynecology patients, thus findings from this project will allow OB/GYNs to identify patients who might benefit from further education at their outpatient visits.

Methods: An anonymous survey has been distributed to female patients waiting for their outpatient Obstetrics & Gynecology appointments at LAC+USC. Participants must be between the ages of 18-50 years, and be able to read and speak in English. The survey is composed of three parts: (1) demographic information (2) questions assessing knowledge of how various methods of contraception work, and (3) educational needs assessment. Birth control methods can be categorized as Highly Effective, Moderately Effective, or Minimally Effective. The primary outcome is baseline patient knowledge of how various birth control methods work and how they should be used; secondary outcomes include whether any demographic characteristics are associated with level of knowledge and whether knowledge gaps are more prevalent in mechanism or correct use. Data is analyzed using Stata Statistical Software, Version 13.

Results: Surveys were administered to 231 patients with a response rate of 67%. PATIENT FEATURES: Patients are largely Hispanic (70%) with a mean age of 31 years; 43% received a high school education or less. Nearly three-quarters (72%) are currently sexually active and 41% have had an unintended pregnancy. CONTRACEPTIVE USE & KNOWLEDGE: Two-fifths (42%) of sexually active patients report that they currently use no form of contraception. Significantly fewer women report lifetime use of Highly Effective methods (32%) as compared to Moderately (67%) or Minimally Effective (69%) methods (p < 0.001). In a set of questions assessing knowledge, mean correct response score for Highly and Moderately Effective methods was significantly lower (p<0.001) than that for Minimally Effective methods. Women scored significantly higher on questions regarding use of method than those regarding mechanism (all p-values < 0.05). EDUCATION NEEDS: Nearly three-quarters (72%) of patients reported they were satisfied with their knowledge of contraception, and those that reported satisfaction had higher correct response scores for Highly & Moderately effective methods (p < 0.001 and p=0.005, respectively). Only 77% stated that a physician had ever counseled them about these topics and only 73% reported being provided with educational materials. 96% stated they were comfortable asking their physician about contraception, yet 75% stated that they wanted more information about birth control from their physician.

Impact: Half of all pregnancies in the USA are unintended, representing a major burden to women, children, and families. While contraceptive use has increased, a significant proportion of women continue to choose less effective methods or no method at all. By identifying gaps in patient knowledge, we hope to create more effective future interventions.

References:

Improving Tdap Vaccination Rates in Pregnancy in Residency Continuity Clinic

Lopez, Maria Cynthia S.

White Memorial Medical Center

Idea: Enhance resident skills in quality improvement by conducting a project to increase the rate of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccine (Tdap) vaccination rates among pregnant patients in Resident continuity clinic.

Rationale: Pertussis disease incidence in the United States has dramatically increased. In 2012, more than 48,000 cases of pertussis were reported in the United States. Infants aged <12 months have substantially higher rates of morbidity and mortality from pertussis. Potential complications in infants with pertussis include apnea, pneumonia, encephalopathy, and death, due to refractory pulmonary hypertension. The highest rates of morbidity and mortality related to this infection occur in infants age <2 months, when they are below the age limit for pertussis vaccination under current guidelines. In order to minimize the incidence of pertussis disease in vulnerable newborns, the Advisory Committee on Immunization Practice (ACIP) revised its recommendation for the use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccine (Tdap) for pregnant women. In 2013, the revised guidelines recommend that health care personnel administer a dose of Tdap during each pregnancy, irrespective of the patient’s prior history of receiving Tdap. The optimal timing for Tdap administration is between 27 weeks and 36 weeks of gestation in order to maximize maternal antibody response and passive antibody transfer to the infant. As Family Medicine residents transition into their own practice, they will be required to plan and conduct quality improvement projects to improve the quality and safety of the care they deliver to their patients.

Methods: In order to enhance resident skills in quality improvement,
• Determine the baseline Tdap vaccination rate among pregnant patients by retrospective chart review in resident continuity clinic
• Educate residents, attending preceptors and medical assistants regarding recent ACIP Tdap vaccine recommendations
• Educate pregnant patients regarding recent ACIP Tdap vaccine recommendations
• Frequent chart audits to assure that pregnant patients are given Tdap vaccine during optimal time

Evaluation Plan: Rating form to assess resident perception of usefulness of conducting this quality improvement project, what they learned and how they plan to utilize what they learned in their future practice. / / POTENTIAL

Potential Impact: Provide an example of a QI project that can have an important impact on health outcomes and lowering health care disparities. Increase rates of Tdap vaccination of pregnant patient in continuity clinic. Decrease rates of incidence of pertussis disease in our clinic newborn populations.

References:
CDC. Updated Recommendations for Use of Tetanus Toxoid, Reduced Diphtheria Toxoid, and Acellular Pertussis Vaccine (Tdap) in Pregnant Women — Advisory Committee on Immunization Practices (ACIP), 2012. MMWR; 62(7));131-135


Case-Based Journal Club to Improve Skills in Critical Appraisal of Medical Literature

Pantin, Sally-Ann and Taylor III, Walter

Mayo Clinic Florida

Idea: Through case-based journal club sessions, residents will be able to critically appraise literature and incorporate this evidence into their practice.

Rationale: Studies suggest that doctors do not always provide care consistent with accepted standards of medical practice. As such, medical faculty must educate residents to remain current in their ability to diagnose and manage medical conditions (1, 2). A survey of our faculty and residents, suggest that while they consider the practice of evidence-based medicine important, they do not feel proficient in developing a clinical question, accessing the appropriate databases, or appraising the medical literature. We propose to reformulate our journal club such that it 1) enhances case-based relevance, 2) increases resident active involvement, and 3) teaches critical evaluation of the medical literature to support life-long learning.

Methods: Our reformulated monthly journal club experience is built utilizing principles of motivation – importance to the learner, learner confidence that they can succeed, and a supportive environment. The family medicine residents (n=18) will be assigned to a faculty-mentored work team that includes a learner from each postgraduate year. Our medical librarian will provide two sessions in the computer lab to ensure residents have the capacity to formulate the clinical question and access the empirical databases. A third session will review the basics of evaluating medical literature. This should assure resident competence and confidence to begin. Resident teams will then identify clinical questions that arise from their medical practice, and seek empirical articles that provide potential guidance for improved clinical care (3). Three times a year, each of the six work teams will select one clinical question, conduct a search of the medical literature, and lead a twenty-minute critical discussion of their findings with the entire group of faculty and residents.

Evaluation Plan: Our evaluation will incorporate methods to examine 1) participant reaction; 2) quality of the team-based presentations and analyses of the literature and 3) to explore how learners use this knowledge in their practice. Reaction will be assessed using our standard session assessment form. Learning will be gauged in two ways: 1) in each session a second team will assess and provide feedback to each presenting team in relation to established criteria and 2) at the end of the year we will repeat the needs assessment survey to gather self-reported skill and confidence. To explore usage of these skills, every journal club will open with an opportunity to tell a story about how the participants have utilized an article in their practice. These stories are intended to inspire the group and demonstrate application.

Potential Impact: This project could serve as an educational model for other residency training programs in any field.

References:
Whitcomb, ME. Why We Must Teach Evidence-Based Medicine. Acad. Med. 2005;80:1-2


Coomarasamy, A and Khan, KS. What is the evidence that postgraduate teaching in evidence based medicine changes anything? A systematic review. BMJ. 2004;329:1017-1022
Toward Educational Excellence: A Tailored Approach to Faculty Development

Anim, Tanya

University of Florida

Idea: Develop and implement a tailored Faculty Development Series for the UF Family Medicine Department to improve the quality of teaching.

Rationale: The UF Family Medicine Residency program currently provides no internal faculty development sessions. The existing faculty development program for the entire College of Medicine presents topics that often are not specific to the unique needs of the Family Medicine faculty. Relevant, targeted (i.e. based on identified needs) faculty development promises to dramatically improve resident and medical student education (Eiff, et al). Our objectives are to: Develop and implement a tailored Faculty Development Series for the UF Family Medicine Department to improve the quality of teaching. Create a practical faculty development toolkit for programs across the nation enabling them to tailor faculty development to the needs of their own faculty.

Methods: The four step protocol for enhancing faculty development: 1) A Research Electronic Data Capture (RED Cap) survey will be administered to faculty and residents to identify areas of faculty teaching that could benefit from improvement. 2) Development of a tailored faculty development series based on the needs identified in the surveys. 3) The delivery of the faculty development series utilizing a variety of presentation and teaching styles (Sheets, et al). 4) Evaluation of the impact of the faculty development series on the experience of teaching and learning.

Evaluation Plan: At the end of the academic year a follow up faculty and resident survey will assess satisfaction and perceived impact of the tailored Faculty Development series. The evaluation will specifically assess the degree to which the faculty development series address the stated needs. Moreover, we will assess the educational applicability and the experiential nature of the faculty development series.

Potential Impact: We fully expect a positive faculty participant satisfaction and performance impact from this novel faculty development educational series. It is our hope that from this we will be able to create a practical faculty development toolkit for programs across the nation enabling them to tailor faculty development to the needs of their own faculty.

References:

Use of workshops and mentorship to enhance faculty teaching during family-centered bedside rounds

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Children's Hospital Los Angeles, Keck School of Medicine of USC

Idea: Use of an interactive workshop and mentored observation to enhance teaching by pediatric hospital medicine faculty during inpatient family-centered bedside rounds (FCBR).

Rationale: Residency work hours limitations restrict the amount of time pediatric residents have for didactic teaching with their inpatient attendings. FCBR have been shown to have benefits for both patients and learners, but may be more time consuming than table rounds (1). Now, more than ever, inpatient faculty need to maximize the amount of learning residents receive per hour of attending contact. Past surveys of pediatric residents have shown that they appreciate learning at the bedside and feel that bedside teaching is underutilized, but that deficits in faculty knowledge and skill in this area can be detrimental (2). A needs assessment sent to the faculty at our institution also showed that FCBR was an area of perceived need for further development. Faculty development workshops have been used in the past to develop teaching skills in the setting of FCBR, using such methods as the OSTE (observed structured teaching encounter) as an assessment tool (3). This program would combine pre-session viewing of online presentations, followed by a series of skill development workshops. Faculty would then be engaged in a peer mentoring and evaluation system during rounds to promote and assess the performance of pediatric hospitalists as educators in FCBR.

Methods: The intervention will target pediatric hospital medicine faculty at a single university affiliated children’s hospital. The participants will take a multiple choice quiz on the materials from the online didactics, as well as a likert scale based survey to assess attitudes and behaviors relating to FCBR. Faculty will then view three 10-minute online videos to lay down the cognitive base in relation to principles of learning, of teaching during rounds and of providing feedback. All faculty members (n=40) will participate in a series of two-hour faculty development workshops, incorporating such interactive elements as group case-based problem solving and simulated rounding experiences. Faculty less experienced in teaching residents (n=5) will participate in a peer mentoring and evaluation program during three two week blocks as attending for the resident-covered inpatient service. These faculty members will receive structured feedback from their peer mentor based on the observations.

Evaluation Plan: Evaluation will utilize the levels recommended by Nyquist and Kirkpatrick: 1) accountability – all activities completed as outlined; 2) reaction of faculty to the three phases (pre-work, workshop, mentored observation) utilizing a survey form (Likert-scale) for relevant groups; 3) learning of faculty – pre and post quizzes and attitude questionnaires during the pre-phase and check-sheet for skills during mentored observation; and 4) impact on hospitalist division – comparison of mean ratings of rounds for the entire division before and after.

Potential Impact: By combining a workshop-based educational intervention with ward-based peer mentoring and evaluation, this program addresses an important need for hospital medicine faculty in any teaching hospital.

References:


Pediatric Hospitalist Clinical Educator Training Program: A Multi-Institution Collaboration

Maniscalco, Jennifer; Black, Nicole Paradise; King, Marta; Blankenburg, Rebecca; Long, Michele; Ottolini, Mary C; Fromme, H. Barrett

Keck School of Medicine of USC; University of Florida College of Medicine; St. Louis University School of Medicine; Stanford University School of Medicine; University of California San Francisco; George Washington University

Idea: Create a novel curriculum with in-person and asynchronous web-based components to enhance clinical teaching skills of pediatric hospitalists.

Rationale: While pediatric hospitalists serve as teaching attendings for the majority of medical students and residents, most have no formal education in clinical teaching skills. Furthermore, there are no coordinated clinical teaching programs intended specifically for pediatric hospitalists. A 2012 Pediatric Hospital Medicine (PHM) Education Task Force needs assessment survey indicated that a large majority of pediatric hospitalists desired clinical teaching skills training. The Advancing Pediatric Educator Excellence (APEX) Teaching Program was designed to bridge this gap for practicing pediatric hospitalists who are involved in clinical teaching.

Methods: The novel 12-month curriculum consists of pre-session assignments, program-specific and elective workshops at national meetings, quarterly assignments with asynchronous discussion using a web-based platform, and direct observation of clinical teaching by a local mentor. The program-specific workshops comprise two half-day pre-courses at consecutive PHM national conferences and focus on the learning environment, clinical teaching strategies, feedback, and learners in difficulty. Interactive techniques, including brief multi-model didactics, role-play, and small group work, are used. Quarterly assignments build on the workshop topics and include reading and reflection exercises related to teaching experiences. Participants comment on each other’s posts, and faculty members facilitate the discussion. At least twice, a local or regional mentor with educational expertise will directly observe participants teaching in the clinical environment and provide feedback. During the second pre-course, participants will present on a successful or innovative clinical teaching technique utilized during the program. They will also co-facilitate or develop the introductory workshops for the next cohort of participants. There are 7 APEX Faculty Steering Committee Members. The program is sponsored by the American Academy of Pediatrics. In the spring of 2014, 16 pediatric hospitalists from 15 different programs were selected through a competitive process. The curriculum started in July of 2014.

Evaluation Plan: 1) Satisfaction: Individual workshop and curriculum evaluation forms. 2) Learning: Self-assessment of knowledge and confidence in content areas, using a historical pre-survey and post-surveys after each pre-course. 3) Learner Application: Self-report and observation of teaching experiences using clinical teaching checklists. Additional outcome measures include annual tracking of CVs to identify evidence of scholarship (abstract, workshop, or manuscript production), formal recognition of teaching, and attainment of educational leadership roles.

Potential Impact: The APEX Teaching Program uses an innovative model to enhance the clinical teaching skills of pediatric hospitalists. The inaugural pre-course was highly rated by participants. With continued success, this program can be modified to offer teaching skills training and cohort formation at a national level for clinicians from all specialties.
Use of a structured learning portfolio in a faculty development curriculum: An innovative way to "li

Willett, Lisa; Hartig, Jason; Agne, April; Funkhouser, Ellen; Rodriguez, Martin; Fisher, Dixie; Nyquist, Julie

University of Alabama at Birmingham, Keck School of Medicine of USC

Idea: To develop and integrate a learning portfolio into a faculty curriculum and to evaluate the impact of the learning portfolio on the curriculum.

Rationale: Faculty development programs are well accepted and perceived as beneficial to participants. However, few incorporate a theoretical framework. One such framework, self-determination theory (SDT) (1) states that individuals are intrinsically motivated to learn. Intrinsic motivation is associated with deep learning, and higher engagement as compared to extrinsic motivation. One moves from extrinsic to intrinsic motivation when behavior is regulated autonomously, from genuine interest, and perceived as originating completely within oneself (2). Self-reflection on one’s values could stimulate intrinsic motivation. Faculty may benefit from the opportunity to self-reflect about their teaching behaviors and values. Learning portfolios promote self-directed learning and through structured feedback can build reflective skills for life-long learning (3). With a randomized control study design, we seek to determine whether a structured learning portfolio with reflective exercises will improve faculty learning, teaching skills, and curricular outcomes of the FD curriculum.

Methods: Our faculty development (FD) curriculum provides eight, one-hour sessions, given monthly over the current academic year. Of the volunteer faculty participants, we randomly assigned faculty into one of two groups: Usual Curriculum (attended FD sessions) vs Enhanced Curriculum (attended FD sessions and use a learning portfolio). We included faculty who attended one of the first two sessions (August or September, 2014) and completed a pre-test survey of the FD curriculum. The pre-test survey was a 14-item questionnaire with basic demographics (name, gender, division, years of experience attending, and 8 self-reported teaching behaviors). Faculty responses were entered into an electronic survey database, and randomized by our research assistant (AA) matched by years of experience as a ward attending: <1 year, 2-7 years, 8+ years. We excluded faculty who did not complete the baseline survey, and faculty with greater than one year experience who completed less than 75% of the survey. Faculty randomized to the enhanced curriculum will be asked to complete 7 assigned learning portfolio reflections, corresponding to each FD session. Each assignment contains a reflective element related to intrinsic motivation: why this is important to them, how they will apply it to their personal goals, and a written commitment to act. One author (LW) will review the assignments and email formative feedback to participants.

Evaluation Plan: Our quantitative outcomes include 1) perceived value of the FD sessions, as measured by an end of curriculum questionnaire 2) level of engagement of the learners, as measured by attendance at FD sessions, compliance with portfolio assignments, quality of portfolio assignments, and 3) change in behavior, as measured by change in the quality of teaching behaviors rated by resident evaluations, comparison of pre/post survey responses, and achievement of self-identified commitments to act. At the end of the year we will measure qualitative outcomes by focus group discussions on the value and barriers of the portfolio.

Potential Impact: We hope that this relatively simple intervention will “light the fire” of our faculty and develop their intrinsic motivation. This study could have important implications of incorporating reflection and educational theory into FD curricula.

References:


Improving the Quality of a Family Medicine Clerkship Through a Preceptor Development Workshop Series

Babalola, Dolapo

Morehouse School of Medicine

Idea: This project aims to train and empower faculty to meet their teaching and retention demands with confidence and competence.

Rationale: It was sought to determine whether the quality of our family medicine clerkship could be improved through a preceptor development workshop series. In light of previous negative remarks and a score of 79% in the most recent Medical School Questionnaire, the question was: Can we make a positive change in our clerkship and earn us a 10% increase in our end of year scores which would be reflective in students learning? Can we improve on some of the general complaints of the Department of Family Medicine Clerkship which included being disorganization, weak residents, no clarity of the clinic settings? The plan was to adapt the Expert Preceptor Training Workshop Series, a Preceptor Development Program through which teachers in the clinical setting work systematically to improve their skills in (1) Education (2) Mentoring (3) Scholarship of Teaching (4) meeting accreditation requirements (5) assisting educators ongoing success as facilitators of effective and efficient learning and (6) ongoing quality improvement of clerkship training.

Methods: Four 30-minute didactic Expert Preceptor Training Series was conducted with faculty members during departmental monthly meetings from July to October. These Interactive Workshops were validated learning modules provided by Georgia Statewide Area Health Education Centers Network (AHEC) which was available for all Georgia physicians who has provided training for a health profession student. Faculty members were required to ensure two things: 1. Completion of the web-based training series and to submission of the evaluation forms in order to obtain Continuing Medical Education Credit. 2. The application of the new teaching strategies into their work with medical students and other learners. A need assessment survey was conducted prior to beginning the workshop series which guided the selected learning modules and a post training survey to identify its success. Approximately 14 family medicine faculty members participated in the covered workshop training modules; • Preceptor Development: Teaching, Evaluation and Feedback • Incorporating Students into a Busy Practice • Preceptor Development Series: The Problem Learner • As Strong as the Weakest Link: Teamwork in Healthcare Delivery

Results: Project success was evaluated by the following: 1. Pre and Post Faculty Survey Results: Data showed a statistically significant ten-point increase in the Pre and Post Development Workshop Faculty Survey Results. 2. Ongoing Quality Improvement of the Department of Family Medicine Clerkship Program reflected by the responses of our students’ end of clerkship evaluations: There were also excellent reports on organization, clarity on the clinical settings, and a great learning experience. 3. Student perspectives collected in National Medical School Questionnaire data: We await this current academic year results as we earned a 79% prior to this project. The goal is to increase by 10%.

Impact: The preliminary results demonstrate that Faculty Development would identify improvement in faculty’s ability to be effective facilitators of high quality learning and will provide consistency in students’ evaluation leading to learner satisfaction which in turn would improve experiences for those considering family medicine as a specialty.

References:


Academic Hospitalist Attitudes Toward Teaching Humanism: A Workshop Evaluation and Needs Assessment.

Kang, Mina R.; Soh, Michael; Wilkerson, LuAnn

David Geffen School of Medicine at UCLA

Idea: Humanism has long been emphasized in medical education, however little is known about faculty attitudes in imparting these values to learners.

Rationale: Humanism is fundamental to excellence in patient care and is continuously emphasized by patients, professional accrediting agencies and educational councils for undergraduate and graduate medical education. However, little is known about attitudes surrounding the teaching of humanism in medicine and if, and how, it differs between faculty members that have undergone humanism specific faculty development vs. those that have not. We attempted to shed light in this domain by assessing faculty attitudes around the practice and teaching of humanism in medicine, as a means for performing a workshop evaluation as well as a faculty development needs assessment.

Methods: Seven hospitalists received the UCLA Health Teaching Humanism Award since its conception in 2010. Awardees were nominated by colleagues and selected through a faculty peer-review process. All awardees participated in a series of workshops that focused on developing strategies for explicit teaching of humanism. Four senior awardees had completed the workshop series and 2 junior awardees were currently enrolled in the workshop series. In this cross-sectional, qualitative study, we conducted semi-structured interviews of 6 awardees (4 senior and 2 junior faculty physicians) and 11 matched controls (5 senior and 6 junior faculty physicians) and compared their attitudes toward the teaching of humanism. A thematic analysis was performed with second-person, outside-group validation.

Results: Three major themes were identified: teaching scope, teachability, and overcoming barriers. Significantly more awardees had a broad teaching scope (100% vs. 64%), perceived humanism as teachable (83% vs. 45%), and were optimistic about overcoming barriers (100% vs. 55%) than their matched control counterparts. Subgroup analysis of the control group showed bimodal distribution with senior controls more than junior controls perceiving humanism as teachable (60% vs. 33%) and demonstrating greater optimism about overcoming barriers (80% vs. 33%). However, there was no difference in regards to teaching scope between senior and junior control faculty indicating that this aspect of teaching humanism was most affected by the workshop experience. Between the senior and junior awardee subgroups, teaching scope and attitudes toward barriers remained the same with the only difference being the perception of teachability (100% vs. 60%). As 2 out of the 6 awardees were junior faculty that had not yet completed the humanism workshop, this finding pointed toward an active growth phase of faculty development. Learning to practice and teach medicine with humanism was observed to be a developmental process. Senior control faculty developed favorable attitudes toward teaching humanism solely based on experience over time. However, this maturation process was not to the extent of those physicians that participated in the faculty development workshops. Awardees had a greater ability to identify teachable moments which was not a skill gained by seniority alone. Additionally, the differences observed among the subgroups further demonstrate the spectrum that faculty cover along this continuum of development.

Lessons Learned: The “stages of change” model can be used to demonstrate the developmental process of learning to practice and teach humanism. The Teaching Humanism at the Bedside Workshop facilitates this progression more efficiently than how faculty would progress on their own with only personal experience over time.

References:


Getting Ready to Fly: Integrating Resident Needs Assessment into the Construction of a Global Health Experience

Burgos, Melissa; Koorie, Elizabeth

Hunterdon Medical Center

Idea: Prepare residents to provide health care in a global community though participation in a global health curriculum.

Rationale: International travel and migration have contributed to globalization of diseases. In addition, there is a serious shortage of health workers across the world. The World Health Organization estimated that over 4 million more health workers are needed to meet the world’s needs. Therefore, physicians today must understand the many facets of global health including tropical diseases, disparities and inequities in global health systems, and the importance of cross-cultural sensitivity. In addition, studies have documented an increasing interest among medical students and residents in global health training and international clinical rotations. Many residents are acquiring international experience, despite inadequate guidance and support and without formal curriculum and preparation. Thus, our program intends to develop a curriculum to prepare our residents to be competent in global health. The proposed poster will incorporate all that is learned from the resident needs assessment and review of literature, along with an initial outline of the curriculum.

Methods: In order to develop a global health curriculum at our institution we will review curricula and international experiences in global health and travel medicine developed by other programs and organizations. From this review we will collect data on curricula objectives, trends, topics, and the various formats utilized. Second, utilizing a survey, we will assess our residents’ (n=18) interest in global health, and their perception of our current program’s existing learning opportunities and deficits. After collecting these data we will be better prepared to create a formal continuity curriculum for our residents culminating with an international supervised hands on experience for those interested. Our plan is for a 20-hour interactive curriculum that will utilize cases as the focus for knowledge building and incorporate all relevant ACGME milestones in communication, professionalism, and systems-based practice. Skill in interacting with others in a culturally responsive manner will be taught and assessed through classroom exercises (e.g., role play).

Evaluation Plan: Our evaluation plan will incorporate tracking to document that we have completed all steps: needs assessment, objectives to meet the identified need, plan that incorporates learning principles, and tracking of our implementation. We will assess resident reaction to the curriculum (strengths and weaknesses) through periodic surveys. Resident learning will be assessed through pre/post questionnaire of interests and attitudes and through periodic knowledge quizzes. Behavior changes will be evaluated by assessing extent of resident work in global medicine (advocacy, direct care, etc.)

Potential Impact: Ultimately, the curriculum may serve as a prototype for other programs to train physicians to be well prepared to address global health demands. This project deliberately aims at growing a competent global health workforce via a comprehensive and longitudinal family medicine residency curriculum.

References:

The Human Resources for Health Crisis: Global Health Workforce Alliance Web Site.

Global Health Curriculum in the Making

Castro-Zarraga, Margarita

University of Massachusetts Medical School

Idea: Creating a global health curriculum for medical students to learn and understand the meaning of “culturally competent primary care” for vulnerable populations in a low resource setting

Rationale: There is a paucity of opportunities for medical students to engage in global health work, despite the rise in interest in this field. Global health education exposes students to a variety of healthcare delivery systems, managing patients with less technology and more enhanced physical examination. These experiences fuel students to consider continued community service and to pursue careers in underserved areas (1). Global health curricula for medical students can also be aligned with the ACGME Competencies (2). A critical piece of establishing global health programs is the student-driven nature of this developing arena (3). Students in our institution participate in a didactic global health pathway program that provides this form of preparation for a global health service learning activity. What is proposed is a four-week service-learning trip to Efarm in the Philippines.

Methods: The learners will be a team of two medical students (MS1 or MS2). There will be a home site mentor here at the University of Massachusetts who will stay in contact via Skype. The site will have both an onsite mentor and a resident physician from local Universities. Efarm is near five other service-learning sites so that these two students will be engaging with other students nearby. Our main objectives would be for learners 1) to develop greater cultural humility through being part of the host country’s cultural practices; and 2) to gain an understanding of the healthcare delivery system and population health issues in the host country. The learning plan includes the following activities. First, medical students will be required to conduct multiple brief 20 – minute teaching sessions with community health workers on a public health topic aligned with the national health program (ex. Nutrition). Second, a series of courtesy calls and tours will be scheduled in order to conduct interviews of community members and the community leadership. Third, the information gathered will be compiled for a post-travel presentation.

Evaluation Plan: Learner reaction to the experience will be assessed using a standard questionnaire. Student learning will be examined in multiple ways: 1) post-travel presentation will be scored using a rubric; 2) the onsite mentor will assess the student’s completion of activities, communication skills, and quality of educational presentations; 3) students will keep a daily journal that will be review for feedback purposes and two formal reflections that will be scored for level of reflection and for content by the home site mentor. Learner application of their new skills will be estimated through a follow-up at the end of their third year of medical school.

Potential Impact: Education in global health is growing at all levels of medical education. Attention to what it takes to set up site can help others interested in advancing education in this arena.

References:


Designing a Medical Curriculum for Student Participants in a Global Health Program in Haiti

Altieri, Lisa; Zorian, Aline; Goldhammer, Elaine; Partovi, Susan

David Geffen School of Medicine at UCLA; Penn Medicine Clinical Care Associates at Chester County

Idea: The aim of this project was to quantify the prevalence of diseases encountered during the 2014 HEAL Haiti medical trip in order to enhance aid delivered to the patient population during subsequent trips and to implement a medical education program for volunteers focused on these diseases.

Rationale: Since 2009, medical students have been volunteering with H.E.A.L. (Healthcare, Empowerment, Advocacy, Learning), which is a growing nonprofit organization that provides primary care medical services in Haiti for two weeks every year. Due to limited published data on disease prevalence in urban and rural Haiti, students have relied on informal assessments to focus their humanitarian efforts. Quantification of disease burden is necessary to optimize medical services provided to the community and create medical education materials for student volunteers.

Methods: Patients sought primary care at outpatient mobile clinics in Haiti in the rural village of Mussotte and the capital city of Port-au-Prince in March and April 2014. Demographic and clinical data on all patients were recorded by medical students, and the clinical information was retrospectively analyzed.

Results: Of a total of 655 patients, 167 (25.5%) were children and 488 (74.5%) were adults. The most common diagnoses were hypertension (224), gastroesophageal reflux disease (212), and anemia (179). The most common infectious diseases were intestinal parasitic infections (95), upper respiratory tract infections (45), sexually transmitted infections (43), urinary tract infections (29), and skin infections (29). Among patients with gynecologic complaints consistent with sexually transmitted infections, trichomoniasis (22), chlamydia (11), and gonorrhea (10) were most common; notably, no patients had positive point-of-care tests for HIV or syphilis. Lastly, of 121 Pap tests performed, 9 were abnormal (7.4%).

Impact: Given the relative prevalence of hypertension, gastroesophageal disease, anemia, and gynecological complaints, the student education curriculum for the upcoming year has been redesigned with a focus on these particular diseases. However, a formal needs assessment is necessary to further develop the curriculum.

References:
Impact of Social and Cultural Interviewing on Providing Patient Care to the Urban Underserved Population

Ashkenase, Lindsay; Dattani, Seema

Christiana Care Health System

Idea: Enhance resident skills in working with urban underserved patients through a longitudinal curriculum incorporating modified patient care visits.

Rationale: Health disparities continue to be a challenge in our health care system. Healthy People 2020 describes five determinants of health: policy making, social factors, health services, individual behavior, biology and genetics. Physicians often do not appreciate all of the factors, and often fail to consider them in their assessment and management of their patients (1). Residents also bring preconceptions about patients who live in poverty. To encourage cultural humility, Betancourt et. al. recommend building a curriculum with a patient based intervention that is longitudinal, integrated into clinical care and targets a specific population (2). Our program is building a curriculum to meet these criteria.

Methods: Our target audience is the second and third year family medicine residents in a urban underserved area (n=11). The longitudinal curriculum will be 2-years in length and integrated into the residents' continuity clinic in our urban site in Wilmington, Delaware. The target patient population will have uncontrolled diabetes and/or uncontrolled hypertension. There are tools that have been developed to teach residents how to provide culturally responsive care and implement usage into clinical care, including the BATHE and LEARN mnemonics and double-loop communication (3). We plan to teach residents how to use these tools to guide their patient encounters and to facilitate incorporation of patient education. Didactic sessions will be utilized to provide the cognitive base and practice utilizing the tools. The residents will also be scheduled longitudinally throughout their second and third year to have six half-day clinical sessions per year dedicated to practicing these skills, thus utilizing the principle of distributed practice to enhance learning. The resident will have 2 one-hour patient visits with patients selected from their continuity panel. The resident will elicit social information that may be contributing to the patient’s uncontrolled chronic disease and provide education to the patient. These sessions will be precepted one-on-one by a member of the residency core faculty with addition thirty-minute period before the session to review objectives, and a sixty-minute debrief after the visits to reinforce new skills lessons learned.

Evaluation Plan: Resident reaction (how well they liked it), perceived learning and self-reported utilization of these skills with their ongoing continuity patients will be assessed using a standard survey form. Resident learning will be assessed using a) a pre/post knowledge exam, b) a pre/post survey to elicit reasons for their patients’ uncontrolled health issues looking for a broader view of determinants of health and c) observation via video camera in the clinical setting to assess utilization of skills along with relevant milestones across all competencies. Impact will be assessed through brief faculty interviews with patients to determine how they will use any new information gained.

Potential Impact: If found effective, elements from this longitudinal curriculum could be adopted by any primary care residency program.

References:
2. Betancourt, JR and Green, AR. Linking Cultural Competence Training to Improved Health Outcomes: Perspectives From the Field
The 2020 Initiative: Moving a Department to Commit to Diversity and Health Equity

Edgoose, Jennifer

University of Wisconsin-Madison

Idea: To challenge a statewide department to mindfully engage in issues of health equity and diversity from the bottom-up.

Rationale: The University of Wisconsin Department of Family Medicine is changing its name to the Department of Family Medicine and Community Health and will be developing a strategic plan in the upcoming year. This undertaking coincides with reports showing Wisconsin has some of the worst disparities in the nation including a report by the Annie E. Casey Foundation revealing Wisconsin as the worst state for African American children to live. At the time of the original proposal, our department had not formally addressed this report and there was perceived lack of awareness about these issues despite our anticipated name change. The 2020 Initiative was started by a group of faculty members who wanted to consider where the department is today and project ourselves to where we want to be in the future...hence “2020.” What makes this a particularly unique undertaking is its bottom-up approach as best practices in the academy and corporate America are often successful because of their top-down approach in diversification and equity.

Methods: Supported by a HRSA grant, a statewide departmental development series was organized from August through December 2014, geographically based in Madison, WI with videoconferencing capacity to “upstate” colleagues. Population data describing the shifting demographics of communities cared for by our department was shared alongside stagnant data of diversity within our department. This was juxtaposed with disparity data and attitudes of our department gathered from a statewide cultural climate survey and revealed in the State of the Department session. Authors of the compelling disparity data from the WI Council of Children and Families were invited to present to our department which was also captured in a podcast. A second statewide session reviewed two articles of best practices in diversity and health equity. Small groups discussed best practice interventions and cases using a race equity toolkit. Professional facilitators led a capstone session where participants from across the department where grouped into tables focusing on clinical care; education; and research and community health. Groups then prioritized ideas as most realistic, impactful and compelling. A website was developed housing all presentations, resources and group work. Plans are now underway to present this material to multiple stakeholders not only within the department but in the greater university community.

Evaluation Plan: An online pre-assessment survey of the statewide department's attitudes and commitment to issues regarding bias, culture, and health disparities was administered and presented as part of the driver of engagement during the State of the Department session. Each session was individually assessed for not only quality of the material and discussion but also confidence in departmental and personal commitment toward diversity and health equity and readiness for change.

Potential Impact: This actual outcome of this work-in-progress is unknown at this stage but if successful will provide a model for how other predominantly white large institutions can affect strategic change in racial equity amongst workforce demographics and in delivery of care.

References:

Race for Results: Building a path to opportunity for all children. The Annie E. Casey Foundation. 2014.


Enhance Resident Knowledge and Care of Patients with Low Literacy through Peer Teaching

Kamath Mulki, Ashwini

Lehigh Valley Family Medicine Residency Program

Idea: Enhancing family medicine resident knowledge and care of patients with low literacy through an inpatient medicine peer-teaching intervention.

Rationale: Learner-centered inpatient teaching is essential for outstanding family medicine residency training. One study showed that peer-to-peer teaching increases learners’ medical knowledge (1). A survey of our residents revealed a need for sharpening our inpatient teaching of medical knowledge and communication skills. Moreover, with more than 90 million Americans having health literacy challenges, enhancing physician communication abilities is essential (2,3). We propose an educational intervention of peer presentations to specifically enhance teaching, strengthen the inpatient training experience, and encourage residents to enhance their patient education for those with low health literacy.

Methods: PGY2 and PYG3 family medicine residents rotating on the inpatient medicine service in August – January will participate in this pilot (n=10). Each resident will prepare a brief educational presentation. Medical topics will be selected based on patients under their care as well as faculty suggestions. Residents will have access to a compilation of Society of Teachers of Family Medicine (STFM) recommended readings on inpatient medicine. These fifteen-minute presentations will be structured to address the following three questions: 1) When would a patient with this condition require hospitalization? 2) What preventative measures/precautions are recommended for patients to avoid this condition? 3) How would you provide health education regarding this condition for patients with low health literacy? Faculty physicians will participate in the peer presentations, provide feedback to resident presenters, and contribute additional teaching as needed. Residents will be encouraged to utilize what they learn in this setting each week when they are in their continuity clinics, and to focus more effort on effective education of their patients in every setting. Finally, all of the resident handouts prepared for their presentations will be compiled and added to STFM recommended readings to provide easy access for future residents.

Evaluation Plan: The evaluation will include 1) tracking of resident presentations to determine the percent of possible presentations are delivered and the topics of each presentation; 2) gathering of reaction data from residents giving the presentations (teacher role) and from the residents listening to those presentations (learner role) through a survey of all resident; and 3) through a survey of all residents who taught during the pilot asking about a) perceived additional learning from their role as teacher; and b) perceived changes in their own patient education within the inpatient or outpatient setting.

Potential Impact: If the pilot is successful, this model could be more formally investigated for enhancing training in a way that links inpatient care with needed outpatient education, especially for patients with low health literacy.

References:


Davis TC, Wolf MS. Health literacy: implications for family medicine. Family Medicine. 36(8):595-8, 2004 Sep
Didactic Dud to Culturally “Cool”

Koorie, Elizabeth; Burgos, Melissa

Hunterdon Medical Center

Idea: Using interactive and learner-centered teaching techniques to guide family medicine residents to build and apply culturally responsive healthcare skills.

Rationale: Health inequities in our country have been well documented. Furthermore, with the increasing diversification of our nation, it is important that our physicians are well trained in providing culturally responsive care. The Family Medicine Milestone Project reinforces the need for family medicine residents to have the awareness, knowledge, attitudes and skills to provide culturally responsive healthcare. The third professionalism milestone states clearly that the resident “demonstrates humanism and cultural proficiency”. The milestones in communication (C-2), systems based practice (SBP-3) and patient care (PC-3), also reinforce this need. Currently in our family medicine residency program, teaching takes place only informally. In the past, our program had a formal didactic curriculum – it was a “dud”. The new curriculum will be built using evidence-based learning principles and be both learner-centered and interactive.

Methods: The target audience will be the 6 first year family medicine residents in our program. The curriculum will include classroom sessions (n=10) over the PGY1 year, beginning during orientation. These sessions were selected to meet our patient population and learning needs from the 30 sessions in Curriculum for Culturally Responsive Health Care: The Step- by-Step Guide for Cultural Competence Training. Sessions will incorporate an “attention grabber” to focus the learners on the topic of the session and gauge their prior experience and relevant interests. Sessions will be interactive using “skill builders” such as role play and “catalysts” such as games and exercises to build relevant communication skills and knowledge in areas like determinants of health and health disparities. We will also utilize “intensifiers” like debriefing and narrative to encourage personal awareness and reflection. This formal curriculum will be reinforced in the continuity health care center through our teaching whiteboard where tools like the HEADDSSS, BATHE, and LEARN mnemonics can be posted and reinforced during precepting. Concepts will also be reinforced in the behavioral science curriculum and rotations like the inpatient service.

Evaluation Plan: Resident reaction (how well they liked it), perceived learning and self-reported utilization of the relevant skills and tools within with their ongoing practice, will be assessed using a standard survey form. Resident learning will be assessed using a) a pre/post knowledge exam, b) a pre/post survey to query current techniques used to enhance communication with their diverse patient population, and c) direct observation in the classroom to assess skills in data gathering, negotiation and patient education. Learner practice behaviors will be assessed each month as learners are asked to share a story about incorporating a prior tool or principle into their patient care. These stories will be gathered and topics tabulated to compare topics and sessions and make continuous improvements in the curriculum.

Potential Impact: This curriculum could become a model curriculum for other residency training sites. Training our residents to be culturally responsive physicians can contribute to a more educated work force of doctors and potentially decrease health care disparities.

References:


The Equal Curriculum Project: An International Collaborative to Create an LGBT Population Health Text

Thatikunta, Meena; Diaz, Kristine; Eckstrand, Kristen; Ng, Henry; Petty, Elizabeth; Connors, Jeremy; Haymer, Michael; Lehman, James; Nuyen, Brian; Oruganti, Poornima; Patel, Shilpen; Streed, Jr, Carl
Northeast Ohio Medical University; Oakland University William Beaumont School of Medicine; Vanderbilt University School of Medicine; MetroHealth System/Case Western Reserve

Idea: The Equal Curriculum: Student and Educator Guide to LGBT Health is the nation’s first e-book on LGBT health for health professional trainees and educators at the undergraduate level.

Rationale: The lesbian, gay, bisexual, and transgender (LGBT) population experiences significant health disparities attributable to lack of relevant high quality health professions education and subsequent professional unpreparedness. The median reporting time dedicated to teaching LGBT-related content in the entire medical school curriculum was reported in one study as 5 hours, and only 8% of schools taught all 16 LGBT-specific health topics [1]. LGBT-related curriculum content and research provided in health professions schools has been limited and one-sided. Education typically has been disproportionately focused on sexually transmitted infections, especially within the men-who-have-sex-with-men (MSM) population, leading to further stigmatization. Meanwhile, other health needs that affect gay male and MSM morbidity and mortality, as well as the full health concerns of the lesbian and women-who-have-sex-with-women (WSW), bisexual, and transgender population are not addressed [2]. Significant barriers to teaching LGBT health curricula exist: namely, the lack of comprehensive teaching and reading materials on the subject. A textbook that comprehensively reviews LGBT health–related competencies for health professional students and educators would address the deficit in quality LGBT health instruction. The Equal Curriculum: Student and Educator Guide to LGBT Health, the first-ever e-book on LGBT health geared toward health professional trainees and educators, is an international collaborative that will spur a revolution in LGBT health medical education.

Methods: Executive-directed by a medical student, this project features five senior editors, seven associate editors, and more than 60 primary chapter authors recruited from academic institutions in North America, Canada, and Europe. The chapter co-authors include physicians, nurses, physician assistants, psychologists, public health advocates, lawyers, social workers, and fellow health profession students. The textbook features four sections: 1) Foundational Sociological, Health Disparities, Health Research, and Medicolegal Concepts for the LGBT Community; 2) Foundational Interdisciplinary Approach to Care for the LGBT Community; 3) Clinical Care of the LGBT Community; and 4) Emerging Topics in LGBT Healthcare. The content outline has been developed from the Association of American Medical Colleges (AAMC) LGBT curricular guidelines. Each chapter will feature text organized by learning objectives, as well as board-style questions and case correlations with detailed answers for knowledge application. Select chapters will feature a Flipped-Classroom Resource, an educator resource that provides ways in which students may apply their knowledge, ranging from classroom discussion guides to standardized patient interviews. Funded by Northeast Ohio Medical University, this textbook is scheduled for e-publication on Amazon and print-on-demand by early 2016.

Evaluation Plan: Prior to publication, we will reflect on the process of the management and publication of an e-textbook with various healthcare professionals. Upon publication of the textbook, a report of sales data from Amazon.com regarding number of books sold will provide an indication for demand for this textbook. Collaborative educational research with various health professional schools may be sought to determine the effectiveness of the textbook to educate health professional students.

Potential Impact: We intend for the book to foster a revolution in LGBT health professions education by serving as a high-quality comprehensive resource for health sciences students and educators. We hope to bolster development of a health workforce that is competent and compassionate in the care of the LGBT population.

References:
Family Medicine Clinic Helping to Overcome Pain Effectively - HOPE Clinic

Pendergraph, Bernadette; Sanchez, Gloria; Jochai, Diana

Harbor-UCLA Medical Center

Idea: A multidisciplinary team emphasizing treatment of patients with chronic nonmalignant pain as a learning model for family medicine residents.

Rationale: The complexity of pain is indicative of the diversity in the elements of chronic pain conditions. Research findings strongly suggest that therapeutic components for chronic pain must integrate nonpharmaceutical, pharmaceutical, and psychological/psychiatric treatment modalities to ensure effectiveness of treatment. Being a primary care facility we are often the front line health care providers who are managing chronic pain conditions. The nature of pain related concerns presenting in our clinic are often complex where there are likely comorbid medical as well as psychiatric conditions including substance use disorders, mood disorders (e.g., posttraumatic stress disorder), personality disorders, and significant persistent social stressors. Our department currently does not have a multidisciplinary team for treatment of chronic pain. Our standard practice has been focused teaching with individual patient encounters conducted by family medicine faculty members and outside referral service to departments such as anesthesiology to assist in pharmaceutical and procedural treatments of pain. By providing a structured multidisciplinary clinical environment our family medicine residents are to learn about the nature and management of the complex or biopsychosocial pain conditions by conducting multimodal assessments, provide therapeutic education, participating in patient centered evidence based treatment planning and brief follow up.

Methods: Our treatment team is composed of two primary care physicians, health psychologist, and a senior family medicine resident physician. The primary care physician will refer the patients to HOPE if the patient agrees to exploring alternative assessments and treatments of their pain and play guide the long-term care of the patient. The Family Medicine HOPE Clinic is set to take place on two half clinic days a month with an initial trial of 45min patient visit slots allowing for up to six patient encounters. Patients are referred to the clinic by the providers within our department and are scheduled for an initial evaluation. The initial visit consists of a patient centered and multifactorial assessment and history gathering that helps inform an integrative treatment plan and patient education. Follow up visits can be scheduled if appropriate. Additional visits include physiological symptoms assessment, assessment of patient engagement and use of motivational interviewing to help address ambivalence (if applicable) and personalizes patient centered goal setting, therapeutic education and evolved treatment planning.

Evaluation: To assess patient experience, we will ask for feedback and satisfaction of care at the end of the first visit and also assess pain severity and perceived changes to quality of life 6 months post initial visit. Resident learning will be measured via observation of their ability to evaluate, treat and refer patients with chronic nonmalignant pain and identify concurrent substance use and mood disorders. Specific components assessed regarding their learning will include: Screening tools, Brief Intervention, Referral Treatment as well as clinical skills involving initiation, maintenance, escalation and discontinuation of opioid therapy as well as educating their patients how to safely care for their opioid therapy. The psychologist will assess the residents’ use of motivational interviewing to guide patients in choosing personal goals for treatment of their pain.

Impact: Our structured curricula may improve patient and provider satisfaction by empowering patients to identify and develop self-management skills and therapies that alleviate their symptoms as well as providing tools to our resident physicians to create an integrative treatment plan for what can be a challenging patient population.

References:


Moving Third Year Family Medicine Resident Attitudes About Substance Use Disorders from Oh No to Wow

Porter, La Donna; Ho, Huy
San Joaquin General Hospital Family Medicine Residency Program

Idea: An integrated model to improve residents’ capacity to identify and address substance use disorders (SUDS) in their practices.

Rationale: Addiction and harmful use of drugs, alcohol and tobacco affect approximately 120 million Americans, more than all persons with heart disease, diabetes and cancer combined (1). A national survey of residency directors and leaders in medical education calls for increased training and integration of Substance Use Disorders into physician training (2). With curricular time being scarce, the challenge is to build efficient and effective curricular units to prepare resident to appropriately care for these patients (3). As such, we propose a new curriculum to prepare third year residents to work with substance use disorder related issues including screening, brief intervention, diagnosis, prevention, advocacy and referral to treatment. Our goal is to move the resident physicians from not wanting to care for the substance use patients to confidently caring for these patients successfully throughout their career.

Methods: The target educational group will be the third year residents in a family medicine training program (n=7). The key elements of this intervention will be to focus on the specific skill set required for each resident’s desired practice setting. For the inpatient setting: the focus will be on secondary prevention to decrease the rate of admissions, to involve families via educating them prior to and at the time of discharge in substance use and how they can best assist the patient. Focused attending sessions with the senior on this issue, coupled with guiding the senior in supervising juniors on patients with substance use, capped with teach senior leading a special addition rounds. For the outpatient setting: the focus will be on assisting the residents in educating patients and families regarding substance use prevention, treatment and assist the resident providers in diagnosing and advocating for patients with substance use disorders. This guidance will be personalized to the current attitudes and skills of each senior. Three addiction champions among the faculty will reinforce positive attitudes throughout the year and ensure skill development. Advocacy resources for seniors will be provided for both settings. Any barriers in each setting will also be noted and environmental changes made as required.

Evaluation Plan: A survey will be administered to assess current knowledge and attitudes about substance use disorders in July 2015 and again in May 2016. Secondly, a focus group evaluation with the participants will yield in-depth information about experiences, attitudes, knowledge and intentions to provide the best care for those with substance use issues. Finally, an evaluation will be used to assess the level of impact the intervention has had on the resident physician’s competency, autonomy and perceived success in caring for patients with substance use disorders prior to graduation and six months later. These data will be used to enhance the program.

Potential Impact: Family Medicine resident physicians educated in substance use disorders can have a significant impact on the health and wellbeing of any community they serve and our integrated model could work for other programs.

References:
O’Connor PG, Nyquist JG, McLellan AT, Integrating Addiction Medicine Into Graduate Medical Education in Primary Care: The Time Has Come; Ann Intern Med. 201; 154; 56-59

Seale et al. Providing competency-based family medicine residency training in substance abuse in the new millennium: a model curriculum; BMC Medical Education 2010, 10:33

Addiction Medicine Closing the Gap Between Science and Practice June 2012; A Report By the National Center on Addiction and Substance Abuse at Columbia University
Idea: Longitudinal curriculum for family medicine resident to enhance their knowledge, skills and attitudes in relation to caring for patients with chronic non-malignant pain.

Rationale: Chronic pain and overdose death due to opiate pain medication are both severe problems in the United States. Prescription opiate drug overdose deaths in the US are more than twice that of overdose deaths from heroin and cocaine combined and in addition, drug overdose has exceeded deaths from motor vehicle accidents since 2010. This problem is increasing in California and in San Joaquin County the problem of death from drug-related overdose has increased 55% in the past ten years from 11.9 per 100,000 to 18.42, 3. Furthermore, San Joaquin County’s current death rate from drug-related overdose death is approximately 50% higher than the national average of 12.4 per 100,000 and 70% higher than our state average of 10.8 per 100,000 deaths2,4. Through focus group feedback, our residents have expressed discomfort in working with patient with chronic pain and a desire for more education on chronic pain management. Thus we are developing a longitudinal curriculum to help build their basic knowledge attitudes and skills to enhance their patient care for this challenging problem.

Methods: The target audience is 22 family residents in the San Joaquin General Family Medicine Residency Program. A multifaceted approach has been created including 1) classroom didactic teaching, 2) workshops 3) family medicine clinic system-based practice changes to teach application in practice. The objective of the classroom didactics (6 session of 30 minutes) will be to increase awareness of the U.S. prescription opiate abuse and overdose epidemic and gain basic knowledge in pain management and prescribing utilizing techniques such as brainstorming, scavenger hunts for data, case-based discussion, think-pair-share and audience response systems. The workshops (2-3 half-day sessions) will have pre-assigned readings to reinforce didactic teaching with group discussion of topic, debriefing to discuss fears in caring for chronic pain patients, role play to practice synthesizing information and motivational interviewing as well as case-based teaching. The system-based practice changes will include chronic pain visits utilizing standard chronic pain progress note templates, implementation of chronic disease management registry software (i2i Tracks), pain management department policies and protocols to ensure consistency of practice habits across preceptors, and implementation of attending physician-resident teams with monthly review of cases and a monthly multidisciplinary pain management committee involving family medicine, psychology and an addiction psychiatrist to review challenging cases. The learner outcome objectives include: 1) knowledge about how to approach the care of a patient with chronic non-malignant pain along with the treatment options including use of opioids; 2) skills in interviewing patients with chronic pain and application of motivational interviewing techniques; and 3) express confidence in caring for patients with chronic pain; 4) care for patient in a manner that results in patient satisfaction and patient adherence to jointly created plans (aspirational objective).

Evaluation Plan: Didactic session and workshops will be evaluated through anonymous computerized assessment to determine if planned content was understandable and valuable to the residents. Knowledge and skills will be assessed by the following milestones: Patient Care-2 (cares for patients with chronic conditions), Systems Based Practice-2 (emphasizes patient safety), Systems Based Practice-4 (coordinates team based care) Professionalism-3 (demonstrates humanism and cultural proficiency)

Potential Impact: Pain management is an issue within training for most specialties. If our curriculum is successful it could be spread to other programs in medicine and other health professions.

References:
Teaching Geriatrics and Transitions of Care for Vulnerable Elderly to Internal Medicine Residents

Wu, Shirley; Partida, Diana; Ward, Katherine T.; Lee, Ming

Harbor-UCLA Medical Center; Los Angeles BioMed Institute

Idea: We created and are evaluating a geriatrics curriculum for internal medicine residents that includes direct observation of transitional care skills.

Rationale: This project addresses the need to develop evidence-based approaches to teaching knowledge and skills in Geriatric Assessment (GA) and Transitions of Care (TOC), to Internal Medicine (IM) resident physicians. Graduate Medical Education (GME) is responsible for training providers in Geriatrics to adequately care for our aging population in the practice environment after the Affordable Care Act. The Accreditation Council for Graduate Medical Education (ACGME) requires training programs to assess trainees’ progressive attainment of clinical competencies. Educators need strategies to evaluate skills, such as in care coordination and interdisciplinary teams (IDT). Curricula should be evidence-based to justify ongoing public funding of GME. TOC and IDT models are fundamental to GA and are intended to increase value of care by targeting resources to high-risk patient populations. Harbor-UCLA Geriatrics targets a vulnerable patient population with an inpatient, interdisciplinary Geriatric Consultation Service linked to a TOC Program, and thus provides a setting for teaching geriatrics and transitional care to residents.

Methods: Content and objectives were designed to meet consensus guidelines for Minimum Geriatric Competencies (MGC) expected of IM residents. Didactic and assessment materials were chosen or developed based on theories of learning: deliberate practice, scaffolding, and hierarchies of knowledge and skills attainment and assessment. The educational intervention is a 4-week Clinical Rotation on the inpatient Geriatrics Service. The curriculum consists of: 1. Patient Care: Residents conduct comprehensive GA, assess health literacy, educate patients and caregivers on medications and self-management, follow patients in the TOC Discharge Clinic, and practice communication with outpatient providers to facilitate continuity of care. 2. Scaffolded deliberate practice of GA Skills using a Skills Checklist and a Geriatrics Communication Skills Mini-Clinical Evaluation Exercise (CEX). 3. 30-minute lectures on Geriatrics topics: TOC, Health Literacy, IDT, Pre-Op and Peri-Operative Care, Pressure Ulcers, Urinary Incontinence, Delirium, Dementia, Osteoporosis and Hip Fractures, Gait Disorders and Falls, Appropriate Medications and Polypharmacy, Anticoagulation, Geriatric Primary Care and Screening. Peer-reviewed lectures were selected from the Portal of Geriatric Online Education or locally developed.

Evaluation Plan: This project has a quasi-experimental, nonrandomized, single group pre- and post-test observational design. We will enroll 30 subjects over 18 months. Assessments will be conducted on: 1. Knowledge (University of Michigan Geriatrics Clinical Decision Making Knowledge Assessment), 2. Attitudes (UCLA Geriatrics Attitudes Survey and the Carolina Geriatric Education Center Health Literacy Survey), 3. Geriatrics Communication Skills (locally developed Mini-CEX). To evaluate curriculum effectiveness, we will also collect a post-rotation program satisfaction survey. Pre- and post-knowledge test scores will be compared using repeated measures ANOVA. Pre- and post-ranked data from the attitudes surveys and Mini-CEX will be analyzed with nonparametric tests. From the Program Satisfaction Surveys, we will calculate descriptive statistics, and analyze qualitative data for quality improvement. Six-month post-rotation knowledge tests will assess long term knowledge retention.

Potential Impact: This curriculum may improve IM residents’ Geriatrics and TOC knowledge, attitudes, and skills. If so, the curriculum may serve as a model for combining Geriatrics and TOC training in safety-net hospital settings, and prepare residents for providing interdisciplinary, coordinated care for older patients in their future practices.

References:
Graduate Medical Education That Meets the Nation's Health Needs. The National Academies Press; 2014.


Teaching Unconscious Bias through Learners’ Development of Video Vignettes

Martinez-Bianchi, Viviana

Duke University

Idea: To increase residents’ knowledge of unconscious and implicit bias through their own videos depicting vignettes that illustrate unconscious bias.

Rationale: “What is unconscious bias (UB)? It is a form of rapid cognition that finds patterns based on small bits of information. Ancient reflexive system. Adaptive: Danger detector. Refers to social stereotypes about certain groups of people that individuals form outside their own consciousness (Fiske & Taylor, 1991; Valian, 1998; 1999).” Bias is a negative evaluation of a group and its members relative to one another. The bias can be expressed explicitly or directly; or implicitly or indirectly. Explicit bias requires that a person is aware of his assessment of a group, believes his evaluation is correct and acts accordingly to his/her beliefs, or is able to change the way he or she believes through a process of transformation and understanding. Implicit or unconscious bias on the other hand, works unintentionally, in unconscious ways. This type of bias is activated quickly and unknowingly by situational cues such as skin color, dress or the accent of a person. These biases quietly exert their influence on perception, memory and behavior. Unconscious biases can compromise medical care, and health care outcomes of minority populations. Physicians need to learn to identify and confront unconscious bias to mitigate their impact, promote respect for all groups of people and decrease health care disparities.

Methods: The project will start with assessing residents and faculty biases by using the Implicit Association test. An introductory lecture will explain the theoretical framework for the role of implicit bias in health care and how it can affect the patient-doctor relationship and negatively impact healthcare outcomes. Residents will then be asked to form groups of four, look at literature on unconscious bias and produce a short video vignette that illustrates the topic by drawing on their own experiences in the area. Learners will be given 30 days to complete the video and then present it to the rest of the residents and faculty. Guided discussion will follow the video vignettes presentations.

Evaluation Plan: Implicit Association Test (IAT) will be used before initiating the process and after finishing and presenting the video.

Potential Impact: Recognizing unconscious bias and acting on it can positively impact health care outcomes and decrease health care disparities.

References:
Unconscious (Implicit) Bias and Health Disparities: Where Do We Go from Here? Irene V Blair, John F Steiner, Edward P Havranek Perm J. 2011 Spring; 15(2): 71–78. Published online Spring 2011. PMCID: PMC3140753

Baseline Knowledge and Attitudes of Medical Students Towards LGBTQIA Communities

Ferrel, Vanessa K.; Tantoco, Nicole K.

University of California San Diego School of Medicine

Idea: Health-care providers are largely unaware of the unique health needs and concerns of patients with non-normative sexual orientations, sexual behaviors, and gender identities.

Rationale: In Grant’s 2011 report of 6,540 transgender individuals, 28% of participants had experienced verbal harassment in a doctor’s office, and 19% reported being refused medical care altogether because of their transgender status. Lack of awareness or knowledge of specific needs contribute to LGBTQIA health disparities.

Methods: In order to assess the standing clinical skills, knowledge, and attitudes of the students at the UC San Diego School of Medicine, an anonymous online survey was distributed via the student-wide email list (2014-08-20 through 2014-09-20). It used questions from the Core LGBT Related Competencies for Medical Students created by Shane Snowdon, Director of the Human Rights Campaign’s Health and Aging Program for the University of California, San Francisco LGBT Resource Center, and the assessment portion of Cultural Humility with LGBT Populations: A Novel Curriculum in LGBT Health for Clinical Medical Students by Hillary Maia Grubb for the American Association of Medical Colleges. The survey asked respondents to rate their knowledge levels regarding LGBTQIA community needs (e.g., health risks faced by LGBT individuals) and their abilities to address concerns (e.g., insurance issues affecting LGBT patients). Additionally, students were asked to rate their familiarity with terms commonly used in the community (e.g., gender identity). Finally, the survey asked questions regarding specific clinical practices (e.g., which population is experiencing the fastest rate of new HIV infections?).

Results: A total of 64 students completed the survey: 66% were preclinical first or second year students; 34% were third or fourth year medical students in their clinical years. The majority of participants were traditional track students (83%); 17% were in combined M.D./Ph.D (n = 1) or M.D/Masters (n = 10) programs. Average Likert scores (5-point scale) for participant self-ratings of their attitudes toward the LGBTQIA community were high: “LGBT patients deserve the same level of quality care from medical providers as other patients” (4.9), “I am able to respond sensitively and non-judgmentally to a patient’s disclosure of LGBT status” (4.3), “My experiences with LGBT individuals have positively altered my beliefs about sexuality, gender identity, and sex development” (4.2), “As a physician, I feel it is important for me to know about my patients' sexual orientation, sexual practices, and gender identity” (4.3). While survey participants highly rated their attitudes toward members of the LGBTQIA community, their knowledge of specific clinical practices were rated statistically significantly lower. Over 20% rated their knowledge of health risks faced by LGBT individuals as fair or poor. Additionally, over 50% rated their knowledge of possible health care needs of transgender patients as fair or poor. 11 respondees disagreed or strongly disagreed with the following statement: “Overall, I feel comfortable addressing the health care needs of lesbian, gay, and bisexual patients.”

Lessons Learned: This study has revealed a disparity between UCSD preclinical student doctors’ perceptions of the LGBTQIA community and the knowledge base from which they can provide culturally-aware care. Thus, an opportunity for UCSD to better equip future clinicians with a more humanistic foundation for caring for all patients has been exposed. Intersections of LGBTQ Health is a newly developed preclinical elective that adds to the five curricular hours to improve attitudes, skills, and knowledge at UC San Diego through a multi-dimensionality lens of marginalization via discussions of race, culture, mental health, chronic disease, substance abuse, health care maintenance, hate crimes, housing status, intimate partner violence, sexual assault, access to care, socioeconomic status, provider bias, and health insurance.

References:
LGBT Health Immersion Day: Measuring the Impact of an LGBT Health Education Intervention

Nuyen, Brian; Scholz, Robert; Hernandez, Ramon; Graff, Nancy

UCSD School of Medicine; University of Chicago Medical Center; UCSD Health Sciences Institute

Idea: LGBT Health Immersion Day was a multi-pronged educational intervention aimed at increasing student knowledge and confidence in LGBT health.

Rationale: Lesbian, gay, bisexual, and transgender (LGBT) people are a greatly underserved patient population in the US. Contributing to this underserved need is the tremendous inadequacy in fully addressing LGBT health issues in US medical education. Furthermore, in the rare instances where LGBT issues are presented in medical school curricula, they are often portrayed stereotypically and do not reflect the full, diverse, and pressing issues of our LGBT patients [1]. Fortunately, the solution to the education deficit – including more and higher-quality hours of LGBT health instruction – has been proven to be a high-yield and successful endeavor. A prior study incorporating an “educational intervention” with medical students on LGBT health topics, administered with pre-/post-intervention attitude/education assessments, demonstrated such success. After the intervention, students in the study 1) increased knowledge about access to health care and LGBT relationships 2) increased willingness to treat patients with gender identity issues 3) enhanced awareness that sexual identity and practices are clinically relevant [2]. This success potentially translates to successful patient-oriented care. With the creation of “LGBT Health Issues Immersion Day,” the affiliated medical school sought to help address this educational deficit for 2nd-year medical students through diverse methods. The impact of this educational intervention was then analyzed.

Methods: LGBT Health Immersion Day was held on March 5, 2014 and was aimed at second-year medical students. The Immersion Day was composed of three educational activities. The day started with an introductory lecture from a local LGBT resource center director that introduced LGBT terminology. Subsequently, the LGBT resource center director moderated a panel of six LGBT patients/community members with Q&A. In the afternoon, students broke out into small group sessions for video training modules, each of which included a video and a facilitator’s manual for use by faculty. LGBT health issues were covered in the following thematic video vignettes 1) Latina Lesbian Health 2) Elder Married Gay Male 3) Transgender Adolescent. The 2nd-year medical student participants in this Immersion Day (N = 81) completed pre- and post-intervention questionnaires, which were administered using blinded Qualtrics diagnostics, results of which were analyzed with paired samples t-tests.

Results: Descriptive survey questions measured students’ general observations irrespective of the intervention. A minority (18.5%) of students assessed their medical student peers to be “very uncomfortable” or “uncomfortable” engaging LGBT patients. Furthermore, a minority (27.2%) of students observed judgmental behaviors towards LGBT patients from physicians, while slightly more than half (53.1%) observed judgmental behaviors towards LGBT patients from their peers. Then, analysis of pre- and post-intervention five-level Likert item questions revealed that students demonstrated a significant increase in 1) level of knowledge of health risks faced by LGBT patients 2) level of comfort in engaging LGBT patients 3) level of confidence in connecting LGBT patients to LGBT friendly health-care providers and services. Lastly, 81.8% found LGBT Health Immersion Day to be “useful” or “very useful” in cultural-competency care training.

Lessons Learned: LGBT Health Immersion Day improved self-reported knowledge level of LGBT health risks, level of comfort in engaging LGBT patients, and level of confidence in connecting LGBT patients to resources. This suggests that including LGBT health instruction that centers around core, diverse LGBT patient issues to be a high-yield endeavor.

References:

Development of a culturally competent intervention to address HPV in 24 de diciembre of Panama

Mills, L.; Yeh, J.; Gabrielson, L.; Langdon, Z.; Mueller, A.; Calvo, A.; Cousineau, M.

Keck School of Medicine of USC; USF Health-Panama Program

Idea: To design and implement a targeted intervention to improve HPV awareness and education in the 24 de diciembre community of Panama to increase the number of girls who receive the HPV vaccine.

Rationale: In Panama, cervical cancer is the second highest cause of death in Panamanian women and roughly 66% of these cancers are caused by the human papillomavirus (HPV). With almost 15% of Panamanian women already harboring the virus, the Panamanian government began to provide the HPV vaccine to girls for free in 2008 but only for girls between ages 10 and 11. While the vaccination initiative was a tangible step by the government to mitigate HPV infections, it became apparent that the awareness about HPV and the vaccination was lacking. Here, our intervention focuses on the population of the 24 de diciembre community in Panama, where only about 15% of aged 10-11 girls received both doses of the HPV vaccine in 2013.

Methods: Initially, a needs assessment survey was developed and distributed amongst people visiting the Centro de Salud in 24 de diciembre. Based on initial survey results, only 54% of parents could identify the cause of HPV (n=57) and only 10.5% of parents knew the correct number of doses (as of 2014, the vaccine requires two doses). At the Escuela Los Altos Cabuya, the local elementary school, an additional survey was developed and distributed, revealing that 24% of 5th and 6th graders claimed to have never been educated about vaccines (n=50). Amongst the 8 schools in the 24 de diciembre community, only 15% of girls received both doses in 2013. The results of both surveys led us to utilize the Precaution Adoption Process Model to guide our intervention. Though the Panamanian culture is very accepting of vaccinations in general, both the parents and children of this community appeared to be in either stage 1 (unaware of the issue) or stage 2 (unengaged by the issue) with regards to HPV vaccinations. In order to move them to stage 3 (undecided about acting) and ideally stage 5 (decided to act), we created an educational video intervention that was tailored to the Panamanian culture by having a well respected Panamanian nurse, who is a native speaker, narrate with few captions. Due to our limited time in Panama and the clear support we received from the clinic social worker, we selected the already established Adolescentes program, which educates interested adolescents about their demographic-specific health issues, to serve as our initial linkage agent. From the Diffusion of Innovations theory, we aimed for the Adolescentes members to be early adopters who would disseminate the information about HPV vaccinations from the video and forge key communication channels with local schools and clinics.

Evaluation Plan: This intervention has received significant initial support from both parents and the clinic staff, and is now being implemented. Currently, we are collecting pre- and post-video survey data from the participants in the Adolescentes program about the effectiveness of the video intervention and their readiness to share this information with their community. The survey functions to assess knowledge of HPV and HPV prevention before and after the video, in addition to the attitudes and opinions toward the video format as an educational tool. By collecting these opinions, we may then modify and improve our intervention to better serve the community.

Potential Impact: This intervention functions to educate the participants in the Adolescentes program to become early adopters about HPV vaccinations and empowering them to serve as linkage agents of the 24 de diciembre community to promote HPV education and awareness amongst their peers. By equipping the members of the Adolescentes program with the tools and knowledge to serve as community ambassadors, we aim to increase awareness and education of HPV prevention and to increase the vaccination rates amongst the young girls of the community.

References:

Co-managing a Curriculum: A Cardiology Curriculum for Pediatric Residents Taught by Hospitalists

Chen, Nancy; Waloff, Kevin

Children’s Hospital Los Angeles

Idea: Pediatric resident cardiology curriculum taught by hospitalists.

Rationale: Traditionally, cardiology rotations for pediatric residents have been managed by cardiologists. However, our cardiologists, like many specialists, juggle a myriad of activities, making it difficult to execute a standardized, successful inpatient rotation for our residents. As the field becomes more specialized and complex, it becomes more important for a pediatrician to be able to correctly identify and refer patients with cardiac conditions and provide long-term care for these patients through co-management with their cardiologist. Studies have found that the most common cardiology consult by pediatricians is for murmurs, many of which are benign. At our institution, the hospitalists and cardiologists have a successful co-management inpatient service. Our co-management service positions us well to teach knowledge and skills that future pediatricians will require in managing cardiac patients. The residency program at Children’s Hospital Los Angeles created a new two week inpatient rotation for second-year residents. To better standardize the experience for our residents, we decided to create a curriculum with the goal of developing it over the time to meet the needs of our pediatric trainees.

Methods: Our curriculum is meant to augment the teaching of our cardiologists and to cover basic knowledge in cardiology. The experience is divided into the following sections: clinical experiences, didactic sessions, assignments, and focused experiences. The clinical experience is a co-management service where decisions are made in conjunction with cardiologists during family-centered bedside rounds. We created a two-part didactic session for five topics that consists of a short lecture followed by interactive cases and multiple-choice questions. The assignment will consist of asking our residents to use evidence-based medicine techniques to find articles relevant to a clinical question. The focused experiences include visits to the catheterization lab, echocardiography lab, and attending pre-surgical conferences that will allow the residents to tailor the rotation to their interests. This is only the first step and our goal is to eventually modify the experience and develop the curriculum based on Kern’s 6-Step Model for Curriculum Development. We hope to complete a targeted needs assessment of our residents and then further define our goals and objectives. Future educational strategies include placing our didactic sessions on an e-learning platform that would allow for independent study, incorporating didactic sessions given by the cardiologists, and standardizing the focused experiences. We also hope to develop an appropriate evaluation tool to accurately assess our learners.

Evaluation Plan: For this upcoming year, our goal is to obtain feedback on the rotation through evaluation forms that are distributed at the end of their rotation. During this first year, we may be able to implement a pre- and post-rotation knowledge test that allow for assessment of knowledge gained during the rotation. With the long-term goal of utilizing an e-learning platform, we may be able to develop computer simulated patient encounters that can further assess our residents’ clinical skills. Our goal is to change clinical practice and we may be able to utilize our electronic medical records to evaluate whether there are changes to the number and types of inpatient cardiology consults or outpatient cardiology referrals. Reviewing charts may also allow us to assess improvements in resident documentation of a complete cardiac physical exam.

Potential Impact: Our goal is to improve the educational experience for our residents and increase their comfort in providing quality care for patients with complex cardiac conditions. Our approach as hospitalists on a co-management service providing a subspecialty curriculum is novel and may be replicated in other pediatric subspecialties.

References:
Better Teach the PICU Night Float Residents, too! Using an ARS App to Improve Education

Chung, Hoyoung; Bruno, Diana; Kallay, Tom; Mink, Richard

Harbor-UCLA Medical Center, LA Biomedical Institute

Idea: An audience response system (ARS) smartphone app is used to assess PICU residents’ knowledge gaps on common topics. The results are utilized by the instructor to provide focused teaching based on exposed knowledge gaps.

Rationale: Many residency programs are adapting night float system to comply with duty hour restriction. Often there is no structured educational curriculum for the night float residents. Therefore, concerns exist regarding lost learning opportunities for the night float residents due to minimal didactic sessions, discussions, and feedback[1]. This may be improved using an ARS smartphone app. ARS is a technology that allows the instructor to assess the knowledge of the learners utilizing pre-made questions. Once the knowledge gaps are identified, the information can be used by the instructor to focus their teaching. As the instructor can assess the learners’ knowledge in real-time, it can also be useful in providing immediate feedback. As it can be done remotely, it could be beneficial for residency programs where Attendings or fellows are not in-house. In the Pediatric Intensive Care Unit (PICU) at our institution, we are using this innovative method of teaching to educate the night float residents by assessing their knowledge and having the PICU fellow provide focused teaching based on the knowledge gaps that are found. Additionally, concise electronic reading material is electronically sent to the residents on the topics that were answered incorrectly to encourage self-directed learning.

Methods: This study involves 3rd year pediatric residents on night float rotation. It is quasi-experimental in that the intervention and control groups are at two separate institutions. Ten 5-question ARS quiz modules on common PICU topics were created by the primary author. These were subsequently reviewed by three faculty pediatric intensivists with experience in graduate medical education to ensure quality and accuracy. At the beginning of their night float rotation, the study subjects install Socrative® app (www.socrative.com) on their smartphone. Three nights a week, the fellow selects an ARS module for the night based on the diagnosis of the patients in the PICU. One hour after the start of night float shift, the fellow directs the resident to complete an ARS module on his or her smartphone. The fellow immediately grades the quiz and contacts the resident to discuss the results. Any knowledge gaps are reviewed, and the fellow electronically sends a pertinent reading material to encourage self-directed learning. The control group is not exposed to ARS-based education and received traditional teaching method.

Evaluation Plan: A 25-question pre-rotation test given on the first night of rotation and a post-rotation test given on the last night of rotation will be used to evaluate the residents’ knowledge on pediatric critical care medicine. The primary outcome will be to measure the change in pre-rotation test score compared with the post-rotation test score. The difference between pre- and post-rotation test scores in the intervention and control groups will be compared with a 2-tailed paired-t test. Baseline scores between the study and controls will be analyzed with a 2-tailed student t-test. An alpha of 0.05 will be considered significant. Additionally, at the end of the rotation, both the residents and fellows will complete a brief survey evaluating ARS-based education on the overall value of its use, effect on self-directed learning, and user satisfaction. The results from the survey on the overall value of using ARS during night float rotation will be reported using descriptive methods.

Potential Impact: We believe that incorporating technology into teaching can enhance the current model of resident education. We expect that PICU night float residents who are taught using ARS will learn better than the residents who were taught using the traditional teaching method.

References:
Improving Night Time Education through Consistent Faculty Supervision

Olson, Holly; Nyquist, Julie

Tripler Army Medical Center; Keck School of Medicine of USC

Idea: Enhancing resident skills related to obstetric emergencies through a night float curriculum and increased faculty accountability for learner outcomes.

Rationale: When the restriction in duty hours led residency programs to establish night float rotations, it solved one problem, that of duty hour compliance; while failing to address the heart of the issue; that of poor attending supervision (1). Residents on night float services have less supervision and rarely any didactic learning due to the timing of their shifts and the inconsistency of their faculty supervision by rotating on call attendings (2). It also created new problems in the time available for residents to build skills required for infrequent but very serious patient care event, like obstetric emergencies (3). Our plan to address this issues has two elements: one administrative and one curricular. The administrative change is to have a regular nighttime attending rather than a rotation of faculty taking infrequent call. This change allows us to make our curricular change.

Methods: The target leaners are the R2 through R4 residents on the Ob/GYN night float rotation over a six-month pilot period (N=9 residents, 8-10 weeks each). The curriculum was built using basic learning principles: assessment of prior knowledge and experience; scaffolding to help learners organize information; practice with feedback, and the metacognitive skills of reflection and self-assessment. The emergency obstetrics curriculum that is a key element of the night float curriculum has four elements: 1) independent completion of reading assignments to build the cognitive base; 2) debriefing and small group activities to build problem solving skills (juniors – what to do, seniors – why we should do what we do); 3) simulation exercises in each of four obstetric emergencies: shoulder dystocia, post-partum hemorrhage, acute fetal compromise, and eclamptic seizure; and 4) formal quality assurance review of any obstetric emergencies that occur during the rotation. Learners should be able to: a) describe what to do in an emergency, b) discuss the evidence that supports the action; and c) to fulfill their role in the team during a simulated to actual emergency.

Evaluation Plan: Tracking to examine how well the implementation matched the plan, noting any barriers. The learners (end of rotation) and faculty (end of six month pilot) will be surveyed to assess their reactions to the new curriculum and to gain their input into any needed modifications. Learning: quiz, observation of skills, review of written summaries of the quality assurance assignments. Behaviors that might change are resident initiated use of the simulation center and skills lab (one space). Focus group activity to discuss self-reported changes in learning or patient care behaviors after participating in the night float curriculum.

Potential Impact: Teaching at night is a common issue in all post-graduate training. This model, if shown to be effective could be adopted by other specialties. /

References:
Bell BM. Supervision, not regulation of hours, is the key to improving the quality of patient care. JAMA. 1993;269(3):403-404. doi:10.1001/jama.269.3.403.


The Flipped Residency: A New Model in Residency Education

Feldman, Maja, Toohey, Shannon, Wiechmann, Warren

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Rationale: Making the best use of dedicated teaching time is essential to training today’s residents. The Flipped Classroom model presents an exciting opportunity to better engage students in their learning, creating lessons that are “stickier”—more memorable and comprehensible (1). Studies focusing on the Flipped Classroom model, wherein students are provided with instructional content before the class, and the learner comes to class prepared for active learning exercises have been shown to improve student performance (2). The average attention span of a medical student is 15 to 20 minutes at the beginning of class (3). Thus, creating short, high-yield podcasts, with opportunities for reinforcement of information at the bedside may be better suited to today’s generation of residents. This model has not been examined in the context of EM. Traditionally, residents are required to attend formal didactic lectures once a week. The Flipped Residency is an innovative approach to traditional learning allowing for didactic learning at the resident’s own pace, with integration of these self-guided lessons into clinical practice. The addition of this engaging, self-directed learning material will allow residents to better grasp patient care practices and core concepts.

Methods: The UC Irvine Emergency Department is among several medical institutions that are currently testing out this new model of learning. Khan Academy styled podcasts covering 10 common chief complaints, including differential diagnosis, treatment plan and disposition were created and shared with residents prior to their first day. The information served to build resident confidence, refresh key information and act as a memory aid. With a solid foundation “refreshed” via viewing the podcasts, teaching time could be better spent applying these concepts to clinical situations. Prior to watching the podcasts and starting their training, residents at the UCIMC Emergency Department were asked to fill out a questionnaire regarding their comfort level in 18 key practice areas in the ED. Upon completion of their first ED rotation, a post-test was administered. Comfort level was evaluated using a Likert scale, which was later converted to a numerical score of 1-5. Residents were asked to rate their comfort in all areas, including those not covered by podcasts.

Results: The 2014 UCI Emergency Medicine residents (8) were the first to have access to the flipped classroom podcasts. Linear regression analysis of pre/post data show a comfort level increase of .33 points in the non-podcast topics, and an avg. of .69 in the podcast topics. Controlling for 16 separate responses and the 18 topic domains, the avg. comfort change was .36 greater in the podcast topics (95% CI, .06 to .66, p=.02). In addition, residents rate the podcasts as a useful addition to their training. Although still in its infancy, this innovative teaching model has the potential to drastically improve the transition from medical student to resident.

Potential Impact: The short, 3-5 minute podcasts are a great way to refresh core concepts. Having the autonomy to watch podcasts at the resident’s own pace and integrate material learned at the bedside is improving confidence and retention. Created podcasts can be shared widely among other residency programs and with medical students.

References:
Rationale: The transition from medical student to newly qualified FY1 doctor is daunting and stressful. This has led to the development of "Asked To See Patient" (ATSP), a peer-delivered teaching programme delivered to the new FY1 doctors in the North West Deanery during their shadowing week prior to starting their first rotation. ATSP booklets are handed out to all of the new FY1 doctors upon completion of the ATSP course. The ATSP booklet contains an overview of the management of the most common clinical scenarios FY1 doctors are likely to encounter during On-calls. ATSP aims to bridge the transition from medical student to a calm, safe and organised junior doctor who can initiate the first steps of management in an acute situation prior to seeking senior advice.

Method: A questionnaire was sent out to the FY1 doctors one month after starting their first placement. The focus of the questionnaire was to assess the usefulness of the ATSP course, frequency of using the ATSP booklet and how ATSP aided their management of acutely unwell patients during on-call shifts. The resulting quantitative and qualitative data was collected and analysed.

Results: A total of 550 FY1 doctors attended the ATSP course at their respective trusts. 141 (26%) doctors responded with feedback. 58% used the ATSP booklets during their on-calls and 20% used the ATSP e-booklet. There was a positive correlation between the number of on calls and frequency of the ATSP booklet use. 88% (125) of the FY1 doctors were more confident with on-calls and 76% (107) felt they were a safer clinician. 59% (83) reported improvements in prioritization of on-call jobs and 77% (109) reported feeling more confident in answering their on-call bleeps. The qualitative data showed FY1 doctors referred to the booklet for guidance on key points to be aware of when initiating management of acutely unwell patients prior to calling for senior help. They also felt more confident in giving instructions to nursing staff over the phone. The FY1 doctors reported that the content of the booklet was applicable to real-life scenarios. They found the pharmacology section of the booklet particularly useful. Overall, the doctors felt more confident in clearly documenting their assessment and management plan in the notes.

Potential Impact: The ATSP programme has shown to develop a safe, systematic and structured FY1 doctor who can initiate assessment, investigation and management of patients prior to obtaining senior help. This is an essential bridge to the gap between medical student and a newly qualified FY1 doctor.
Assessing the value of Case-Based Collaborative Learning, a variant of TBL

Edward Krupat; Richard M. Schwartzstein
Harvard Medical School; Beth Israel Deaconess Medical Center

Problem Statement: There is a need to enhance active learning for medical students and to perform rigorous assessment of teaching methods. Rationale: Team Based Learning (TBL) emphasizes two central elements: 1) the need for student readiness and a method of assuring readiness; and 2) a process of elaborated learning via individual testing and consensus-driven small group discussion, followed by consensus-seeking group discussion in the larger classroom1-3. Incorporating elements of Problem Based Learning and Case Based Learning into TBL, we developed Case Based Collaborative Learning (CBCL) to accomplish these same goals, but in a different manner.

Methods: In CBCL students’ readiness is assessed through a set of challenging multiple choice questions based on key course material using questions answered individually by students electronically in advance of the class session. Students are assigned for the course to tables of 4. A case is presented and each student writes an open-ended answer to one or more focused case-based questions (e.g., Provide two physiological hypotheses to account for [a particular patient symptom]…) Students at the table share their responses and come to a consensus answer, at which point each table reveals its answer, leading to tutor-directed discussion to seek consensus on a best answer and its justification. This was assessed via RCT in which 64 volunteers were randomly assigned either to the intervention group (2 sections of 16, with 4 tables of 4) or control (4 PBL sections of 8, which is “standard care”). Outcome measures of several sorts were collected: final exam scores, student ratings, and coding of behavioral outcomes from video recordings of all sessions.

Results: CBCL students’ scores on the course final exam were higher, however the differences did not reach statistical significance. In a finer grained analysis, however, we found that those CBCL students’ whose scores in prior courses had been weaker did significantly better on the course final than the equivalent students in the standard PBL control group. Students’ quantitative ratings were also somewhat more positive in CBCL. When students were asked in an open-ended fashion to list two adjectives to describe their tutorial, by far their most common CBCL response was “engaging,” the key mechanism sought by the developers of the method, followed by “fun,” and “thought-provoking.” Consistent with this, results of the video taped observation revealed that individual affect was significantly higher in CBCL than PBL.

Potential Impact: This project has introduced a viable alternative to the traditional approach to TBL, one that has a noteworthy impact on the learning of weaker students and one that is engaging to students as a whole. We have learned that students will prepare in advance using this method, and that open-ended questions can be crafted to generate focused, lively, and productive group discussions.

References:


Evolution of a centralized, peer-reviewed platform for the consumption of new medical research


Beth Israel Deaconess Medical Center, University of Toronto Dept. of Internal Medicine, Seattle Children’s Hospital, Northwestern Memorial Hospital, Brigham and Women's Hospital, Vermont Children’s Hospital, Vermont Children’s Hospital, Beth Israel Deaconess Medical Center, Boston Children's Hospital

Problem Statement: An educational platform to reduce the problem of fragmented systems, subjective reports, and a lack of scholarly critique in medical study reporting.

Rationale: An immense volume of medical research is published on a regular basis.Clinicians often spend a significant portion of time exploring segmented content platforms of medical literature to find the most clinically-relevant studies to further their education. When covered by the media, rarely is there a scholarly critique of the study methodology as part of medical news dissemination. Therefore, an independent, professional organization was founded out of Harvard Medical School in 2012 to produce original, curated medical reports of the medical research for consumption by physicians, medical staff, trainees, and the public (www.2minutemedicine.com). Since then, it has grown to a staff of over 70 physicians and trainees who are trained to report on new medical studies. The organization has published more than 2000 reports viewed an estimated 2,500,000 times around the world.

Methods: 2 Minute Medicine® was created as the news dissemination platform, originally by Marc Succi, MD while at Harvard Medical School. Media relationships were formed and reports designed using data metrics collected from early users, allowing the organization to optimize data and reporting structure. To convey the quality of studies that were the subject of their reports, the organization determined and displayed validated, numerical ratings of evidence quality according to the Oxford Centre for Evidence-based Medicine. The organization focused on curating only the most clinically-relevant new studies as opposed to exhaustively covering all medical news in an effort to increase user engagement, a metric which was closely tracked. In order to assess the efficacy of our medical reports we also tracked user demographics, content popularity, and readership by quarter from 2013-2014 via server-side analytics as well as front-end clients. In addition, we administered a voluntary survey to a random portion of our registered subscribers in order to assess user interaction and the impact of our reports on user knowledge, education and consumption of the latest medical studies.

Results: The organization produced ~110 reports per month in 2014. It served over 120,000 monthly views in 120+ countries. In the past year, readership grew 214%, (Q2 2014/Q2 2013). Our reports were ranked first in Google search for over 30 medical terms. The bounce rate in Q2 2014 was 30%, a decrease of 3% from Q2 2013, indicating more engaging content (lower is better, 40-50% is considered excellent in news media). A pool of 250 users were randomly selected from the site wide email registered user list (users registered for at least one week). 105 of 250 users confirmed to receive the email survey responded (42%). Of those who responded, 36% were medical residents and 55% were trainees. Prior to using the site, readers reported consuming a mean of 2.92 studies per week. After using the site for at least one week, readers reported consuming a mean of 6.99 studies weekly (p<.0001). 31% of visitors engaged the site daily, 22% every other day, and 29% once per week. 90% of readers Agreed or Strongly Agreed that the amount of detail in reports was suitable. 97% of readers Agreed or Strongly Agreed that they were more up to date with medical research. 88% of readers indicated they Agreed or Strongly Agreed that they were more aware of the evidence behind clinical practice after using the site for at least a week.

Potential Impact: A centralized, peer-reviewed database of medical reports as implemented at www.2minutemedicine.com is a useful tool for medical trainees, clinicians, and the public. By tracking key metrics and constantly refining the platform interface and content structure, it is possible to create an extremely efficient medical content education platform.
FIME Workshop: Technology smackdown: The best apps, tools, gadgets, and tips from you and your peers

Crispen, Patrick

Keck School of Medicine of USC

Workshop rationale: In this exciting, participant-led workshop, you (and your peers) will be invited to demonstrate your favorite apps, tools, gadgets, or tips in rapid-fire, two-minute presentations. This workshop is one of the better ways to quickly discover several new technologies and practices that are being used by your peers.

Intended participants: All participants are welcome

Learner outcome objectives:
1. Identify new technologies that may prove beneficial both in medical education and in personal use
2. Classify technologies based on their usefulness and purpose
3. Infer how technologies successfully used by peers in one environment can be transferred to other environments

Instructional methods:
1. Introduction and explanation of how a smackdown works
2. Audience demonstrations
3. Wrap-up

Take-home tools:
Presentation notes (created during the workshop and posted online)
Two Birds with One Stone: Improving Wellness and Collaborative Efforts by Appreciating Differences

Bughi, Stephanie; Rosenthal, Jane

Rancho Los Amigos National Rehabilitation Center / Keck Graduate Institute

Workshop rationale: Stress and burnout are common among health-care professionals, and insufficient coping skills can have negative implications on individual’s health, practice of professionalism, communication, patient safety, and delivery of quality care (Dyrbye & Shanafelt, 2011; Spickard, Gabbe, & Christensen, 2002). To best address this issue, one needs to first gain a better understanding of oneself and others. This workshop will help participants to understand how personality profiles can influence communication and teamwork in addressing stress (Genco & Mitchell, 2006; Lemkau, Purdy, Rafferty, & Rudisill, 1988; Zardouz, German, Wu, & Djalilian, 2011). Participants should know the four letters of their Myers-Briggs Type Indicator (MBTI) prior to attending the workshop. Link to take the MBTI (free): http://www.humanmetrics.com/cgi-win/jtypes2.asp

Intended participants: Medical educators and healthcare professionals of all levels.

Learner outcome objectives:
1. Understand how personality can influence one’s well-being and relationship with others
2. Appreciate the differences between self and others
3. Identify wellness strategies
4. Improve communication, team-building skills, and peer-support

Instructional methods: The facilitators will lead a large group discussion about MBTI and stress. This will be followed by an interactive, breakout session where participants will engage in MBTI small group discussion and role-playing activity to better understand group dynamics in a stressful health-care setting. Each group will practice strategies to address challenges that relate to potential conflicts involving learners, patients and their families, and the health-care organization. At the end of the activity, groups will share their intervention ideas and have an opportunity to gain feedback by their peers. Workshop participants will also develop a plan for healthy stress-management techniques they will implement for future personal and professional use.

Take-home tools: Handouts and reference materials on personality and stress-management techniques will be provided.

References:


Can faculty development improve teaching skills?

Cloud, William; May, Win

Univ of Virginia Dept of Surgery / Keck USC Dept of Med Ed

Workshop rationale: There is universal agreement in published articles that efforts to improve the teaching skills of faculty are desirable and important. Review of the published literature demonstrates a paucity of research into the effectiveness of faculty development programs in improving teaching skills. The workshop is designed to provide participants with the tools to implement research at their own institutions.

Intended participants: All levels of faculty.

Learner outcome objectives: At the end of this session, learners will be able to: describe the evidence for the effectiveness of faculty development programs to improve teaching, identify obstacles to effective teaching, explain the two major perspectives framing medical teaching effectiveness research, have the opportunity to practice and evaluate analogical transfer of methods from outside medicine, and articulate a personal contribution to improve faculty teaching

Instructional methods: Attention grabbers (questions, brainstorming), catalysts (audience response, small group discussion), skill builders (formal presentation), intensifier (commitment to change)

WORKSHOP SCHEDULE
INTRODUCTION: (3 min.) Introduction of speakers and purpose of the workshop.
LARGE GROUP ACTIVITY: (10 min.) Characteristics of participant’s institutional faculty development program.
LECTURE: (10 min.) Recommendations from Steinert’s article and O’Sullivan’s article on the 2 perspectives: “Experimentalists” and “Contextualists” recommendations
SMALL GROUP WORK: (30 min.) Discuss which kind of framework would suit the best and why? Why is it so hard to measure teaching effectiveness?
LECTURE: (10 min.) Borrowed approaches inside and outside medicine.
LARGE GROUP ACTIVITY: (15 min.) Discuss approaches from inside & outside medicine where there is faculty development. Discuss lessons learned.
LECTURE: (3 min.) Final summary and takeaway points
COMMITMENT TO CHANGE: (3 min.) Write 2-3 points on what you plan to implement in your institution when you return.

Take-home tools: Development of a faculty development program analysis tool. Development of an assessment tool for implementation of research in faculty teaching improvement. Change commitment from workshop participants.

References:
A student-driven initiative to identify medical student mistreatment on clinical clerkships

Chung, Melody; Laiwalla, Azim; Thang, Christine; Dubina, Emily; Phan, Jennifer; Fried, Joyce; Szumski, Meredith

David Geffen School of Medicine at UCLA

Idea: To better understand mistreatment on clinical clerkships, medical students at DGSOM developed an alternative reporting mechanism.

Rationale: Many studies have described the high incidence of mistreatment experienced by students at medical schools throughout the country. A retrospective study at DGSOM revealed virtually no change in the reported incidence of mistreatment over a 10-year period despite a myriad of educational interventions, with 60% of 3rd and 4th year medical students reporting some form of mistreatment by physicians, nurses, and staff while on clinical rotations (1). Mistreatment can have deleterious effects on students’ emotional well-being and mental health, eroding values of professionalism and perpetuating a vicious cycle of mistreatment across all levels of training (2). In an effort to better understand mistreatment, student members of the DGSOM Professionalism Council conceived of an alternative reporting mechanism: an online survey available throughout the academic year with the option of reporting anonymously (3). The overall goal of this survey was to provide a formal mechanism to trend patterns of mistreatment and to take specific action, as a step in improving the overall culture of professionalism at our institution.

Methods: The anonymous online Clerkship Feedback Survey was made available to all 3rd and 4th year students. The survey allowed for reporting of both first and second-hand accounts, asking for identification of any individuals who mistreated a student in the workplace. Finally, the survey included an optional response to allow students to include their contact information. Survey results were collected and classified into the following categories by two reviewers: (1) physical mistreatment (defined as “slapped, struck, pushed”), (2) verbal mistreatment (defined as “yelled or shouted at, called a derogatory name, cursed, ridiculed”), (3) sexual harassment (defined as “inappropriate physical or verbal advances, intentional neglect, sexual jokes, mistreatment based on sexual orientation”), (4) ethnic mistreatment (defined as “intentional neglect, ethnic jokes, comments and expectations regarding stereotypical behavior”), and (5) power mistreatment (defined as “made to feel intimidated, dehumanized, or had a threat made about a recommendation, your grade, or your career”).

Results: Between December 2012 to September 2014, a total of 19 responses were received, all of which were first-hand accounts and anonymous. Seventeen individuals were identified as sources of mistreatment, of which two of these were identified more than once. Sources of mistreatment came from all positions: attending physicians (n=5) and residents (n=12). Four specialties were identified as rotations during which mistreatment occurred: surgery (n=7), obstetrics and gynecology (n=7), internal medicine (n=2), and anesthesiology (n=1). Responses were categorized into areas of mistreatment as follows: power abuse (n=9), verbal abuse (n=3), sexual harassment (n=2), physical abuse (n=1), or insufficient information (n=2). All responses were forwarded to the Chair of the Gender & Power Abuse Committee at DGSOM to compare with what had been collected via non-anonymous reporting mechanisms. Comparison revealed overlap of five individuals who had already been reported through other mechanisms. Notably, non-anonymous reporting mechanisms did not capture the additional 12 individuals identified in the Clerkship Feedback Survey. These 12 new individuals who had not been previously identified were brought to the attention of the committee for further monitoring and ongoing interventions.

Potential Impact: This student-driven anonymous survey captures additional sources of mistreatment not previously reported by other mechanisms. Regular communication between the Professionalism Committee and the Gender & Power Abuse Committee to compare findings could facilitate expedient interventions.

References:
Dubina E, Phan J, Szumski M (2014, February). Student-led initiatives to address mistreatment and recognize excellence. Poster session presented at the Innovations in Medical Education meeting, Los Angeles, CA.
The Flipping Librarian: Flipped Classroom for Year 1 Medical Student PubMed Instruction

Kysh, Lynn

Norris Medical Library, University of Southern California

Idea: Using a series of online interactive video tutorials followed by small librarian led group discussions to provide PubMed instruction.

Rationale: With expertise in information literacy and search skills, librarians are poised to instruct medical students in improving their abilities to search medical literature. However, librarians’ access to students tends to be limited to a one-time workshop with limited impact. (1) Flipped classroom methodology offers a potential solution to the delivery of information skills training in undergraduate medical education. By creating interactive learning materials that can be completed at a student’s own pace, the limited classroom time available to librarian instructors can be used to address specific questions and allow for practice searches and group discussion.

Methods: Six video tutorials were created through collaboration between the Norris Medical Library and the Southern California Clinical and Translational Science Institute (SC CTSI) video studio staff. Each video was under 15 minutes in length and covered the basics of searching Pubmed. Each video was then imported into the web based education tool Zaption which allowed interactive elements to be added, including multiple choice and free answer questions. The video tutorials were then posted on the Norris Medical Library website along with relevant links. Students were introduced to the video tutorials during orientation on Friday August 8th and were instructed to complete the tutorials prior to a scheduled ninety minute in-person session with a librarian instruction. Students met in their MDL spaces (roughly 24 students each) where a librarian instructor provided a search demonstration and addressed students’ questions. Students then formed small groups where they created different questions about Type 2 Diabetes. The librarian instructor circulated between the groups answering questions and providing assistance when needed. Student groups then presented their searches and findings.

Results: Students engaged with the online video tutorials, with 82% of students viewing the first video (n=154) and 62% of students completing the entire six part series (n=116). Students who completed the online evaluation following the online tutorials reported meeting the learning objectives: 95% agreed that they learned to create a search strategy using automatic term mapping or medical subject headings (n=45). 95% of students who completed the online evaluation following the in-person session agreed that they felt better prepared to use PubMed to support their academic and clinical work at Keck School of Medicine (n=19). Students performed well in response to the multiple choice exam questions with 98% of students responding correctly to the question asking them to identify how Medical Subject Headings function in a PubMed search.

Potential Impact: The flipped classroom has the potential to improve librarian led instruction on searching and retrieving medical information among undergraduate medical students. In order to improve this model incentives should be provided to encourage student participation and the in-person component should focus on higher level of thinking with the material as opposed to ensuring that original learning objectives are being met.

What Do Medical Students, Residents, and Fellows Really Need to Succeed in Learning about Research?

Miller, Karen; Ziegler, Craig; Elam, Carol; Dunatov, Linda; McDowell, Susan; Rowland, Michael

University of Louisville School of Medicine, University of Louisville School of Medicine, University of Kentucky College of Medicine, University of Kentucky College of Medicine, University of Pikeville - Kentucky College of Osteopathic Medicine, University of Kentucky College of Medicine, University of Pikeville - Kentucky College of Osteopathic Medicine, University of Kentucky College of Medicine

Idea: Students, residents, and fellows must learn about research methods in order to practice evidence-based medicine, but they vary greatly in their interest and desire to learn.

Rationale: Medical educators at Kentucky’s three medical schools (two allopathic and one osteopathic) wanted more information about medical learners’ needs and attitudes about understanding and conducting research in order to improve the training and support the schools could provide. The upcoming adoption of combined GME standards by allopathic and osteopathic medical education also presented a need for this study. The three medical schools collaborated to survey all students, residents, and fellows to establish baselines of learners’ needs, attitudes, and the research climate at these institutions.

Methods: This mixed methods study used an instrument developed by Brannan et al.2 With permission of the authors, we expanded the survey instrument by adding 2 Likert agreement scale questions and 3 open ended questions. The 5-point Likert item response format was anchored with 1 = strongly disagree and 5 = strongly agree. Three scales were created from the 19 items: Research Needs/Attitudes [7 items], Research Climate [5 items], and Research Skills [7 items]. Demographic data included school, ethnicity, gender, student/resident status, and program type. All medical students, residents, and fellows in Kentucky (N = 2,646) were invited to participate in a web-based survey. Scaled replies were compared using 2-way ANOVA, and open- ended data were summarized using a variation of Glaser and Strauss constant comparison.

Results: There were similarities regarding medical students’ self-reported research needs, attitudes, and skill levels across all three schools, but differences in perceptions of research climate as osteopathic students rated their climate less conducive to research than did allopathic students, p<0.001. Fellows had increased scores compared with medical students' and residents' in the “Needs and Attitudes” domain (p=0.040); and in “Skills” (p<0.001). Fellows’ means differed from students’ and residents’ in the “Needs and Attitudes” domain (p=0.040); and in “Skills” (p<0.001). Qualitative data showed a clear trend toward valuing academic productivity such as “exploring issues and solving problems” and “publishing and presenting”; while “bricks and mortar” issues such as lab space were rare. Opportunities to collaborate and be mentored were also common issues.

Potential Impact: There is a great deal of variation in this learning population. Allopathic medical students experienced a more conducive research climate at their medical schools than did their osteopathic medical student counterparts. Also, many residents have no more than a passing interest in research, while those planning fellowships and/or academic careers have a strong interest.(3) The challenge to medical educators is to provide learning support to engage both groups as they master these essential skills.

References:


Assessing the impact of verisimilitude training on realism ratings of standardized patients

Richards, Anita; Souder, Denise; May, Win; Fung, Cha Chi
Keck School of Medicine of University of Southern California

Idea: Can we improve realism in patient portrayals by standardized patients?

Rationale: The use of standardized patients (SPs) for teaching and assessing clinical skills is well-established. The realism of an SP is particularly important during assessments of clinical skills, as the quality of the simulation modulates the experience of the learners and impacts their performance. A systematic review of studies involving unannounced SPs reported that health care providers were unable to distinguish well-trained SPs from real patients. In a pilot study comparing student and faculty responses to both real and simulated patients, students reported that when symptoms were too “clear-cut” or shallow, they suspected a simulated patient, and faculty were able to detect the SPs, because the SPs offered clear symptoms, direct answers, and cooperated with the interviewer. A recent study on the accuracy of portrayal by standardized patients suggest that SP trainers can enhance the accuracy and realism of patient portrayals by emphasizing the “patient’s emotions, facial expressions, and body language (p. 7 ).” The National Board of Medical Examiners created a verisimilitude training package consisting of a video and realism assessment tool to increase the realism of SPs. The video and tool focus on behaviors that are representative of “generic” patient interaction qualities, and are not focused on case-specific behaviors.

Methods: Ten SPs were trained to perform for an assessment of clinical skills of second year medical students. Five SPs were randomly chosen to receive an additional training session with the verisimilitude training package. Five other randomly chosen SPs received an additional training session. Eight raters participated in a training session for orientation to the rating tool, and to practice rating the verisimilitude of SP performances. Subsequently the raters, blinded to the training condition of the SPs, rated the realism of 40 randomly selected video-recorded SP portrayals - 20 control and 20 experimental.

Results: Inter-rater reliability was obtained using intraclass correlation (ICC) of a two-way mixed model to assess absolute agreement among the raters. The raters were grouped into SP trainers (4) and clinicians (4). The initial analyses revealed an ICC of .394 for all the SP trainers and .613 for all the clinicians. After excluding ratings from one of the SP trainers, the ICC went up to .601. A Mann-Whitney U test was performed to compare the mean ranking of the ratings between the experimental and control group. The mean ranking of the control group was 5.4 as rated by the trainers and 4.7 as rated by the clinicians. The mean ranking of the experimental group was 5.4 as rated by the trainers and 6.3 as rated by the clinicians. None of the differences between the control and experimental groups reached statistical significance.

Potential Impact: The addition of a separate, three-hour verisimilitude training session is time- and resource-intensive, thus it may be most valuable for training novice SPs. Our next step is replicating this study to increase sample size.

References:


ACIME Workshop: Make Every Minute Count Twice: Tips for Teaching in a Time-Restricted Environment

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Keck School of Medicine of USC;

Workshop rationale: In today’s environment teaching must be smart and efficient. With the advent of the next accreditation system, milestones and EPAs faculty need to enhance the focus of teaching, assessment and recording of data. This is taking place at a time when the time pressure on both faculty and residents is increasing. Clinical faculty members are under pressure from multiple directions, patient care, supervision of residents, teaching of medical students, administrative tasks, etc. Residents are under pressure from duty-hours restrictions and from balancing clinical duties with academic duties and with external personal responsibilities.

In 2015, Faculty must take best advantage of everything that is known about learning, teaching, assessment and enhancing of patient safety. Use of these evidence-based tools can serve as “multipliers” to make every minute count at least twice. Within the USC Master of Academic Medicine Program several courses focus on these skills – that will be distilled into a 90-minute session. This session will introduce key concepts that faculty can immediately incorporate into their own teaching settings.

Intended workshop participants: Anyone who is teaching in any clinical or classroom setting.

Learner outcome objectives: By the conclusion of this session, participants will be better able to

1) Utilize key learning principles in both classroom and clinical settings
2) Describe the value of the multipliers discussed
3) Incorporate the techniques demonstrated into their own classroom and clinical teaching

Instructional methods: The workshop will begin with a mind mapping exercise, followed by an overview of the learning principles highlighted in the 2010 Carnegie Report, Educating Physicians: A Call for Reform of Medical School and Residency and in the Ambrose et. al. book How Learning Works: Seven Research-Based Principles for Smart Teaching. The session will quickly move to six multipliers that will be demonstrated with participants, debriefed in small and large group discussions, followed by a presentation of important instructor guidelines and caveats. Additional multipliers will be described as well. Participants will have a handout of the multipliers discussed and a worksheet to complete as the workshop progresses. They will participate in a mind mapping exercise at the opening, in several paired activities to practice double-loop communication, to discuss own multipliers, and to plan for future inclusion of at least one “new” multiplier into a teaching setting. Each activity will serve to both teach and demonstrate the teaching strategies at the heart of this presentation. It is our goal to motivate the participants to incorporate these tools into their teaching settings.

Take-home tools (optional): The handout of multipliers and the worksheet are take-home tools. Additional take-home ideas will be generate by the participants and can be recorded on each person’s worksheet.

Pre-workshop preparation description (optional): No pre-workshop activity is required.
An Introductory Session on IPE for Health Professionals: Best Practices and Lessons Learned

Durham, Melissa; Lie, Desiree; Han, Phuu

USC School of Pharmacy / Keck School of Medicine of USC / Herman Ostrow School of Dentistry of USC

Workshop rationale: Accreditation guidelines for most health professions now recommend the inclusion of IPE in the curriculum. Also, studies show that when health professionals work together as a team, healthcare improves. Designing, implementing and evaluating IPE presents unique challenges for educators. Using recommendations from the Interprofessional Education Collaborative (IPEC) and World Health Organization (WHO), health professional programs at one institution first piloted, then implemented an introductory IPE activity. This activity began with 2 health professional programs and over a period of 4 years has grown to include participation of 5-8 programs yearly. Our presentation will describe the evolution of this activity including steps involved in the needs assessment, curriculum design, faculty development and implementation. In addition we will report student and faculty evaluations. Session participants will share their own best practices, common obstacles and solutions, and brainstorm ways to implement successful IPE curricula at their own institutions.

Intended participants: This workshop is intended for any educators of undergraduate health professional looking to expand or implement interprofessional education in their home institutions.

Learner outcome objectives: By the end of the session, participants will be able to
1. Describe the process, design, implementation, and evaluation of a new IPE curriculum
2. Identify unique competencies addressed in IPE
3. Apply principles of the model to their own curriculum
4. Discuss challenges associated with logistics, needs assessment, implementation and administration of IPE curricula
5. Share best practices and develop new ideas for IPE.

Instructional methods: During this workshop, we will present the process for developing our IPE curriculum, including conducting a needs assessment, overcoming logistics, writing appropriate goals and objectives, and selecting teaching and assessment methods. In the discussion, we will elicit participant comments on our model and ask others to describe IPE experiences at their institutions, including outcomes, benefits and barriers. We will end with brainstorming how our model could be implemented at participants’ programs and how specific barriers could be addressed. Participants will be involved in active discussion. Questions for participants will include: what obstacles did you encounter and how did you address them? What are the key sources of support that facilitated success? What differences in evaluation or outcomes did you note between students and faculty, and among the different professions?

Introduction of presenters: 2 minutes
Goals and objectives: 1 minute
Presentation of IPE collaborative and curriculum and implementation process, including background, rationale, goals and objectives, content, teaching and assessment methods: 15 minutes
Report of data collection and outcomes: 7 minutes
Participant discussion, including other institutions’ experiences, barriers, best practices and benefits: 20 minutes

References:
An Interprofessional OSCE Improves Readiness for Clinical Placement in Dietetic Students

Farahat, Elaf; Heine, Nancy

Loma Linda University

Idea: Providing adequate clinical training for dietetics students is challenging. Simulation augments counseling and interprofessional communication skills.

Rationale: Dietetic students obtain clinical experience largely in hospital settings. Problems with this model include lack of standardization, inconsistencies in opportunities for counseling, gaps in topic coverage, variable supervision and quality of instruction, and few opportunities for learning to communicate with various health professionals. A limited number of studies in nutrition have shown that simulation increases students’ confidence, improves communication and counseling skills and can predict their clinical skills and identify weaknesses prior to clinical placement, but none addressed interprofessional communication using OSCEs. Adding formative OSCEs which include patient interviewing and counseling as well as interprofessional communication would hopefully improve students’ perception of readiness for working in a clinical setting.

Methods: The subjects were 37 students enrolled in a Medical Nutrition Therapy course. Students attended 3 weeks of traditional hospital labs, 3 weeks of OSCE labs, and 3 more weeks of hospital labs. Each student participated in one SP encounter each of the 3 OSCE lab weeks. Cases reinforced the didactic content of the course. Six SPs were matched to each case by age and BMI, and were trained by experts to portray the case and complete evaluation forms. The Health Care Professionals were Nursing, Speech Pathology and Social Work graduate students and faculty. They were trained to present the case and provided with scripted questions to ask of students. A pre-test survey asked demographics, academic program, previous degrees, and previous patient and simulation exposure. A post-test survey rated health care professional collaboration, comparing hospital and OSCE lab experience, and satisfaction with OSCE experience. Faculty checklists measured data gathering, counseling and communication skills. The Perceived Readiness for Dietetic Practice (PRDP), administered before and after the OSCE labs, measured students’ perceived readiness and confidence in applying ACEND competencies. Main outcome measures were PRDP scores with subscales: readiness, professional role, communication, interaction, charting, referral and self-reflection.

Results: Students’ perception of their readiness improved after three OSCE experiences, 4.9±2.5 vs. 5.8±1.9, P=0.03. Improvement in the individual items with greatest improvement in assessing nutrition status of individuals, groups and population in variety of setting, p=0.01, and planning and implementing nutrition intervention, p<0.01. Significant improvement was seen in the following two items: applying leadership skills, p=0.03 and diagnosing nutrition problems, p=0.02. Twenty-eight (76%) students found OSCE to be superior to the hospital setting. Twenty-nine (81%) of the students would like to see OSCEs continuing as part of their program. Thirty-four (92%) students rated the OSCE to be realistic. Twenty-nine (78%) students agreed that collaboration with other health care professionals helped prepare them for the dietetic role.

Impact: The OSCE labs allowed every student to encounter a case matched to the curriculum, which was not feasible in the hospital labs. The interprofessional communication challenge enriched the experience for the nutrition students as well as Health Care Professions students, increasing awareness of the importance of a team approach to patient care.

References:


Innovation with Family Meeting OSCE for Medical Students

Hagiwara, Yuya; Ross, Jeanette; Reilly, Angela; Lee, Shuko; Garza, Mary; Sanchez-Reilly, Sandra

University of Texas Health Science Center at San Antonio; South Texas Veterans Health Care System

Idea: Enhance medical student communication skills needed to lead a Family Meeting through use of an interactive training module.

Rationale: Family Meetings are valuable interventions which promote communication between the health care team and the seriously ill patient and family (1). Palliative Care communication skills are essential competencies in medical education (2). However, Ovid Medline search returned few educational interventions developed to teach Family Meeting communication skills. Innovative experiences are needed to address this gap.

Methods: Fourth-year medical students during the 2011-2013 (3 academic years, n=612) completed a 60-minute module on conducting a Family Meeting. The module included didactic information and opportunities for students to role play the tasks of leading a Family Meeting. To assess the effectiveness of this training, all students completed a 15-minute Family Meeting Objective Structured Clinical Exam (OSCE) station with structured feedback. Students watched a case-based video of a team meeting where the case of a terminally ill patient dying in the intensive care unit was discussed. Subsequently, each student was asked to assume the role of the palliative care physician leading a complex family meeting with standardized family members. Tasks included the discussion of prognosis, the establishment of goals of care in a dying patient and demonstration of conflict resolution skills when family members “disagreed.” Direct one-to-one feedback from both standardized family members and faculty observer was given immediately after each encounter. Students were evaluated in 15 domains on a scale between 1 (strongly agree) and 5 (strongly disagree). A group debriefing with faculty was held after the OSCE experience.

Results: Conducting a family meeting is an advanced skill. Students as a group overall were able to meet the standard of 75% of possible points on their evaluation. However, in relation to: 1) Asking more about the degree of knowledge family members want, 2) Asking religious beliefs, 3) Assessing family member’s level of education, the student performance did not meet the standard (p<0.001). Preceptor feedback comments revealed four themes in which many students required improvement: 1) Discussing prognosis, 2) Explaining palliative care/hospice, 3) Avoiding medical jargon, 4) Discussing cultural/religious preferences. Our conclusion is that more extensive training would be required for students to achieve the targeted level in all domains. Qualitative analysis of group debriefing suggested that student perception of the OSCE experience was positive overall. Many students commented on their lack of experience giving bad news or with conflict resolution.

Impact: This study showed that it is possible to develop training and assessment in relation to conduct of family meetings. The station can be shared with other programs. Students found the OSCE case to be realistic and immediate feedback to be helpful.

References:

Association of American Medical Colleges (AAMC) Recommendations For Clinical Skills Curricula For Undergraduate Medical Education. 2008.
www.aamc.org/download/163788/data/recommendatons_for_preclerkship_skills_education_for_u ginger.pdf [Last accessed October]
Educating Medical Students about Military Health and Culture: Results from a Lecture Series

Theophanous, Christos; Kalashnikova, Mariya; Sadler, Claire; Barreras, Elizabeth; Bruning, Madeleine

Keck School of Medicine of USC

Idea: We educated students about the healthcare needs of veterans and military families so they could recognize the impact of military service on health.

Rationale: Few guidelines demonstrate how to teach students about military health. Joining Forces (JF), an initiative supported by the Association of American Medical Colleges, pledges medical schools to train students to meet the health care needs of military connected patients. Keck students have little exposure to military health issues due to a lack of formal curriculum involving veterans or military culture. We aimed to fill this gap with a series of lunch talks on military health. We partnered with SIGs to publicize the sessions and reach a wide range of students with varying knowledge about military health. There are 30 specialty focused SIGs at Keck. SIGs do not publicize member lists, but according to Student Affairs most students list SIG involvement on their CV when applying for residency. SIGs are active in organizing talks and have core attendees, so with them we reached students who may not have otherwise self-identified as interested in military health issues. Bypassing the formal curriculum allowed us to introduce a large volume and range of content, with flexibility to adjust sessions according to feedback.

Methods: Each of the four lectures on campus was co-sponsored by a different SIG whose mission was related to each topic. Partnering with SIGs allowed us to gain “buy-in”, reach a targeted audience, and expand the JF campaign. We administered an online survey to students at the beginning and end of the series. The survey asked background questions and asked students to rate themselves in: 1) Level of interest in learning about veterans/military family health care, 2) Level of awareness about unique military health issues, 3) Level of comfort in assessing health needs of veterans/military families, 4) Level of exposure to military health issues through your curriculum and/or rotations. The post-intervention survey also asked, “Which talks have you attended?” Results were converted to a 1-5 scale, where 1 = “Very Low” and 5 = “Very High.” Aggregate scores in each category were averaged and compared. A student's t-test was performed to evaluate statistical significance.

Results: 83 MS1s and 87 MS2s were surveyed before the talks. 48% reported somewhat or very high interest in learning about veteran/military family healthcare. 26% reported somewhat or very high awareness of military health issues and 25% reported somewhat or very high comfort in assessing veteran health needs. 77% categorized their exposure to military health issues as somewhat or very low. 14 MS1s and 45 MS2s completed the post-intervention survey. Compared to pre-intervention survey responses, a significant increase was observed in reported awareness level, increasing from an average 2.53 ± 1.16 in the pre survey to an average 2.88 ± 1.14 in the post survey (p<0.05). The increase correlates to a change from 26% to 30% reporting somewhat or very high awareness, and a change from 56% to 39% reporting somewhat or very low awareness. The post-intervention survey was compared between students who had attended at least one lecture and those who had not. Of the 59 post-intervention surveys, 21 attended at least one lecture, while 38 did not attend any. A statistically significant improvement was observed in the exposure level attendees rated, from a pre-intervention average 1.68 ± 0.83 to a post-intervention average 2.43 ± 0.85 (p<0.03). Of those who attended lectures, 10% reported somewhat or very high exposure and 52% reported somewhat or very low exposure. Of those who did not attend, 3% reported somewhat or very high exposure while 82% reported somewhat or very low exposure.

Impact: We hope that our proposed intervention will better prepare students to take care of military connected patients and open the door for a more formal curriculum focused on military health at Keck.

Using a Flipped Classroom to Teach Typical child Development to Pre-Clinical Medical Students

Shoemaker, Erica; Johnson, Cory; Fung, Cha-Chi

Keck School of Medicine of USC

Idea: To test whether medical students learn and retain more knowledge when it is taught via a flipped classroom.

Rationale: Attendance at traditional lectures by pre-clinical medical students can be below 50%. This makes traditional lectures a questionable choice for the valuable resource of faculty time. The current generation of medical students is accustomed to seeking out information from diverse sources, including from online sources and video. The flipped classroom model, whereby students self-teach themselves information from paper or online materials, then engage in small-group activities that require them to apply their knew knowledge, holds promise to allow for better acquisition of information and then better consolidation and retention of that knowledge over time.

Methods: Previous to this academic year, Dr. Shoemaker gave an annual two-hour lecture to the entire MS1 class on the 5 stages of typical child development (infancy, toddlerhood, preschool, school age, and adolescence). This year, our team used that same two-hour block to deliver that same content. However, the information contained in that old lecture was divided in two equal parts. Part I (infancy, toddlerhood, and preschool) was delivered via a flipped classroom model. After MS1s viewed the online module, they participated in small groups of 10-12 students going through small group exercises to help them apply information in the module to how children at different stages of development behave in medical settings. (MS2 Johnson developed the online model with assistance from MS1s Lam and Kraus, under Dr. Shoemaker’s supervision.) These small groups were facilitated by PGY3 general psychiatry residents, all of who received 1 hour of expert instruction in facilitating small groups. For Part II, the content for the second half of the lectures (school age and adolescence) was delivered by Dr. Shoemaker in the traditional lecture format. There were no small groups for content provided in the second half of the lecture.

Evaluation Plan: Student knowledge of the material and attitudes toward the learning experience was tested via qualtrics survey the night before the 2-hour session and the night after the two-hour session. It will be tested again 6 months post the two-hour session. We will compare whether students tested as having better improvements in their knowledge after the flipped classroom experience versus the lecture and which format they found more enjoyable and inspiring.

Potential Impact: If the flipped classroom resulted in greater improvements in student knowledge as compared to the traditional lecture, it may spur many lecturers to convert their lectures to this new format, eventually converting much of the pre-clinical curriculum to the flipped format.

References:
Van der Vleuten CP, Driessen EW What would happen to education if we take education evidence seriously? Perspect Med Educ. 2014 Jun;3(3):222-32
Integrating and Standardizing Clinical Skill Learning through Objective Structured Clinical Teaching

Musharrafieh, Umayya
American University of Beirut Medical Center

Idea: Teaching clinical skills in preclinical years in a standardized way and in integration with the ongoing modules

Rationale: At the American University of Beirut-Faculty of medicine (AUB-FM) and with the launching and implementation of the new student-centered competency-based integrated curriculum, a clinical skills course that aims to teach the basics of the medical encounter was introduced to medicine one students starting the first week of medical school. The course sessions are delivered over a two-hour period on a weekly basis. When designing the sessions, we focused on:
- Teaching our students skills that go in parallel with the core curriculum (integration),
- Standardizing the teaching-learning experience, and
- Maximizing exposure to the teaching activity while ensuring optimal skills acquisition.

Methods: In each session, students are divided in small groups and rotate around 4-5 stations. The aim of each station is to introduce a new task that is explained and demonstrated by the tutor, followed by direct application of the specified task by every student; immediate feedback is provided. Checklists that detail the learning objectives and learning materials pertinent to every session are provided to both students and tutors one week prior to the session’s assigned date. Besides checklist, videos and concise essential teaching materials and articles are sent to the students for preparation prior to the session. Mannequins, standardized patients, radiologic imaging and many pertinent tools pertinent to the skills are used to conduct the sessions. The design of each session was according to the recommendation for Clinical Skills Curricula for Undergraduate Medical Education put by the AAMC. We are therefore presenting an objective structured clinical teaching (OSCT) method that is initiated during the preclinical years of and is reinforced in the clinical rotations, in an effort to establish solid clinical skills that should ready our students before they experience true medical encounters.

Evaluation Plan: Students in Med I and in Med II shall be evaluated through Objectives Structured Clinical Examinations (OSCEs) and MCQ exams.

Potential Impact: Develop a time effective method of teaching clinical sills through OSCT (Objective Structured Clinical Teaching)

References:
Recommendations for Clinical Skills Curricula for Undergraduate Medical Education. Task Force on the Clinical Skills / Education of Medical Students. Association of American Medical Colleges, Washington DC, November 2005
www.aamc.org/meded/clinicalsks/


The Effectiveness of Audience Response System Training on UME Tutors to Facilitate Review Sessions

Gureczny, Jaclyn; Giustini, Nicholas; Zia, Stephanie

Keck School of Medicine of USC

Idea: Assessing the impact of an Audience Response System on first-year medical student preparedness and second-year tutor engagement during review sessions

Rationale: The Medical Scholars Program (MSP) at the Keck School of Medicine of USC is a peer tutoring initiative. Second-year medical students (MS-II) with meritorious achievement in their first year are recruited to lead small group review sessions on first-year course material. These sessions reinforce lecture content, using PowerPoint. Aside from a one-hour MSP orientation, no standardized program exists to train MS-II tutors who often have limited teaching experience. Based on preliminary data collected from the Class of 2018, classroom MSP sessions were evaluated as least effective compared to other learning modalities currently used in MSP, namely, independent PowerPoint review. Interactive teaching and learning modalities such as Audience Response Systems (ARS) utilize an interface to assess participants’ knowledge on material presented throughout a lecture. Data show the addition of ARS adds a student learning benefit, in one instance, reducing student failing from 51.6% to 6.5%.1,3. Another study found adding questions with or without an ARS is equally effective; the ability to actively direct lectures may be the strength of an ARS2. The goals of our intervention are to increase knowledge retention and transfer in learners and to train tutors to dynamically recognize learner needs and knowledge gaps based on ARS responses. We aim to implement and assess the effects of ARS in our established MSP curriculum in improving first year learners’ readiness in examination preparation.

Methods: The study utilizes a mixed methods design, which looks at quantitative and qualitative data points. It will compare control and intervention phase student and tutor survey responses. Qualitative data will be used to better understand the quantitative data collected. The control phase (Phase I) occurs during the first two systems blocks (11 weeks in length) in the first-year medical school curriculum. It represents the traditional delivery format (lecture with PowerPoint), which will serve as the historic control. A global assessment survey administered to first-year medical students (MS-I) was used to assess the effectiveness of the current MSP delivery format and facilitation of its materials. Five areas were assessed via Likert scale—classroom MSP sessions, quizzes, PowerPoint slides, anatomy lab sessions, and teaching by the MSP tutors. Comments were also collected. The intervention phase (Phase II) of the study involves implementing ARS with MS-II tutors and MS-I learners. All tutors (n=30) will participate in a two-hour training session on ARS and its use in teaching and facilitation. Current MSP materials will be enhanced to incorporate in-session ARS questions. Tutors will be trained on how to tailor in-session review content based on learner responses. The intervention will be implemented during an eight-week system block. A post-intervention survey will be administered to tutors and participating first-year medical students upon completion of the system block.

Evaluation Plan: The evaluation will include assessments of first-year student learner reaction to the intervention and programmatic evaluation of the training provided to second-year tutors. Both tutors and students will assess the effectiveness of the ARS implementation via pre-intervention and post-intervention surveys. Qualitative and quantitative data from the surveys will be analyzed to compare Phase I and Phase II learner responses. Additionally, programmatic evaluations will be collected. Preliminary outcome data is expected by conference time.

Potential Impact: ARS-directed teaching can provide an effective method for actively guiding peer-led review sessions in UME. Emphasis on the thought process behind answer choices may produce more prepared and knowledgeable students. Furthermore, standardized training for tutors using ARS and other content delivery methods may result in more engaging facilitators.

Medical student led counselling service on end-of-life care planning

Johnson, Emily; Maldonado, Lauren
Keck School of Medicine of USC

Idea: Medical Student Office-Hour sessions to discuss end-of-life care and assist geriatric patients with advance directives.

Rationale: The healthcare system is widely criticized for exorbitant spending at the end of life. Aggressive medical interventions provided to patients at the end of life can inflict undue suffering, do little to promote quality of life, and may not even extend life [1]. Providing patients information about end-of-life care options and encouraging completion of an advance directive reduces unnecessary care, promotes autonomy, and provides greater quality of life to patients and families. A conversation about end-of-life care deserves thoughtfulness and attention; these discussions are easily ignored in today’s clock-driven practices [2]. Patients with low continuity of care can be particularly underserved. Further, end-of-life conversations themselves can be challenging. Early exposure will better prepare medical students for conversations with terminally-ill patients on clinical rotations, throughout residency, and in practice. Medical-student-led programs dedicated to assisting patients with end-of-life care planning provides patients an opportunity for unhurried conversation with family members and a member of the healthcare team, and enables a rich learning opportunity for medical student education.

Methods: Medical students will hold open office hour sessions once per week in a clinic setting that serves mainly geriatric patients. Students will receive training on the use of advance directive forms and translation services, as well as guidance on how to compassionately talk to patients about their concerns. The Five Wishes document will be the directive of choice, as it provides a guided conversation about comfort, dignity, pain, spirituality, and personal concerns. Residents are informed about the office hours during morning conference and encouraged to refer any patient without a directive on file to the student office hours. Patients may also self-refer from the waiting room area. Patients seeking counsel are greeted by the medical student and transferred to a private setting. The medical student will then introduce and offer a brief overview of the use of the advance directive, discuss concerns and goals with the patient and offer help in officially completing the document within the same session.

Evaluation Plan: Any patient via physician or self-referral to our counselling service will be asked for consent to participate in a research study. If the patient accepts, she/he will be asked to complete a short questionnaire about prior knowledge of available options and personal goals for end-of-life care. Following a conversation with a medical student, the patient will be provided with a post-discussion questionnaire to evaluate her/his comfort with the experience, and to reassess her/his knowledge and feelings regarding the advance directive. Furthermore, students participating in the program will have a choice of either completing a written reflection or attending a debrief session.

Potential Impact: We believe that exposure to end-of-life conversations is a critical yet overlooked component of medical education and clinical practice. This program will not only improve medical education, but also fulfill an unmet need for patients and their families who deserve the opportunity to have discussions about their end-of-life care wishes. We hope this program will better prepare students for challenging conversations and equip them with compassion and increased self-confidence.

References:


http://www.agingwithdignity.org/five-wishes.php
Comparing Outcomes for Pediatric Clerkship Students on a Hospitalist Service at Different Sites

Molas-Torreblanca, Kira; Cannon, Jennifer

Keck School of Medicine of USC; Children’s Hospital of Los Angeles

**Idea:** To compare reaction and knowledge outcomes for medical students completing their core pediatrics clerkship on a hospitalist service at different sites

**Rationale:** Pediatric hospital medicine has emerged over the last decade as one of the fastest growing specialties in pediatrics. Literature shows hospitalists play an important role in trainee education, particularly in the traditional team environment that includes pediatric residents and fellows. However, there is paucity in the literature showing whether or not medical students benefit in a one on one setting with attendings only. We are continuing to seek alternative rounding models such as hospitalists teaching medical students at both tertiary care children's hospitals and community hospitals. Often, these two environments may be very different from each other, as students may see more “bread and butter” pediatric patients at a community hospital versus a more complex patient mix at a tertiary institution. Thus, when evaluating these medical students we must ensure they are meeting the Council of Medical Student Education in Pediatrics’ (COMSEP) core competency requirements and that they are being exposed to the various common pediatric illnesses during their core clerkship at a tertiary care center.

**Methods:** This is a quasi-experimental study (subjects are not truly randomized) designed to compare outcomes related to medical student education for students completing their core pediatrics clerkship on a hospitalist attending only service (AOS) at a tertiary care children's hospital (CHLA) versus at a community hospital (BMH). Our target learners will be 3rd year medical students from USC Keck School of Medicine completing their core clerkships at CHLA. We will first perform a targeted needs assessment and based on our results we will design, implement and study our specialized curriculum on our AOS at the tertiary care center. We will implement the curriculum at the start of the academic year for 12 months. The curriculum will be given over two 3-week periods in each of the seven blocks with two students every 3 weeks for a total of 28 students. The curriculum will consist of a “teaching checklist” already developed that will be based on core COMSEP competencies so that we can ensure our students at CHLA are being exposed to common pediatric illnesses. We will also have a direct observation tool to observe our students interacting with patients/caregivers as well as observing their history taking and physical exam techniques. There will also be a core didactic series consisting of four main general pediatric topics. Lastly, we will conduct “hospitalist/medical student bedside teaching rounds” once weekly.

**Evaluation Plan:** In order to determine if medical students needs at a tertiary hospital are met, we will evaluate the curriculum using Kirkpatrick’s hierarchy of outcomes by using exit interviews at the end of their rotation at CHLA to assess student reaction (satisfaction) and a direct comparison will be made regarding reaction at BMH by also conducting exit interviews with the medical students at this community clerkship site. To assess learning outcomes, we will compare Shelf exam scores at both sites to determine if students have gained comparable knowledge in general pediatric core concepts. We hypothesize that implementation of this curriculum at CHLA will help them be just as prepared as their counterparts in terms of knowledge and just as satisfied with their clerkship experience.

**Potential Impact:** This study involves the evaluation and refinement of an innovative curriculum for medical student education related to inpatient general pediatrics at a tertiary care hospital to ensure COMSEP requirements are being met. Although patient case mix may be very different at both sites, student knowledge and attitudes should be comparable.

**References:**


Linking the Basic & Clinical Sciences – The Bench to Bedside course at MCW

Stefan, Kurt; Cohen, Gary; Pfeifer, Kurt; Muntz, Martin; Franco, Jose; Krausert, Theresa

Medical College of Wisconsin

Idea: The importance of core basic science knowledge is underappreciated and infrequently utilized during the clinical years of medical school training.

Rationale: In 2012 the Medical College of Wisconsin introduced the Discovery Curriculum to 205 medical students. One of the curriculum goals was earlier clinical exposure. To accomplish this students were assigned to an outpatient clinic with a single clinical preceptor one half-day weekly for an entire year. Simultaneously, the Bench to Bedside course began to bridge the basic science learned in the classroom with the clinical experiences encountered while working with a preceptor.

Methods: Bench to Bedside four hour sessions occur weekly and focus on teaching clinical applications while reinforcing the associated basic science principles. The course consists of five unique session types; Basic Science Clinical Staffing (BASIC), Clinical Skills Workshops (CSW), Clinical Reasoning Exercises, Medical Humanities and Community Resources & Med Economics. While the course emphasizes the integration of basic and clinical sciences across all five components, the BASIC and CSW sessions stress this linkage the most. CSW sessions range from learning the complete neurologic exam within the M1 spring term to learning how to identify abnormal findings in an abdominal, musculoskeletal, cardiovascular and/or pulmonary exam(s) in the M2 fall term. The BASIC sessions, focusing on topics such as inflammation, arrhythmia and pain control, are led by both basic science and clinical faculty representing multiple departments within the Medical College of Wisconsin. By utilizing concept maps and teamwork, the basic science topics are materialized in a clinical scenario.

Results: 1) Concepts introduced and taught in the basic science courses a day or two before the Bench to Bedside session did not yield the desired student interaction levels. The students preferred the concepts to be integrated about a week after the basic science session was taught; allowing time for them to review the material following the basic science session. 2) Timelines and scripts for small group sessions ensures both consistency in the material and message being conveyed by the preceptors, but also ensures all the material is consistently presented across each of the groups. 3) Students performed extremely well on objective skills assessments given at the end of clinical skills workshops (mean percentage grade of >90%). 4) Student ratings for facilitator effectiveness were very favorable (mean rating of 4/1 on 5-point Likert scale with 5 as the best). 5) Faculty expressed high satisfaction with student engagement in the small group setting and effectiveness of teaching time compared to other educational activities.

Lessons Learned: Integrating basic and clinical science material allows students to start processing information as a clinician even within the first two years of medical school. Integration makes clinicians look deeper into their subject matter and also look more critically at methods for diagnosis and therapy (Dahle et al., 2002).

References:
Patient-Centered, Trans-Disciplinary Oncology Clerkship Experience

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Stanford University School of Medicine

Idea: Design an oncology clerkship that immerses students in multi-modality care and prioritizes continuity with patients.

Rationale: Longitudinal clerkships for medical students highlight patient-centeredness, with continuity patient visits improving student satisfaction.[1] Many institutions may not yet have the resources to offer such a model, and students may not opt for a prolonged clerkship commitment. Oncology-related clerkships, however, offer a unique opportunity for students to observe continuity in a compressed timeline due to the multi-modality care involved, frequent initial follow-up visits and treatment schedules. In fact, current oncology trainees desire additional interdisciplinary education with respect to collaborating specialties.[2] At the medical student level, exploring multiple oncology fields sequentially may be limited by available elective time. This study proposes a novel model of oncology-clerkship education that traverses the relevant clinics in a one month integrated experience. Continuity with cancer patients across different disciplines educates students about the patient’s experience, while simultaneously allowing students to trial different oncology disciplines in a concentrated clerkship month. Students provide value add to the system by acting as a patient navigator and advocate. Opportunities for the student to suggest improvements in care coordination will be a collateral benefit.

Methods: The initial trans-disciplinary oncology clerkship was designed in collaboration with medical, radiation and surgical breast oncologists. Breast oncology was chosen due to standard tri-modality care of breast conserving therapy and relatively high tumor prevalence. The clerkship will begin with a base schedule including a day each in breast medical, radiation and surgical oncology clinics, tumor board and care activities. Appointments for patients with multiple visits across specialties will be prioritized, in addition to new patient, pre- and post-operative, on-treatment, and long-term survivor visits. Care activities will include review of literature or clinical trials relevant to followed patients, participation in any of their surgeries, dosimetry planning, chemotherapy teaching, palliative care, and post-operative or chemo-initiation check-in calls or home visits. After the clerkship, students will have the option to identify a preceptor and follow patients in a once per week continuity elective. Continuity will be categorized as participation in follow-up visits or care activities within the same or different clinic, and also as patients seen with previous or future visits at one of the alternate clinics as this still presents opportunities to offer insights gained from working across these clinics.

Evaluation Plan: Frequency of continuity with patient visits and care activities will be recorded over a month. A previously developed outside, bi-institutional survey assessing student comfort with oncologic care will be administered pre- and post- clerkship.[3] All patients seen will be given feedback surveys adapted from the American Board of Internal Medicine, and the results from continuity patients will be compared to single-visit patients. In addition to a standard institutional evaluation of the student, involved faculty and inter-professional staff will complete a survey aimed at assessing the program as well as offering suggestions for growth and improvement. Students will similarly review the clerkship and identify care improvement opportunities. Long-term assessment will include tracking students who enroll into the weekly continuity clinic or any traditional oncology clerkship.

Potential Impact: Trans-disciplinary clerkships enable medical students to explore multiple careers, identify mentors, gain interdisciplinary empathy, and build fulfilling relationships with patients. Patients in turn benefit from the student’s versatile synthesis of information from multiple providers for better care coordination.

Teaching Teamwork and Team Communication To Medical Students

DeTata, Cynthia

Stanford University School of Medicine

Idea: Enhancing teamwork and team communication of 3rd and 4th year medical students through a focused curriculum integrated into the required obstetrics and gynecology clerkship.

Rationale: Patient safety has gained increased attention. In 2010 the U.S. Department of Health and Human Services reported that up to 180,000 deaths annually are due to medical error (1). When medical errors are identified, poor communication plays a role in up to 80% of cases. A 2014 Joint Commission analysis of reported sentinel events revealed that communication failure was the primary root cause in 45% of maternal events, 65% of perinatal events and 53% of intraoperative events in obstetrics and gynecology (2). Hospitals and residency programs have developed training programs to address the need for better team communication among faculty and residents. The AAMC recommends proficiency in teamwork and communication skills for graduating medical students in its 2014, Core Entrustable Professional Activities for entering Residency Curriculum Guide (3). Currently we do not have formal teaching on team communication and teamwork during medical student core clerkships. Medical students participate on patient care teams during clerkships, presenting excellent environments for teaching and reflecting on team skills.

Methods: Our intervention will involve at total of 112 medical students per year, in groups of 14 (8 rotations). The curriculum will integrate team skills into all aspects of their clerkship in 15-minute snippets. The learners should be able to: 1) report the connection between poor communication and medical error; and 2) be able to demonstrate key communication skills including: closed-loop communication; use of SBAR (situation, background, assessment, recommendation) for handovers; use of the six Cs of communication (call by name, eye contact, concise, closed-loop communication, clarify, check in); strategies for conflict management and communication of concerns from a junior person to a senior person. The clerkship director will be the lead instructor and will reinforce these skills in weekly teaching sessions. Teaching methods will include brief didactics, practice of skills (with feedback) in small groups and during simulations, observation and reflection of team communication and functioning, and practice while participating as a member of a patient care team (with debriefing).

Evaluation Plan: A pre and posttest will assess learner value of team-based care and team skills; and knowledge of medical error, communication and team-based skills. The audience response system will be utilized to gather these data. To gather data in relation to learner reaction, items will be added to the standard end of clerkship program evaluation form. To estimate the impact of the training on learner behavior responses from a writing assignment “How I have used teamwork skills during this clerkship and my plans to build additional knowledge and to use these skills in the future.” A follow-up question on teamwork will added to the graduation survey for all medical students to gain insight into integration of teamwork skills.

Potential Impact: This study could provide a model for integrating team training into core clerkships in any health profession.

References:


AAMC Core Entrustable Professional Activities for Entering a Residency: Curriculum Developer’s Guide. 2014 aamc.org/mededportal
Improving Goals of Care Discussion: Innovative Training for Fourth Year Medical Students

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Idea: Enhancing Fourth year medical students' skills in palliative care communication with focus on Goals of Care (GOC): E-learning module alone versus module with practice.

Rationale: Palliative care communication skills are applicable to all physicians regardless of specialty. Establishing GOC is one of the essential communication skills in the care of patients with chronic disease as well as in geriatrics and palliative care. Specific clinical skills are required for negotiating GOC. Discussing GOC as early as possible in the course of illness ensures that the patient will receive treatment consistent with their goals. In palliative care, patients typically have one or more of seven goals; Be cured, Live longer, Improve or maintain function/quality of life, Be comfortable, Achieve life goals, Provide support for family/caregiver, and Other (1). GOC are being neglected in trainee discussions with patients. A retrospective chart review of patients aged 65 and older admitted to our Acute Care for the Elderly unit during August and September of 2013 revealed that only 15.6% (12/77) had GOC documented (2). This research will assess a module that adds this skill to a palliative care curriculum for fourth year medical students.

Methods: The participants in this project will be 250 fourth year medical students at our institution (n=125 intervention and n=125 control). The current palliative care curriculum includes three E-learning modules. This study would add a fourth one-hour module to introduce learners to the knowledge, skills of negotiating GOC. To teach the skills, we will pursue the steps incorporated in the PERSON mnemonic: Perception of current health status, Explore patient’s world, Relate to medical reality, Sources of worry, Outline the negotiated plan, Notify family/team (3). All students would complete the online module. However, half (control) would complete the current four-hour onsite classroom training in palliative care while the other half would participate in the four-hour classroom training that incorporates GOC (intervention). The E-learning module will utilize multiple platforms and include a video clip of GOC discussion. The classroom session will be participatory, incorporating role-play exercises that utilize direct observation and feedback. Faculty will debrief all activities to help learners integrate and apply new knowledge and skills.

Evaluation Plan: The evaluation will include: 1) use of a standard session evaluation form to examine learner reaction to the module and classroom training; 2) students will complete a pre/post self-assessment on confidence in discussing GOC with comparison between the control and intervention groups; 3) end of module quiz for knowledge; and 4) student inclusion of GOC into an end of life conversation will be evaluated through a 15-minute Objective Structured Clinical Exam (OSCE) station by trained raters using a checklist, again with comparison between control and intervention group. We hope to learn if the module alone will result in incorporation of GOC at the same rate as those who had the opportunity to practice this specific set of skills.

Potential Impact: Our intervention can serve as a model for GOC communication skill training targeting medical students. This study will help us understand the amount of training required to help learners skillfully incorporate GOC into their discussions with patients.

References:


Integrative Medicine in the Pre-Clinical Years: Impact upon Medical Students as Future Clinicians

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Keck School of Medicine of USC

Idea: We aim to evaluate the impact of the Keck School of Medicine’s pre-clinical Integrative Medicine selective upon students during their clinical years.

Rationale: Patient-centeredness, inter-professionalism, and cultural sensitivity are increasingly emphasized in both clinical practice and medical education. Addressing these themes by merging allopathic medicine and “integrative, complementary, and alternative medicine” (ICAM), the expanding field of Integrative Medicine (IM) has been rapidly incorporated into the curriculum of 55 U.S. medical schools. Despite this curricular scale-up, program evaluations remain limited, and there is currently no available research addressing the impact upon students in their clinical years. Since a central goal of these programs is to produce physicians interested in incorporating ICAM approaches into patient care, this is a crucial piece missing from current studies. We aim to evaluate Keck School of Medicine (KSOM) students’ attitudes toward ICAM from the start of medical school, as well as the application of those attitudes toward later patient care and personal wellness. We hypothesize that students exposed to a dedicated pre-clinical IM curriculum will more favorably view ICAM, be more likely to apply ICAM knowledge in their clinical years, and show improved efforts toward sustained self-care. Additionally, we hope to serve two side purposes: first, addressing the issue of student burnout, and second, exploring the potential to attract more medical students toward preventive careers in primary care.

Methods: At the Keck School of Medicine (KSOM) of USC in Los Angeles, increasing student interest in Integrative Medicine led to the creation of a 14-hour, pre-clinical IM Selective in Fall 2011. Co-facilitated by FM faculty and medical students, the selective exposes thirty second-year medical students each year to evidence-based ICAM modalities such as mindfulness, yoga, guided imagery, and acupuncture. Aspects of the course include practitioners who have blended various ICAM disciplines into their medical practices, perspectives from patients who have benefited integrative care, and student opportunities to engage in group-based, hands-on learning of integrative patient care. Additionally, self-care principles equip students with tools to maintain empathy, satisfaction, and balance - and decrease burnout - during their busy clinical years. Since its inception, the selective has grown in both feedback ratings and word-of-mouth interest, becoming one of the most successful pre-clinical educational endeavors at the school today.

Evaluation Plan: Our sequential cross-sectional evaluation utilizes a 75-question survey that incorporates three validated tools: CAM Health Belief Questionnaire (CHBQ), Integrative Medicine Attitude Questionnaire (IMAQ), and Physician Wellness Inventory, with ten more questions specifically addressing patient care. Appropriate covariates will also be measured including age, gender, ethnicity, and prior exposure to ICAM. Surveys will be conducted once yearly, for three years, to KSOM students of all levels (M1-M4). Participants will be recruited via school listserves and class rosters, electronically consented, and assigned a unique ID to encourage their continued participation. Drawings for gift card incentives will be offered. The survey platform, Qualtrics, will allow participants to complete the survey on their own time. The first round of surveys will be released in November 2014, when this year’s selective concludes its teaching. Data will be analyzed using STATA 2.0.

Potential Impact: With the expansion of primary care in the United States, medical students and their patients stand to benefit greatly from integrative education. Project findings will help to improve upon the current IM curriculum at KSOM, as well as provide a tested model for other schools looking to institute similar opportunities.

Curriculum for Teaching Osteopathic Manipulation Techniques to Allopathic Family Medicine Residents

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Idea: Teaching allopathic residents OMT, during their residency, would give more graduating physicians another non-pharmacological way to treat musculoskeletal pain that is cost-effective, quick, and evidence based.

Rationale: Osteopathic Manipulative Treatment (OMT) is an acquired skill that is used by Osteopathic Physicians to decrease musculoskeletal pain. OMT/Spinal Manipulation has been recognized in Annals of Internal Medicine(1) to be appropriate in the treatment of patient with low back pain. OMT/Spinal Manipulation has also shown to be as effective as conventional therapies(2), but without the side effects of various pain medications. OMT/Spinal manipulation has also been recognized as a viable option to treat patients with musculoskeletal pain, as well as headaches.(3) Owing to the segregated nature of many Osteopathic and Allopathic Medicine training centers, allopathic graduates receive little if any exposure to OMT. Likewise most allopathic physicians are limited in their approach to treating musculoskeletal pain having only medications and physical therapy as viable modalities. Therefore, we have developed and deployed an OMT curriculum that focuses on the training of allopathic residents to use OMT to diagnose and treat somatic dysfunction in patients who suffer from chronic musculoskeletal pain. The most immediate benefit anticipated will be the reduction in pain medication along with improved patient satisfaction due to a faster return to optimum health. Practice revenue will also be enhanced.

Methods: Teaching occurs in 12 weekly 1-2 hour sessions with an Osteopathic Physician(s) as the educator. Residents are first taught the basics of OMT & the ability to use palpation and observation to identify somatic dysfunction. They are next shown how to recognize changes in tissue texture, temperature, asymmetry, restrictions in range of motion, and tenderness, known as TTART changes. Residents also become familiar with the osteopathic screening exam in which they identify asymmetry using anatomical landmarks such as the external auditory meatus, acromion process, tip of the scapula, greater trochanter, ASIS, PSIS, sacral sulcus, and lateral malleolus. Residents and faculty are used as stand in patients for all training. The next phase will include teaching of the treatment modalities. These modalities include articulatory, soft tissue, myofascial release, muscle energy, counterstrain, and HVLA. Participants are also instructed as to how to treat quickly and effectively in a busy clinical setting.

Evaluation Plan: Evaluation of the process will include a pre & post-survey with standard clinic scenarios will be given to assess the residents’ ability to treat MSK pain with their current knowledge. Surveys will also assess their attitude towards pain and manual manipulation. Competency will be determined as the course progresses with the educator re-assessing the residents’ physical findings, as well as signing off once a designated number of treatments have been applied, performed correctly, and observed by an educator.

Potential Impact: The evidence based literature indicates less medications are used and recovery times are decreased when OMT is used to treat some forms of musculoskeletal pain. Oftentimes immediate improvement in pain is achieved from properly applied OMT. More importantly, allopathic physicians would have an additional treatment option in addition to physical therapy and medical management. Moreover patient satisfaction improves with in pain and mobility.

References:


A New Preclinical Curriculum to Improve Medical Students’ Pediatric Skills: A Pilot Study

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Idea: Implement a preclinical curriculum to enhance student history taking, examination, and presentation skills in preparation for pediatric clerkships.

Rationale: Medical students have minimal exposure to pediatric medicine in their preclinical years compared to adult medicine. Literature shows that early exposure to clinical skills improves comfort and performance of medical students in their 3rd year clerkships; however, this has not been fully studied in pediatrics. We propose a pilot study to implement a pediatric curriculum in the preclinical years that would be used to improve comfort and attitudes of medical students with regards to pediatric history taking, physical examination and oral presentation skills before they enter their 3rd year pediatric clerkship. We hypothesize that the students’ confidence and attitudes regarding pediatric clinical skills will improve after exposure to this curriculum in their preclinical years. Medical students will utilize this skill set throughout the entirety of their medical education and practice. As pediatric patients are seen in a wide variety of specialties, these skills are necessary not only for students entering the field of pediatrics, but also for students entering specialties such as family medicine and surgical subspecialties.

Methods: We will conduct this pilot study over one year, beginning at the end of their second year through to the completion of their third year pediatric clerkship. Target learners will be 2nd year medical students at USC Keck School of Medicine who will then transition to 3rd year students completing their pediatric clerkship at our 4 clinical sites. This will be a descriptive study using qualitative methods to evaluate our novel curriculum. We will implement the curriculum during the Year II Introduction to Clinical Medicine (ICM) course and conduct small focus groups after exposure to the curriculum to assess attitudes and then use exit interviews at the end of their pediatric clerkship to describe whether or not the students’ felt that this curriculum helped ease the transition into their clinical years. As a control group, we will survey 3rd year medical students completing their pediatric clerkship who did not receive the curriculum in their preclinical years to evaluate their readiness and transition from the preclinical to clinical years. Our curriculum includes a history taking workshop using a standardized patient-care provider interactions as well as focus experiences at clinical sites where students practice their physical exam skills on pediatric patients or observe family centered rounds on the pediatric wards. In addition, a didactic session will be dedicated to teaching oral presentation techniques specific to pediatric patients. These teaching modalities will be held through the ICM course.

Evaluation Plan: Proficiency in performing pediatric-focused presentations will be assessed by the ICM instructors. Furthermore, we will plan to adapt two MedEd Portal modules that include clinical skills preparation for clerkships and a presentation skills workshop. Keeping Kirkpatrick’s model of curricular evaluation, our primary outcome will be a behavioral assessment through focus groups and interviews to show change in attitudes and confidence regarding clinical skills readiness on the pediatric ward.

Potential Impact: This pilot study aims to expose students to pediatric medicine during the preclinical years to improve student familiarity with pediatric patients and subsequently improve their comfort and skills during pediatric clerkship. Following this, we hope to recruit other institutions and create a multicenter, randomized control trial examining the effects of this curriculum broadly. Future studies may also include patient surveys as to assess patient satisfaction as a result of this curriculum.

References:


A Longitudinal Program for Early Identification and Remediation of Medical Students’ Clinical Skills

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Idea: Identifying at-risk students with clinical skills deficiencies and initiating remediation early in their career will improve performance competency.

Rationale: Studies show that students’ clinical skills are rarely observed by faculty, leading to the implementation of OSCEs to assess clinical competence. OSCEs often identify students with one or more skills deficiencies, and poor performance on OSCEs is associated with poor clinical evaluations. Although remediation is labor intensive, medical schools have an ethical duty to ensure all students have adequate clinical skills. At-risk students tend not to ask for help, so it is vital that medical schools develop ways to flag these weak students for early intervention. Most remediation interventions focus on enhancing a student’s skills just enough to pass a retest but not enough to develop lifelong skills. If at-risk students can be identified and remediated at an earlier stage in their education, lifelong skills will have a better chance of being established.

Methods: The Clinical Skills Enhancement Track (CSET) program began as a one-month mandatory elective for medical students who failed the Senior CPX. In 2010, with approval by clerkship directors and the Curriculum Committee, third-year students who performed poorly on clerkship OSCEs or were referred by clinical faculty were included in CSET. In 2012, second-year OSCE’s provided an excellent tool to flag at-risk students, and the program expanded to include second-year students. Identification of students’ deficiencies is accomplished using faculty evaluations of SP encounters, SP checklists and feedback, student self-evaluations, and clerkship feedback. Students and faculty review their performance and develop an education prescription. Second year students attend workshops targeting their deficiencies, including case-based clinical reasoning, physical exam tutorial, and SP practice. Third year students meet with faculty for two-hour bi-monthly workshops, and continue in CSET until their skills have reached the required level of competence. Senior medical students are required to participate in a one-month CSET elective, and must pass a remediation exam.

Results: For class of 2012, 16/157 students participated in CSET in their second or third years. For class of 2013, 36/161 students participated in CSET in their second or third years. Of the 5 students from each class who failed the Senior CPX, only 1 from each class had participated in CSET. Senior medical students who complete CSET due to failure of the senior CPX have shown improvement of their skills on the retest, with 100% passing the CPX remediation exam. Only one student failed USMLE CS exam, and that student had not participated in CSET. The challenge continues to be identifying students in need and the occasional student with multiple areas of deficiency. 37 students from these classes either withdrew or delayed graduation, and 26 of these students had been identified and referred to CSET.

Impact: Many students with weak clinical skills had delayed academic progress, supporting the need for early identification and intervention. Having consistent faculty working with CSET students allows faculty to adjust teaching methods, monitor improvement and develop a trusting relationship which enhances learning and motivation.

References:


Medical Student Well-Being and Burnout: A Systems Dynamics Approach

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Idea: To formulate concepts of medical student well-being and burnout under the paradigm of systems dynamics.

Rationale: Much has been written on the alleged causes and consequences of medical student distress as well as on the solutions for improving medical student well-being. While some studies investigated general systemic aspects of burn-out as well as the specifics of its development in medical professional environment, there were no publications, to our knowledge, in which the sources of students’ distress and the points for intervention were analyzed from the perspectives of medical education system dynamics. Our goal was to conceptualize the major structures of medical education along with feedbacks that govern their behavior, generate the dynamic model of medical education, test the model to portray the existing system’s behaviors, and capture the characteristic dynamics of the variables involved.

Methods: A broad literature search was performed, covering topics of student well-being, general and student burnout, and systems dynamics models of burnout. Numerous interviews with medical educators and students were held and observations of medical learning environment were made in order to identify the variables and boundaries for modeling the system of medical education. Then a series of causal loop diagrams (CLD) was built in the Vensim simulation software to represent the system as described by the literature and experts. These CLDs were then translated into a stock-and-flow diagram, whereupon simulation could be initiated.

Evaluation Plan: Once the model was complete, simulation was performed with different scenarios to test the internal validity and integrity of the model. Its external validity was also verified against existing literature, real-life scenarios, and student surveys, including a recently acquired wealth of relevant data on health issues and wellness by survey of medical students via the Community Health Needs Assessment (CHNA) administered by the DGSOM Office of Career Development and Well-being.

Potential Impact: A viable system model of medical student well-being will provide a platform to test possible scenarios for future policies without prohibitive costs or risk of squandered resources.

References:


Mental Rotation Test for Evaluation of Visual-Spatial Abilities in Ultrasound Guided Regional Anesthesia

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Problem statement: This study compares two visual-spatial abilities tests in their capacity to predict the performance of novice learners on simulated ultrasound guided regional anesthesia task.

Rationale: Visual-spatial abilities have been recognized as important factor in acquisition of complex skills based on image interpretation. Visual-spatial abilities in instruction in general surgery, laparoscopic surgery, vascular surgery, endoscopic surgery and ultrasound guided regional anesthesia. The research done on ultrasound guided regional anesthesia utilized a large battery of tests that is not practical for everyday use. The mental rotation test (MRT) is a powerful test of visual-spatial abilities that is easy to use and has been validated in learning of psychomotor skills. This study explored the use of MRT in assessment of visual-spatial aptitude for learning of ultrasound guided regional anesthesia skills. It may also offer a new screening tool for ultrasound guided regional anesthesia education.

Methods: This prospective study evaluated the correlation of visual-spatial ability measured with MRT and block design test with performance on UGRA high fidelity simulator. For that purpose, after IRB approval, 38 first and second-year medical students without any prior experience in UGRA were recruited for the study. Each subject then completed the two visual-spatial aptitude tests. Mental rotation test is designed to evaluate subject’s visual-spatial aptitude. It consists of 20 sets of rotated images that the subject needs to analyze in 10 minutes. The block design test (BDT) consists of assembly of 2-dimensional patterns using 3-dimensional blocks. BDT is a subtest of the Wechsler Adult Intelligence Scale III (WAIS-III) designed to assess visual-spatial aptitude. This test was used to determine whether participants’ ability to construct 2-dimensional patterns from 3-dimensional objects would correlate with simulated UGRA task performance. After the instruction, participants were evaluated by anesthesiologist trained in regional anesthesia on performance of UGRA on a high fidelity UGRA simulator. The performance was measured with a UGRA skills rating scale. The instrument was developed at USC Department of Anesthesiology to capture generic and task specific UGRA skills.

Results: Out of 38 registered, 31 medical students completed all of the assignments. Seven students did not complete all three assignments and were excluded from the study. Correlation coefficient was calculated for the scores on MRT and UGRA (r = .522). The critical value of the correlation coefficient for acceptance with significance of p < .05 was set at .296 for one-tailed test. Correlation coefficient of (r=.522) suggests moderately strong correlation. / Correlation coefficient was calculated for the scores on BDT and UGRA, (r = -.102). The critical value of the correlation coefficient for acceptance with significance of p< .05 was set at .296 for one-tailed test. Correlation coefficient of (r=-.102) suggests no correlation or weak correlation.

Potential Impact: The mental rotation test is powerful paper and pencil tool for evaluation of visual spatial abilities. Originaly designed by Vanderberg and Kuse, it was redrawn by Peters et al. In our study, with authors permission we used Peters version to create computer based test. In our study, we focused on the visual-spatial abilities only. The block design test had only marginal correlation while MRT demonstrated significantly stronger correlation with UGRA performance. However, the variation of the MRT test used in our study was the most difficult one, having objects rotated in all three coordinate axes. While better-controlled research would be necessary to compare the power of MRT to BDT, the convenience of MRT is beyond any doubt. What took 15 minutes per student and trained examiner to perform BDT, took 10 minutes for 31

References:
Using Student Opinion of Computer Based Testing (CBT) to Shape Successful Full-Scale Implementation

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Problem Statement: CBT should be implemented thoughtfully. Student opinion during pilot testing can inform successful data-driven, full-scale implementation.

Rationale: Computer-based testing (CBT) offers a variety of advantages over paper-based testing including improved security and ease of longitudinal tracking of student performance over all phases of the curriculum.1 In undergraduate medical education, CBT holds an additional advantage in that it prepares our students for the computer-based format of the USMLE exam. However, CBT, like any other innovation, should be implemented thoughtfully. Any successful implementation strategy for educational technology implementation must account for student acceptance.2 / It has been shown that student opinion toward CBT improves with exposure to this technique, including the use of practice tests and interface "try-outs".2,3 Following use of CBT, students perceive the system to be easier to use and they express more confidence in the technology.2 Still, there is an increased level of anxiety whenever a new technology is introduced. If a practice test confers greater confidence in CBT, then a practice test designed to address specific student concerns should show an even greater impact on student acceptance. The present study collected pilot data on student opinion in order to design a practice test targeted to specific student concerns at our school. This practice test was used as an orientation tool during the full-scale implementation of CBT. This targeted orientation should serve to improve student opinion of CBT.

Methods: Prior to the full-scale implementation coinciding with a revised curriculum, the George Washington University School of Medicine introduced CBT using ExamSoft to its current first-year class of students. This pilot consisted of two formative assessments conducted with CBT as part of an optional, non-graded exercise. During the pilot, students were asked about their enjoyment of CBT, comfort with CBT and how they thought the speed of CBT compared with testing on paper. Responses to these items were measured at three time points: prior to the first assessment, and after each of two assessments. Students were also asked to comment on their greatest concern about CBT and their answers were content analyzed and themes identified.

Content themes from the pilot were used to develop a practice quiz to be used during full-scale implementation the following academic year. The practice quiz was designed in such a way as to address as many qualitative concerns from the pilot as possible. For example, because students expressed concern about navigation during the assessments the practice quiz asked students to navigate back to prior questions that they had flagged for review. During this implementation phase, students were again asked to comment on their level of comfort and enjoyment as well as their perception of speed of CBT compared to paper. Opinion data was gathered during the practice quiz as well as after the first two summative assessments delivered with CBT.

Results: During pilot testing students enjoyed CBT more after the second assessment than after the first (p=0.014) but did not consider it to be faster than paper (p=0.39). Thematic analysis of their comments indicated a great deal of concern about technology issues and the inability to write on the exam itself. The concern about technology issues dropped off considerably after the first assessment at which time new, more specific concerns were voiced. These included the necessity to scroll in order to see all answer options, delays in beginning and ambiguity of directions. Both pre- and post-assessment data show concerns about navigation and crossing out options. These two issues were specifically addressed in the creation of the practice quiz used during full-scale implementation. As in the pilot, students during implementation enjoyed CBT more after the second assessment than the first (p=0.024

References:
Evaluating an Online Training to Promote Standardized Medical Student Feedback on Reflective Writing

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Problem Statement: Faculty feedback is known to improve reflective capacity. A training to improve medical student feedback on reflective writing has never been studied.

Rationale: A growing body of research supports the use of reflection in all levels of medical education. Faculty feedback on reflective writing has been shown to improve reflective capacity. However, incorporating faculty feedback into a critical reflection curriculum may prove challenging due to limited faculty time and resources. Upper-level medical students may represent an untapped resource for guiding the development of reflective capacity in their peers. The use of formal peer feedback to improve critical reflection in medical students has never been studied. This study will provide an analysis of a novel, online training designed to teach upper-level medical students skills to evaluate reflective writing samples and provide feedback aimed to improve reflective capacity.

Methods: Participants are 12 fourth-year medical students at Icahn School of Medicine. Participants completed an online, self-administered training aimed to improve their ability to provide feedback on reflective writing. The training included a slide-set designed by the research team and supplemental learning materials that participants navigated at their own pace. On average, it took one-hour to complete. The training introduced participants to a definition of critical reflection, the components of critical reflection, and current research that highlights the importance of reflection. The training included a review of the LEaP framework, a set of structured literature-derived guidelines designed to improve critical reflection skill. The training also instructed participants on the REFLECT rubric, a validated rating scale for evaluating reflective writing. Finally, the training stressed the importance of feedback to improve reflective capacity, listed the components of good feedback, and introduced a structured method for providing feedback on reflective writing. To confirm adequate learning in the training, participants completed an online end-of-training assessment in which they evaluated a reflective writing sample using the REFLECT rubric and provided feedback.

Results: Analysis of participant performance during the end-of-training assessment was conducted. The REFLECT rubric includes 5 domains of reflective skill. Ratings of level of reflection in each domain of the REFLECT rubric were assigned a point value of 1 (non-reflection) to 4 (critical reflection). An overall score of 5 to 20 points was possible with 20 points indicating critical reflection in all domains. Participant ratings of the reflective writing sample were distributed with a median of 17 points (IQR = 16–18) indicating minimal dispersion. Participant feedback samples were manually coded by two independent researchers. Emergent themes were recorded and the frequency of each was calculated. 92% of participant feedback included suggestions to improve reflective skill (11/12). 83% included advice to improve patient care (10/12). 83% included encouragement about what elements of reflection were done well (10/12). 58% included advice for setting a measurable goal (7/12). 33% included advice to promote student self-care (4/12). Importantly, 92% of participants included feedback on both content and reflective skill (11/12), a technique associated with gains in reflective capacity in prior studies. These findings suggest that medical students are able to reliably evaluate reflective writing and provide high-quality feedback following exposure to a novel training exercise.

Potential impact: The importance of reflection in medical education is well supported. Existing research relies on faculty feedback, which may be difficult to implement in practice. This work outlines an easily replicable model to train upper-level medical students to provide high-quality feedback on the reflective writing of their peers.

References:
Online Modules for Behavioral Competency Development: Resources and Remediation

Savi, Christine; Hartmark-Hill, Jennifer

The University of Arizona College of Medicine-Phoenix

Problem Statement: To promote students’ understanding of competency-based outcomes in academic, clinical and community settings.

Rationale: As the core competencies of medicine have a cognitive base, they can be taught to medical students and residents within a developmental framework. Foundational concepts can be delivered in didactics, but much of the applied education depends on role modeling and integration across academic, clinical and community settings. (1-3) Recent satisfaction of the online approach championed by the Khan Academy empowered the authors to create a similar learning platform. Efforts were undertaken to outline more concrete behavioral outcomes while offering a means for acquiring standardized knowledge about the sub-competencies or Educational Program Objectives (EPOs). The venue was to be accessible to students and faculty from any location and longitudinally tracked so as monitor a student's prevalence of incurring difficulties in the same area over time. The modules would be used to compliment and reinforce in-person, specific feedback regarding competency deficiencies and provide foundational content for defining professional behavior as applied within a community, academic, and clinical setting.

Methods: Six online modules were created to model the domain framework of the ACGME competencies. These can be found at: http://phoenixmed.arizona.edu/students/curriculum/educational-program-objectives/behavior-competency-modules. Content for the modules was vetted by expert panel review from leaders in curriculum, assessment, clinical practice, student leadership, and educational technology. It is presented using a multi-modal approach to teaching using video segments modeling appropriate demonstration of each competency accompanied by auditory discussion. After viewing, participants are asked a series of multiple choice questions about the segment based on the information provided in the module. They are provided with feedback as to answering the question both correctly and incorrectly and must score a 100% on the quiz to complete the module. The Professional module was piloted in May, 2012 until May, 2014. Results of the pilot elicited feedback about content and assessment delivery, quiz functionality and video accessibility from students, faculty, administration and staff. Revisions were made to adjust the format of all quiz items, embed the multimedia in the landing page environment, and move the videos to the Vimeo platform to minimize load time issues. The module was used as a supplemental remediation component for Professionalism for four students and used in conjunction with in-person meetings with their academic advisors and student development staff to create action plans for student success. Pilot demographic tracking and duration/frequency results were unable to be obtained as the analytics feature was not available at the time. The five remaining modules outlining competency outcomes for Medical Knowledge, Patient Care, Interpersonal and Communication Skills, Critical Appraisal and Quality Improvement (e.g. Practice based Learning), and Societal Awareness and Responsiveness (e.g. Systems based Practice) were launched in August, 2014. To date, one student has used the Professionalism and Interpersonal and Communication Skills modules to supplement their remediation needs. Google analytics has since been installed to collect frequency/duration data as well as demographic information.

Results: We look forward to reporting student tracking results and the other use data in the upcoming months.

Potential Impact: a) Develop a standardized learning tool for use in medical competency education that contributes to the culture of collaboration and professionalism, b) Use as a resource for faculty development pertaining to the EPOs, and c) Obtain baseline data to track the correlation between student competency performance during preclinical and clinical years and the subsequent need for remediation.

References:
Implementing Milestones in UME: A Collaborative Model

Savi, Christine; Restifo, Karen

University of Arizona, College of Medicine - Phoenix

Problem Statement: To implement a collaborative milestone approach and tracking system in a UME competency-based curriculum to better prepare students for residency.

Rationale: Amidst the changing landscape of undergraduate medical education is the need to develop and cultivate professional behavior student outcomes along a developmental continuum to afford a seamless transition into a graduate setting. Incoming residents are introduced to an environment where they further develop their behavioral competencies along a developmental milestone framework to attain mastery at the independent performance level. 1-2 In efforts to support the milestone movement, a comprehensive, developmental framework of behavioral competence within Undergraduate Medical Education (UME) is needed to provide medical institutions an outcome-based solution to better prepare our students for the next step in their educational journey.3 Implementing this effort within UME requires effective communication and collaboration between academic and student programs to uphold the expectations of behavioral requirements while cultivating an environment where modeling, reinforcement, and continual development is progressively supported. The ability to continually track and monitor student progress along the behavioral continuum is an essential component to this framework.

Methods: In July 2013, the stakeholders from Academic and Student Affairs at University of Arizona, College of Medicine, Phoenix, designed a developmental milestone system to assess undergraduate behavioral competence for its first-year medical students. The effort began with the creation of rubrics that characterized successful behavior in terms of observable and assessable tasks, based on three levels of expectations with required comments, available at http://phoenixmed.arizona.edu/students/assessment. Behaviors outlined in the rubrics were those from the college’s Educational Program Objectives (EPOs) that were applicable to the contextual setting of each course so as to permit direct observation and feedback from a faculty member. Policies were developed requiring students to meet expectations of behavioral performance prior to matriculation, accompanied by a built-in method of developmental assistance and accountability if faced with not meeting expectations. Implementation required training of faculty of how to use the rubric and give individualized formative and summative feedback to students.

Results: The class of 2017 was the first to experience the new assessment system based on a progressive, milestone approach. Of the 80 students enrolled, 93.8% (75) met or exceeded behavioral expectations across the six competency areas upon completion of the first year of the program. Of the five students who did not meet expectations in any course during the first year, none have experienced subsequent difficulties in the same areas of competency performance at this time. Feedback gained from students, course directors, faculty and administration necessitated changes for AY 2014-15: better clarification of behavioral expectations, a more developmental policy focus, and automated tagging of the competencies illustrate a visual representation of student performance. Collaboration between Academic and Student Affairs has resulted in consistent, programmatic reporting workflows of sharing data, more involvement in developing subsequent years’ assessment tools, and a balanced means of providing support for students’ professional behavioral progression. We look forward to analyzing data on assessment tool validation and inter-rater reliability by the end of December.

Potential Impacts: a) Build a collaborative milestone approach and tracking system in a UME competency-based curriculum to better prepare students for residency, b) Develop a valid and reliable assessment tool, and c) Track student competency performance and use feedback data to build an integrated assessment tool for the clinical curriculum.

References:
ACIME Workshop: Getting a Cool Idea Off the Ground—Steps to Success

Fisher, Dixie \(^1\); Richards, Anita \(^1\); Rice, Gail \(^2\); Willett, Lisa \(^3\)

\(^1\)Keck School of Medicine of University of Southern California; \(^2\)Loma Linda University School of Medicine; \(^3\)University of Alabama at Birmingham

Workshop Rationale:
Lots of good ideas are formulated for educational innovations, but some never get started, others stall midway, and others get completed but no one knows whether or not they were successful. The purpose of this workshop is to help authors strengthen their innovation plans in order to end up with useful results and possibly a publication.

Intended Workshop Participants:
Faculty members who have a “cool idea” in mind and would like to be able to answer three questions: Did it matter? Was it successful? Is it publishable?

Learner Outcome Objectives
Following the workshop, participants will be better able to:
1. Write study questions
2. Use multiple sources to support the rationale for the “cool idea”
3. Recognize and deal with challenges to implementing a “cool idea”
4. Move a “cool idea” from the “idea” to a “doable plan”

Instructional Methods:
A workbook will be provided to each participant with a list of six items to consider when designing and implementing a cool idea. Another six questions will help strengthen the cool idea if publication is desired. The workbook provides tasks to be completed during the workshop with help from instructors and fellow participants. Participants will work alone and in small-groups to complete the tasks.

Activities:
Participants will complete and discuss tasks from the workbook to help launch their “cool idea” in a way to better ensure success. Two presenters will share stories about their innovation experiences with some lessons learned.

Take Home Tools
Workbook
"Redrawing the Line on Professionalism:” Views on professionalism across the educational continuum

Hodgson, Carol S and Smyth, Penelope

University of Alberta, Faculty of Medicine and Dentistry

Workshop Rationale: How do professionalism views develop and transform over time? One idea is that differences are based on experience and years of training. Situational learning theory provides a cognitive basis for learning professionalism, especially in the workplace. This workshop is part of a larger study where we are studying how trainees, faculty, and members of the public rate cases in terms of professionalism. We are also studying why participants think a case is professional, marginally professional, or unprofessional by analyzing their voluntary comments about the cases. This workshop is the result of 12 focus groups conducted with learners at different training levels and profession to study their professionalism views. The ultimate goal of the study was to develop this workshop using the information collected from multiple groups in order to teach about professionalism across the continuum of education and across professions. The goal of this workshop is to elicit participants’ views on professionalism and compare them to others within the workshop and to the views from other normative groups. Through this exploration, participants may reconsider their beliefs about what constitutes professional behavior and the role of context and motive.

Intended Participants: Educators interested in how to use an innovative method to gather views on professionalism, and people who would like to explore their own professionalism values.

Learner outcome objectives: Participants will be able to: describe the role of context in assessing professional behavior, describe a model for professionalism, reflect on their own views on professionalism and a sample of views from those in the health care profession.

Instructional methods: This highly interactive workshop allows participants to rate and discuss professionalism vignettes and compare their views with others in the workshop as well as those who participated at other venues. A brief description of the method used to collect cases will be described along with the process used for validation of the cases. Participants will be shown professionalism cases and asked to vote using an anonymous audience response system (ARS) as to whether or not the behavior described is “professional, marginally professional, or unprofessional.” Following voting on a case, participants will be asked to discuss why they think the behavior was professional or not. Then participants will see how the group voted on the case. Views from normative groups will be included in the discussion as a comparison to the views of the workshop participants. A model for assessing the motives for unprofessional behavior will be described and discussed. The session will include a discussion of the effect of context on professionalism. The workshop will conclude with a discussion of the utility of using this method in health professions schools.

10 minutes: Introductions and workshop overview
60 minutes: Rating and discussion of professionalism cases
10 minutes: Discussion of professionalism model
10 minutes: Wrap-up discussion of the role of context
Finding Feelings: Teaching empathy to clinicians using improvisational theatre training techniques.

Fu, Belinda

Faculty Physician, Swedish Family Medicine Residency – First Hill / Clinical Assistant Professor, University of Washington Department of Family Medicine /

Workshop rationale: Empathy is critical to providing compassionate patient care, and has been associated with better clinical outcomes, improved patient satisfaction, and enhanced physician wellness. ACGME core competencies and AAMC medical student learning objectives include empathy in their standards for professionalism and communication skills. However, the literature shows that empathy may wane during medical training and practice. Medical educators continue to search for effective training methods to teach empathy. In this workshop, participants will learn about and experience the educational method of medical improv, in which improvisational theater principles and training techniques are applied to the medical setting in order to improve communication skills. This workshop will demonstrate how carefully designed medical improv exercises could enhance learners’ empathy by improving their listening and reflection skills, and their abilities to recognize and express emotion, intention, and honesty.

Intended participants: Practicing clinicians, Clinician educators, Fellows, Residents, Medical students

Learner outcome objectives: After attending this workshop, participants will be able to: describe selected improvisational theatre principles and exercises, and their relevance to empathy, demonstrate at least one verbal and one non-verbal empathy skill, and discuss how medical improv training could be incorporated into clinical communication and professionalism curricula.

Instructional methods: This 90-minute workshop begins with a group discussion exploring the importance of empathy in medical communication and professionalism, and the challenges of teaching empathy. It then moves into a brief interactive explanation and demonstration about the fundamentals of medical improv. The majority of the workshop time will then be spent in activity-based group training exercises and debriefings, introducing participants to a selection of core medical improv skills relevant to empathy. The first exercises teach the fundamental communication technique of “Yes, and” to enhance skills in listening, verbal affirmation, and verbal reflection. The next exercises teach participants how to enhance perception and expression of emotion, using both verbal and non-verbal approaches. The final exercises combine the principles from the preceding exercises to practice the skill of the “honest response.” All attendees then reconvene to reflect on their experiences, and discuss how medical improv curricula could be incorporated into medical education at their home institutions.

Introduction / Discussion of empathy in medical education – 10 min
Fundamentals of medical improv – 10 min
Exercises / Debriefings – 60 min
Conclusion / Final discussion – 10 min

Take-home tools: Participants will take home a written summary including the following information: summary of core medical improv principles, and a brief description of medical improv exercises relevant to empathy.

References:


Bentley, Shannon

West Virginia University School of Medicine, Eastern Division

Idea: Utilize group visits to help residents gain skills and confidence in promoting change and healthy behavior in patients with obesity.

Rationale: Obesity is a nationwide health problem, as an isolated condition, as a precursor to numerous chronic conditions, and/or as an exacerbating factor that worsens other medical disease states (1). While obesity is prevalent in many communities, West Virginia is consistently among the top "obese states" in the nation (2). The increased prevalence of obesity parallels increases in hypertension, hyperlipidemia, diabetes, and some cancers nationwide (3,4). Obesity is preventable, treatable, and reversible. However, traditional ways of achieving these goals are falling short. This creates a vital need to develop and implement effective strategies to prepare new clinicians to successfully halt and reverse this epidemic.

Methods: Target audience is 15 family medicine residents and obese patients. This intervention utilizes group visits as the primary teaching/learning focus. Residents will be mentored and will work with a faculty member to plan in advance each group visit with a ten visit curriculum. The longitudinal curriculum addresses obesity prevention, treatment, and reversal with 10-15 patients/cycle. Group visits will be pre-arranged into residents’ clinic schedules in consistent days/times slots for each session. Content for each cycle will include topics such as: how obesity affects patients’ daily living and physical/emotional wellbeing using the acronym OBESITY: O- Outlook/individual health assessment; B- Barriers to change; E- Energy level; S- Sadness; I- Inspiration; T- Trials/failures; and Y- Yearning/regret over how obesity holds one back. Pathophysiology, impact of obesity on health and disease, and treatment options will also be taught. Residents and patients will learn principles for making positive change and how to build healthy identities. For this portion of the curriculum, the acronym HEALTHY will foster the transition in patients toward HEALTHY identities using provider and peer to peer interaction and feedback. Core principles incorporated are: H- Holistic approach; E- Enthusiasm for change; A- Activity; L- Laughter; T- Team approach; H- Healthy changes that stick; and Y- Yield/can do versus cannot do. Residents will also have opportunity to explore their own wellness issues with the attending.

Evaluation: Evaluation will include: a. tracking of each cycle (number of meetings, attendance, etc.); b. assessment of learner/patient reaction through use of structured rating forms; and c. assessment of resident knowledge and confidence in caring for patients with obesity though use of a pre-post survey. Impact on patients will be assessed using biometric data including BMI, waist circumference, blood pressure, etc. Longitudinal success will be examined through comparison of patient pre-series measures to follow-up measures (weight, blood sugar, etc). Each resident will also be asked to keep a log of their own wellness and experiences while running a series of group visits.

Potential Impact: Successful outcomes from this project will serve as a powerful clinical intervention and teaching strategy for our program, as well as a model for similar primary care programs. Additionally, we hope other specialties and interdisciplinary healthcare teams will find it useful to improve patient care.

References:
http://www.cdc.gov/obesity/data/prevalence-maps.html
Creating a Video Situational Judgment Test to Predict Future Student Success

Cunningham, Tara K1; Willis, Brigham C.1, 2

1 University of Arizona College of Medicine - Phoenix; 2 Phoenix Children's Hospital

Idea: To better assess behavioral and situational competencies in medical school applicants, a situational judgment test is currently being developed and anticipated to be of great value in screening potential students.

Rationale: Research on medical school admissions practices has generally focused on application data, the validity of assessment tools, as well as predictors of student success in the field of medicine. The medical school community has been encouraged to shift the selection paradigm to a comprehensive review as a mechanism to address diversity within the composition of medical students. Medical student success does not occur in an academic vacuum; behaviors and personal traits play a significant role and are related to improved patient care. Personality traits and characteristics are measured in the multiple mini interview (MMI); however, the MMI is not designed to assess a student's behavioral tendencies that may predict future actions when faced with similar challenges.

Methods: A Situational Judgment Test (SJT) involves a series of realistic, hypothetical scenarios that require a participant to rank-order four to five responses to display knowledge of the effectiveness of behavioral responses. SJTs can be presented in a written or visual format and can measure multiple constructs. SJTs are used in many organizations, promoted by various consulting firms, and have been extensively validated. SJTs are widely administered in the United Kingdom's medical education program and have been targeted by the AAMC for future exploration. In fact, the AAMC has begun exploring the feasibility of deploying a standardized SJT as an application data point for medical school admission in the distant future. Phase 1 (October 2014 – February 2015) / Item type development is currently the focus of the project and a data collection tool has been distributed to University of Arizona College of Medicine – Phoenix faculty, staff and students, in addition to the National Association of Advisors for the Health Professions, Inc. Participants of the survey are solicited to provide a real-life situation that would demonstrate behaviors expected in a medical student, as well as up to five possible responses to the situation in the order of appropriateness. Phase 2 (March – April 2015) / Item type refinement and validation will be conducted by a workgroup of faculty to create the 30 scenarios and appropriate responses. Phase 3 (May – June 2015) / Volunteers will be recruited to reenact the scenarios and with the assistance of the University of Arizona College of Medicine – Phoenix Offices of Media Services, Educational Technology, Evaluation and Assessment, the development of the video-based assessment tool will be completed. Phase 4 (July 2015) The SJT will be administered to incoming graduate certificate and medical students during their respective Introduction to Medicine/Pathways academic block. Participation will be mandatory.

Evaluation: Academic Year 2015-2016 SJT results will be correlated with and compared to behavioral competency progress and academic test scores of these students at the conclusion of year 1 using regression analysis. Based upon these findings, the SJT may be administered to applicants in 2017 admissions cycle.

Potential Impact: 1. Aid the admissions selection process incorporating school-specific goals into application screening; 2. Assist student advising; 3. Offer replication and implementation opportunities for other medical schools that have an interest in assessing student behavioral characteristic and traits valued in undergraduate medical education.

References:


An interactive faculty development program to enhance faculty feedback skills

Milan-Flanigan, Alicia

Presence Saints Mary & Elizabeth Medical Center

**Idea:** To enhance the amount and quality of feedback provided by faculty to residents through use of an interactive faculty development using videotaping and “shift cards.”

**Rationale:** Resident assessment of program weaknesses has identified lack of feedback as a key issue. Feedback is essential in promoting resident growth and is a key element of practice-based learning and improvement. Targeted practice with feedback has been shown to be effective in developing skills. (Ambrose, 2011). Distributed practice has also been shown to increase performance quality (Dunlosky, 2013). In response to this need we are developing a longitudinal faculty development program within our obstetrics unit within a family medicine residency.

**Methods:** The target audience is 10 family physicians that make up the team of Obstetrics preceptors in our program. The model for instruction of the faculty will mirror what is desired in relation to faculty performance, this is, it will include regular feedback and distributed practice. The workshops will include opportunities to practice giving feedback to each other with targeted observer feedback, as well as videotaping and self-assessment. The training will utilize the skill centers in which the residents train. The total training time for the faculty will be 10 hours across six months using the distributed practice model. In tandem our faculty will be utilize “ARCH shift cards,” to provide daily feedback to residents (Baker, accessed 7/09/14). ARCH stands for ask learner to self-assess, reinforce learner, correct any errors and help the learner to develop a plan. The outcome objectives for faculty, would be that they would be able to: 1) demonstrate appropriate feedback skills within the training sessions; 2) apply these skills in providing feedback to residents; and 3) complete shift cards for residents at least 3 days per week.

**Evaluation:** The evaluation will include: 1) assessment of faculty reaction to the training (found it useful, were able to apply it); 2) direct observation of faculty during the final training sessions, using a targeted rating form; 3) usage of the new “shift card” by the targeted faculty (n=10) in obstetrics versus the usage in all other sites and by faculty not included in this intervention (n=8); and 4) resident assessment of the amount and usefulness of feedback provided within their obstetrics training versus other rotations.

**Potential Impact:** If this combined strategy is found to be effective, it could provide a model for other family medicine or Ob/Gyn residency programs.

**References:**

2. John Dunlosky, Katherine A. Rawson, Improving Students' Learning With Effective Learning Techniques: Promising Directions From Cognitive and Educational Psychology. Psychological Science in the Public Interest January 2013 vol. 14 no. 1 4-58

Incorporation of First-Person Video to Improve the Assessment of Procedural Skills

Wiechmann, Warren; Toohey, Shannon; Ogbu, Uzor C; Youm, Julie; Chakravarthy, Bharath

University of California, Irvine

Idea: We are seeking to test a novel system for evaluating procedural skills among residents using first-person video (Google Glass).

Rationale: The ACGME has developed a set of milestones with clearly defined criteria for assessment and feedback for each residency program. For Emergency Medicine, these milestones include vascular access, airway management, wound repair, procedural sedation, and ultrasound. However, the milestones are designed to provide a more global assessment and may lack the granularity to be a useful feedback tool for learners. This leads to variability in feedback that is dependent on the evaluator. Evaluation of procedural skill often involves direct observation by a supervising physician. Evaluators are required to prepare summative judgments of the competency of the learner and then provide constructive feedback. However, direct observation can be influenced by many factors including the success or failure of the procedure, the degree of difficulty, the degree of attentiveness of the evaluator and recall bias. In the clinical environment, direct observation can be logistically difficult, subsequently making evaluation and feedback less effective. A recording will mitigate the impact of some of these factors, providing an accurate record for later review and the effectiveness of such recordings has been examined in some studies. However, to date no studies have a first-person point of view recording that captures what the learner is seeing and looking at during the procedure.

Methods: This project utilizes Google Glass, to capture a first-person recording of the procedure to address deficiencies with direct observation and current evaluation methods that were not previously feasible. After the recording the video will be reviewed by resident and evaluator for a more complete evaluation of the procedure. We aim to develop a comprehensive system that includes self-assessment, detailed feedback, and evaluation of the evaluator. The primary outcome measures will be the assessment of procedural competency for vascular access and the identification of errors, critical actions, and confounding variables that occurred during the procedure. Secondary outcome measures include the effectiveness and utility of first-person video recording for assessment. Each resident will record 6-8 procedures during the year. Procedural competency will be assessed using a validated checklist and the ACGME Milestones assessment tool. In addition, during the video review the evaluator will identify and note any technical or non-technical errors in an open-ended comment box, noting the time at which it occurred for future review. A global competency score will be provided along with a rating based on the ACGME milestones, which range from Level 1 to 5, based on the residents experience and skills displayed.

Evaluation: We will assess agreement between the overall scores for each procedure. Each item on the checklist will be scored using a 5-point Likert scale. Scores will be used in a cross-sectional analysis of resident performance and a longitudinal analysis to determine progress in competency over the two-year course of the study. We will assess agreement between the ratings provided by the evaluating faculty, resident and research team using Friedman’s test. We will also determine the correlation between the checklist score and the Milestone rating using Spearman’s test of correlation.

Potential Impact: The expectations of the ACGME in regards to evaluation is increasing, and ensuring the procedural competence of residents is essential. If effective, first person video evaluation could aid in creating a more accurate assessment of resident skills and more accurate and useful feedback for the resident.

References:

A Dual Handover Station in a Second Year Resident Multi-STation Clinical Examination

Samaniego, Luis1; Wohlmuth, Cinna2; Barrio, Juan2; Mathis, Stanley2; Gates, Stephanie2; Reese, Leroy2; Nyquist, Julie1

1University of Southern California; 2White Memorial Medical Center

Idea: To assess and enhance resident skills in giving and receiving patient handoffs through a 20-minute station within a 12-station clinical examination.

Rationale: Patient handovers (or handoffs) are the transfer of information, accountability and responsibility for a patient from one healthcare provider to another during transitions across the continuum of care [1]. Effective communication during patient care transitions is essential for safe and high quality patient care. Inpatient handoffs are frequent events, with poor communication being a reason for patient safety issues. The Accreditation Council for Graduate Medical Education (ACGME) requires that residency programs monitor the quality of patient handover skills of the residents [2]. Many health care systems have also mandated teaching, assessment and direct observation of these skills [3]. The proposed 20-minute stations will ensure that every second year resident is evaluated, and provided targeted feedback, at least once on the skills of giving and of receiving an inpatient handover.

Methods: The participants will be mid-second year residents in three specialties (internal medicine, family medicine and obstetrics and gynecology) from 5 training programs in three different medical centers (n=32). The station will be a 20-minute dual handover station incorporated into a 12-station clinical examination. Each resident will bring a case to hand over. Each case must meet the following criteria: 1) be one of their own cases from an inpatient setting; 2) be a complex patient (e.g. one with underlying chronic disease) and 3) be a patient with problems or issues that require emergent care or have pending labs/radiographic studies/other results. Process: two residents (from the same training program) will enter the station together. There will be a three stage process: a) resident #1 will handover his/her patient while resident #2 receives the patient; b) resident #2 will hand over his/her patient, while resident #1 receives and c) the faculty observer will provide feedback to both residents. All residents will be assessed utilizing a standard ration form that incorporates each action (giving and receiving). The items will address process (uninterrupted, double-loop communication, anticipatory guidance, acceptance of responsibility) and content (patient demographics, past history, current problems, pending studies, to do list, request for questions).

Evaluation: For each learner the faculty evaluators within the station will rate three things: 1) how well the case brought meets the criteria; 2) skill in handing over a patient to another resident; and 3) skill in receiving a handover from another resident. In the session we will share the item-by-item results for the 2015 pilot with 17 residents from 3 programs; comparison of performance on this station in relation to the other 11 stations; and data reporting the reaction of faculty (appropriateness of cases, realism, usefulness in understanding resident skills and needs). Any logistical issues or lessons learned will also be shared.

Potential Impact: It is hoped that implementation in 2016 of this station will result in fewer inadequate handoffs situations and aid in the residents’ progressive development in relation to this competency. The station rating tool and process will also be transportable to other graduate training programs and to other health professions.

ACIME Workshop: Are you with me? Grabbing and Holding Learner Attention

Fisher, Dixie; May, Win, Walsh, Anne

Keck School of Medicine of USC

Workshop Rationale:
“Multitasking” is a common habit of medical students during lectures. Smart phones, tablets, and computers are allowed during lectures on the assumption that students are using them productively. This workshop is designed to demonstrate the myth of multitasking, and to provide several ways for faculty to gain and retain student attention. Each participant will commit to using at least one of the methods presented to grab and hold student attention when delivering his/her next lecture.

Intended Participants: Lecturers at all levels of teaching.

Learner Outcome Objectives:
1. Participants will be able to explain why multi-tasking is difficult or impossible for most people.
2. Self-professed multi-taskers will be able to compare their own multitasking ability with a larger subject pool.
3. Participants will incorporate at least one of the methods for grabbing and holding learner attention into an upcoming lecture.

Instructional Methods:
Video segments will be used to demonstrate the “myth” of multitasking, and participants will be able to compare their own ability to multitask with actors in the video. Workshop leaders will model several methods for gaining and retaining attention. Short content presentations will be followed by group work where participants will demonstrate how they will use one of the methods during a lecture.
Film-based anticipatory reflection regarding medical career pathways
Brett-MacLean, Pamela; Lewis, Danielle; Helleman, Andrea; Walton, Jennifer; Oswald, Anna

University of Alberta, Edmonton, AB & We are All Average Production House

Workshop Rationale: There is a need to support medical students through the various transitions they experience through clerkship, including supporting students in considering satisfying career choices. In part, this may be accomplished by acknowledging that this can be an ongoing process in which adjustments and shifts may be made which can change the course of their career over time. Similar to other medical schools, we have made use of film as a springboard for reflection in undergraduate medical education at the University of Alberta (Brett-MacLean et al., 2010). Initially we used Hollywood-based films, and then shifted to film documentaries. This past year, we have begun to create our own digital shorts and reflective curricula aimed at supporting medical students in making meaning of, and positively adjusting to the transition to clerkship and residency. “Medical Firsts” is a 5-part series that addresses themes related to Rites of Passage, Privilege, Patients, Mistakes, and Death and Dying. These shorts are directed to helping clerkship students make meaning of challenging early clinical experiences, along with strategies for coping with these experiences (e.g., seeking support from trusted others). Currently, we are considering options for developing a video to promote anticipatory reflection regarding medical career pathways in medicine for clerkship students.

Intended Participants: Medical educators, curriculum designers; those interested in engaged, interactive approaches to teaching (including use of film).

Learner Outcome Objectives: To enhance understanding of approaches to reflective narrative sharing, including creative strategies for addressing transitions to residency and practice; to identify approaches participants may develop at their home institution for supporting students facing transitions, including students considering future careers in medicine as they imagine the kind of doctor they hope to become (future professional selves). In addition, this workshop will offer an opportunity for meeting with others interested in this area, sharing experiences, and exploring potential collaborative projects.

Instructional Methods: Participants will describe curricula they are familiar with directed to addressing concerns related to career choice, successfully maneuvering the residency match, and transitioning to residency (15 min). Two film-based approaches will be discussed: the documentary “Doctor’s Diaries,” and our new “Medical Firsts” video series. We will screen “Rites of Passage” and ask participants to complete a power writing exercise. Selected excerpts of “Dr. Diaries” will also be screened. We will describe some of the feedback we have received in response to both videos (35 min) in our undergraduate program. In small groups, participants will discuss the two documentary approaches in relation to potential opportunities and pedagogical benefits. A representative from each small group will describe unique insights and suggestions for using video resources for teaching and learning regarding careers in medicine (15 min). The workshop will conclude with a large-group discussion that considers the use of film-based, small group anticipatory reflection in promoting medical student resiliency, lessening stigma associated with strong emotions (e.g., helplessness, guilt, regret, confusion, etc.), and actively supporting medical student’s professional identity formation including their commitment to realizing their hopes for becoming a physician (10 min).

Take-Home Tools: Workshop participants will identify film-based reflective exercises and other approaches they can develop and use in their own educational settings.

Pre-Workshop Preparation Requested: Participants will be asked to view the Doctors’ Diaries film (http://video.pbs.org/video/1114402491) prior to the workshop.

References:
Beyond Exams: Innovative Applications of Formative Assessments in Higher Education

Close, Brandy; Thompson, Dan

Oklahoma State University- Center for Health Sciences

Idea: Innovative use of computer-based formative assessments will promote increased outcome performance on high stakes, summative assessments.

Rationale: The use of formative assessment in higher education, specifically undergraduate medical education, is generally acknowledged as a necessity in assessing student knowledge, yet there seems be a general lack of understanding of its true potential, benefits, and risks (David and Macfarlane-Dick, 2006). Research indicates that formative assessments help facilitate student learning when useful feedback data is analyzed and utilized effectively through pedagogical practice (Nicol and Macfarlane-Dick, 2004). Additionally, research supports the belief that effective feedback practice fosters self-regulated learning through active monitoring of various learning processes, of which higher education should help build upon. (Nicol and Macfarlane-Dick, 2006). We contend that exploring formative assessment as a framework for monitoring student progress, timely realignment of instruction, and enhancing student achievement can be achieved pedagogically through the use of innovative low-stakes assessment methods. Many higher education institutions use computer-based testing software, specifically ExamSoft, to administer secure, high-stakes, summative assessments in order to assess the learning outcomes of students. However, oftentimes the pedagogical goal is to assess student learning throughout the course without the pressure of high-stakes situations in order to utilize feedback data to either guide instruction or promote student self-awareness of learning, or both.

Methods: The purpose of our presentation is to discuss the utilization of ExamSoft software in a unique and creative way to formatively assess student knowledge and provide useful, relevant, and timely feedback to enhance student learning. The application and potential benefits of the various methods/approaches are discussed, culminating with an active learning experience in which members will participate in one form of low-stakes assessment and feedback from the student perspective while utilizing a mobile device (tablet). Examples of the proposed methods are: pre-assessment, guided study, frequent in-class assessment, take-home quizzes, peer reviews, and team competitions.

Evaluation: Understanding the value of formative assessment is only useful if its purpose and utilization is clear and operational. This session will provide members with an understanding of why low-stakes, formative assessment is pedagogically sound and useful, specifically with the use of ExamSoft as the assessment tool. Additionally, this session will allow members to actively experience one of the assessment methods mentioned above. Members will gain insight into the application and benefits of utilizing ExamSoft for low-stakes assessment through experience from a student’s perspective, and understand how feedback can be used as a timely and effective teaching tool.

Potential Impact: Faculty and students alike will benefit from timely, constructive, and consistent feedback in a way that will replace methods that were previously considered laborious, time-consuming, and difficult to achieve.

References:
Universal Notes: The Future of Medical Education?

McGuffin, Aaron; Hayes, Rebecca

Joan C. Edwards Marshall University School of Medicine

Idea: Universal Notes incorporates medical student competencies, educational material, and assessment methods to create the framework for a complete medical school curriculum.

Rationale: Medical education is constantly evolving. The 2010 Carnegie Foundation study, “A Call for Reform of Medical School and Residency”, recommended goals to employ during this period of progress including standardized learning objectives and competencies, options to individualize student progress, a distinction between core and extraneous material as well as a number of other aims [1]. The Liaison Committee on Medical Education (LCME) requires documentation demonstrating a medical education program’s compliance with both LCME accreditation standards as well as the program’s own institutional objectives [2]. Thus, curricular learning objectives differ among medical schools and the quality of education between programs is difficult to assess. A unified set of medical education learning objectives could improve quality assurance and communication between programs. The Carnegie Foundation study also calls for flexible curricula and readiness assessments in order for students to individualize their schedule. A flexible curriculum may allow for a decreased length of training, which would result in reduced tuition, a benefit that may encourage more students to enter medicine. The development of a mobile resource with core medical student competencies, educational material, and readiness assessments may solve a number of the recommended goals set by the Carnegie Foundation and drive the future of medical education. Universal Notes for Medical Students is a computer/tablet/smartphone application that contains the entire breadth of existing medical school competencies with relevant content and associated assessments that are continuously added and updated. The material is created and edited by medical students and medical faculty from around the world with oversight by senior medical educators. Its content is fully searchable, including educational themes of interest to faculty, curriculum committees and the LCME.

Methods: Third year medical students enrolled in three consecutive surgery clerkships (approximately 35 students) will be given access to the surgery section of Universal Notes as supplemental study material. Students will be given a brief introduction to the competency-based curriculum at the beginning of the rotation. Each student’s completion of competencies will be assessed and recorded at the end of the rotation. Students will complete the standard requirements of the rotation and the UN curriculum if they so choose.

Evaluation Plan: Students are required to take the surgery NBME subject exam at the end of each rotation. Scores from students having participated in UN curriculum will be compared to data from previous surgery NBME exam averages at the same medical school to assess for performance impact. Surveys will be given to students to assess satisfaction with the educational tool. Data will be used to enhance the entirety of the UN curriculum and content.

Potential Impact: Universal Notes for Medical Students has the potential to standardize the competencies and content of medical education worldwide and allow for a comprehensive overhaul of the traditional four-year curriculum model.

References:

Liaison Committee on Medical Education. Functions and Structure of a Medical School: Standards for Accreditation of Medical Education Programs Leading to the M.D. Degree. 2013
Medical Triage Web Platforms -- EMTriage.com, Surgerytriage.com, MedicineTriage.com

He, Shuhan; Wu, Brian

Keck School of Medicine of USC

Idea: A customizable web platform for autoaggregating, sorting, and sharing of free open access medical education for optimizing learning for health professionals.

Rationale: Free open access medical education resources have dramatically increased in recent years. These resources provide necessary and up to date information for academic medicine professionals. However, few users have time to browse and access the increasing number of resources. Specifically, a prospective study of blogs and podcasts of emergency medicine blogs from 2002 through November 2013 showed a significant increase in resources, from two blogs and one podcast in 2002 to 141 blogs and 42 podcasts in 2013. Currently, over 100 locations to read, listen, and learn from medical educators creates an unmanageable burden for medical professionals to overcome. Questions and comments are made at the location of the resource and are often only posted at the discretion of the author. There is also no mechanism to sort by the quality of content across multiple education platforms. Furthermore, blogs often start and end at the discretion of the educator, and are difficult to re-access after initial reading for future reference, and are difficult to share with co-learners.

Methods: The site is built with PHP (server side scripting language) and SSL (Secure sockets layer) secured. Feeds are auto aggregated using Rich Site Summary (RSS) collection into a community home page. Different formats of threads are auto segregated into website, video, and podcast. Users can up vote these auto submitted posts to generate community agreement on the most valuable content. They can also comment on individual threads from the RSS feed. Users can create a profile, save individual threads within the medtriage sites, and share them with colleagues via email, Facebook, or Twitter. Users can also input their own resources by title and link to the resource for input into the community home page. Users can also eliminate unhelpful posts while saving useful ones for future reference as well as take personal notes on the platform for later reference.

Evaluation Plan: These sites will feature RSS feeds from the top 10 blogs of emergency medicine, internal medicine, and surgery. Traffic volume, unique page visits, time spent on page, bounce rate, and geographical location of users will be collected via google analytics. The number of comments and upvotes will be collected, and the user base will be sampled for self-reported Physician, Medical student, and Resident use. The popularity and effectiveness of the platform will be determined through online questionnaire to users. A small incentive will be provided to one winner selected from those that complete the questionnaire. Questions will include satisfaction with the tool, usefulness, and whether they would continue to use in the future. Scores will be reported along with analytics on the website.

Potential Impact: Open access educational tools offer many unique and powerful information sharing and collaboration features and the Med Triage project provide a free, easy to use open access management platform for all medical professionals to use. Such improvements in medical education will improve medical care and knowledge. Further research is required to determine the best ways to integrate this tool to include the best learning programs for students and health professionals in an ever changing digital environment.

References:


Multimodal Procedural Learning Resource for Emergency Medicine Residents

Tabatabai, Ramin; Montano, Manuel

LAC+USC Medical Center

Idea: Creating a multimodal, longitudinal online procedural curriculum and resource for emergency medicine residents.

Rationale: Emergency medicine (EM) is a procedure-intensive specialty that requires residents to demonstrate proficiency in numerous procedures during their training. Training programs must provide residents with instruction in both common and rare procedures ranging from toenail removal to the critical resuscitative thoracotomy. Currently, training programs provide procedural exposure with a variable clinical experience that requires supplementation via simulation labs, cadaver labs, and independent reading (Grall 2014). To our knowledge, there does not currently exist a standardized procedure curriculum and resource addressing the breadth of procedural competency that an EM resident is responsible for learning. As the classical medical adage of “see one, do one, teach one” is increasingly identified as flawed and antiquated, newer innovative teaching methodologies are leading the way in medical procedure education (Manthey 2012). A multimodal interactive, technology-mediated e-learning format can be of significant benefit for the training of EM residents (Sankey 2010).

Methods: We will create an online procedural education tool that will serve as a curricular model for longitudinal learning during an EM residency. Our multimodal curriculum will incorporate the mandated ACGME procedural competencies as well as other essential emergency medicine procedures. The curriculum will be organized on a website by organ system with subgroups for each related procedure. Each procedure will have an online link that will connect the learner to three separate learning modalities. The first modality will be a one-page illustrated schematic PDF file of the procedure, outlining each critical step in necessary detail. The second modality will be a short video created by our own residents and faculty that demonstrates essential procedural steps and will include live footage from a fresh-tissue cadaver lab. The final component will build on the essential knowledge obtained from the schematic and video. This last modality will include a “deep dive” into the details of each procedure, utilizing text, journal, and online references to increase the resident’s learning and sophistication with respect to the procedure along with self-test questions to ensure adequate learning has been achieved. This curriculum can serve as an adjunct to help residents learn and prepare for any procedure in the clinical areas as well as in simulation and cadaver labs.

Evaluation Plan: Randomize 68 residents into 2 groups. We will designate two procedures for our intervention. These two procedures will be the commonly performed central venous line and the less commonly performed cricothyrotomy. Half of the residents assigned to the multimodal curriculum group will be instructed to learn about these two procedures on the procedure website. The other half of residents will be instructed to learn the procedures via independent learning. Both groups will be given a pre-test and post-test on critical steps and understanding of the procedure. In addition, all residents will be given a satisfaction survey on the instructional method upon completion of the post-test.

Potential Impact: This model of multimodal procedural instruction can serve as an online curriculum for emergency medicine residencies both nationally and internationally. In addition, programs can utilize this online resource as a supplement to learning in simulation labs, cadaver labs, and in real time during clinical shifts.

References:


A Multifaceted Approach to Enhancing Medical Knowledge and Improving Board Examination Scores

Daly, Timothy
Lehigh Valley Health Network

Idea: Use of evidence-based techniques (distributed practice and practice tests) and a supportive environment to help residents build their knowledge base.

Rationale: Our residents have had lower than average pass rates on the American Board of Family Medicine (ABFM) board examination over the past several years. A review of in-training exams (ITE) from 2011-2013 indicates residents have struggled in several subject areas. ITE exam performance is a proven indicator of subsequent success on the ABFM board exam; both are indicators of medical knowledge (1). A recent extensive review of educational literature by Dunlosky identified several techniques that work to improve knowledge acquisition: use of practice tests and distributed practice are two proven techniques (2). An intervention by Langenau et. al using email based practice tests demonstrated that residents who participated in practice tests were able to improve their ITE exam performance (3). Additionally, learners with well developed metacognitive skills, those who are effective in studying on their own time, are more likely to be successful in passing boards. The intent of this project is to help improve self-direction and medical knowledge acquisition, as demonstrated by board performance. The study techniques (distributed practice and practice tests) will be coupled with creation of a collaborative environment which supports positive relationships, builds competence and encourages increasing autonomy.

Methods: Participation for all residents PGY-1 through PGY-3 is voluntary, n=18. The intervention has three prongs: 1) enhancing the environment through counseling on study skills (metacognitive skills); 2) use of pre and post testing (practice testing) implemented for selected didactic sessions and 3) periodic testing over the next year on topics of general concern for our residents (GI, Hematology, Maternity Care, Care of the Female Patient and Surgery) accompanied by followup (distributed practice). Every 4-6 weeks all residents will receive, via email, 10 board review questions covering the “target” topics and will be asked to respond within 48 hours. Learners will be emailed back the answers, along with an encouraging note; an explanation for each item missed, and suggested readings for problem subject areas. Across time, residents will be asked to contribute to the selection of articles as part of their movement toward autonomy.

Evaluation Plan: Prior to the start of the program a survey of study activities will be taken. Participation in each of the three “prongs” will be tracked for each resident. After the first 6 months of implementation learners will be surveyed to gather qualitative feedback on the program, as well as a repeat survey of study activities. Each year for three years ITE exams will be reviewed in each subject so that the intervention can be modified to meet learner needs. ABFM pass rates will also be tracked.

Potential Impact: If effective, this simple intervention could be a model for other programs which seek to enhance medical knowledge acquisition in their residents by encouraging adult independent learning.

References:

Dunlosky J, Rawson K. Improving Students’ Learning with Effective Learning Techniques: Promising Directions From Cognitive Educational Psychology. Psychological Science in the Public Interest 2013; 14(1) 4-58.

Leveraging Institutional Policy to Enhance Student Immunization Knowledge and Skill

Stefan, Kurt; Havas, Nancy
Medical College of Wisconsin

Idea: Medical students learn about vaccines and their significance; however, they lack significant knowledge and practice in providing them.

Rationale: At MCW all faculty, staff and students are required to receive annual influenza vaccinations. Compliance with this mandate has been a challenge, especially amongst the medical students. Medical students are often approached for information about vaccines, yet they have minimal training or practice in providing an actual immunization or counseling. Students report that they do not feel comfortable providing patient education and desired training in technique.

Methods: An educational session was designed to address the need for efficient student immunization and enhance student competence and confidence regarding vaccinations. A pre-post survey will assess first semester medical student knowledge, attitudes and confidence in counseling about immunizations at matriculation, and then after the session. The session will be delivered in the Foundations of Clinical Medicine course. Topics covered include content about vaccine mechanism, safety and common public misconceptions. Patient education material about the influenza vaccination will be provided, along with technique in nasal and subcutaneous influenza vaccine administration. Students will then be asked to immunize each other during class under the guidance of MCW Occupational Health nurses and fourth year nursing students from the Milwaukee School of Engineering (MSOE). The MSOE students will help facilitate and provide instructional support. This is also an opportunity for interprofessional education and collaboration.

Results: The student pre-test garnered responses and data from 197 of the 209 (94.26%) M-1 students currently enrolled. The data reveal a wide range in student opinions on multiple topics. Some of these opinions, albeit the minority of students, are in direct contrast to evidenced-based medicine. However, this distinct is important as healthcare workers who are able to correctly answer basic vaccine knowledge questions are more likely to have been vaccinated than those responding incorrectly (84% vs 64% vaccination rate) (Martinello, Jones, and Topal, 2003)

Lessons Learned: This intervention may serve as a model for other schools in meeting the needs for infection control and vaccine education. While this intervention focuses on student vaccinations, the model could also be used to provide training and educational counseling in other procedures.

References:
Boot camp for Oncology Fellows: Using Multimodal Teaching Techniques Early in Oncology Fellowship

Sikaria, Swati

LAC+USC Medical Center; Norris Comprehensive Cancer Center

Idea: Enhancing medical knowledge, skills and satisfaction in incoming Oncology fellows though a multimodality interactive curriculum.

Rationale: Current methods of instruction in medical oncology fellowship do not adequately address the difficult transition residents face as they begin oncology fellowship. The European Society for Medical Oncology and the American Society of Clinical Oncology task force has established global guidelines for medical oncology training programs, mandating that appropriate resources and facilities be available, and that service commitments not compromise the achievement of educational goals and objectives (1). Despite this strong recommendation, demands for patient care can overcome dedicated time and resources for education. Our survey of existing fellows reveals unmet needs in cancer knowledge, chemotherapy knowledge and prescribing skills, patient communication, and ability to adjust to a novel medical center (e.g. institutional resources). These deficits lead to 67% of fellows reporting emotional exhaustion multiple times a week in the first two months of fellowship (unpublished). A comprehensive early curriculum focusing on the transition period, each fellow’s zone of proximal development, and institutional resources, is necessary to address these needs in multiple domains.

Methods: The proposed curriculum consists of a reference pocket handbook as well as formal teaching sessions. The fellow handbook will contain a rotation guide, chemotherapy guide, cancer guide, and telephone directory. Teaching sessions will be allotted 60 minutes and occur 12 times during the first six weeks of oncology fellowship, for a total training time of 12 hours. Up to eight fellows are expected to participate. Each session will be developed in conjunction with faculty members and utilize audience response system such as “poll anywhere.” Techniques to increase participation and learning of medical knowledge include: establishing prior knowledge, providing scaffolding, asking questions, summarization, use of practice tests and visual aids (2). A communication session covering breaking bad news and goals of care discussions will employ the SPIKES (Setting, perception, invitation, knowledge, empathy, strategy, summary) model (3). Each session will have an assigned reading to ensure the inclusion of self-learning.

Evaluation Plan: Current first and second year fellows in medical oncology who have not received this boot camp curriculum have completed an online survey reporting their frequency of burnout defined as emotional exhaustion and self-reported rate of chemotherapy and non-chemotherapy errors; future fellows who have participated in the boot camp will be surveyed similarly and these rates will be compared (n = 11). Self-assessments of competency in medical knowledge are unreliable; rather in-service training exam (ITE) scores can be compared from years pre and post-implementation, and rates of chemotherapy errors as measured by the infusion center can be compared. Learners’ attainment of knowledge will be assessed via a single-group, knowledge quiz pre-curriculum during session 1 and post-test after session 12 as well as 12 weeks after completion of curriculum to assess ability to retain knowledge. Learners will complete a program evaluation survey with formative and summative feedback.

Potential Impact: Our hope is that this boot camp curriculum for oncology fellows will be effective in improving fellow medical knowledge, patient care, and patient safety; At the same time, we hope to improve learner satisfaction with fellowship to deter burnout. We provide a model that could be generalizable to other medical subspecialties and to other institutions.

References:

Dunlosky J et al. Improving Students’ Learning With Effective Learning Techniques: Promising Directions From Cognitive and Educational Psychology. APS 2013; p4-58

Teaching a Core Concept in Physiology: Oxygen Binding to Hemoglobin

Breckler, Jennifer

UC Berkeley; UCSF

Idea: We wanted to help medical students engage in basic science by creating a series of non-traditional hands-on activities for our case-based curriculum. Students first discuss the paper case in tutorial groups and later perform the activity module on their own time. Activities involve touching or manipulating homemade objects, puzzles and games on challenging physiology concepts. This module involves oxygen carrying capacity, to accompany a case on anemia.

Rationale: We have observed that most of our students have multimodal learning preferences, including kinesthetic learning, according to the VARK online survey instrument. We instituted a series of hands-on activity modules and called this experience the "Basic Science Learning Station". At the Station, activities helped students engage in challenging physiological or spatial concepts, chosen from our experience teaching human physiology. Here we present some activities to accompany the paper case on anemia. Concepts include oxygen partial pressure (PO2), alveolar gas exchange, and the Hb-oxygen dissociation curve.

Method: A series of 8-9 hands-on activities on oxygen carrying capacity were created and made available to students 8hr/day for one week during the anemia case. Students were encouraged to touch objects and spend as much time as they wanted. Participation was voluntary and there was no written assessment. Students could attend alone or in groups. There was no instructor present. Simple written instructions provided structure for these self-guided activities.

Evaluation Plan: Anonymous electronic evaluations are set up to determine student responses. Since the activity is voluntary, we are unable to determine if those students who frequent the station prefer kinesthetic learning. We are able to determine the number of students who attend the station and read their reflections on its usefulness as a learning tool in our case-based curriculum.

Potential Impact: Students engaging in these non-traditional activity modules are excited by the experience and feel it enhances learning and reviewing. We have designed hands-on modules to accompany other topics, such as congestive heart failure, nephrotic syndrome, hydrocephalus, pneumothorax, myocardial infarction and stem cell biology. Medical students who prefer kinesthetic learning can benefit from this non-traditional approach toward learning abstract basic science concepts.

References:

The Effect of Repeated and Spaced Formative Testing on Final Exam Performance in Medical School

Chang, Edward; Wimmers, Paul

David Geffen School of Medicine at UCLA

Idea: Medical school educators need effective ways to monitor how their students are learning in the pre-clinical years without bombarding them with exams.

Rationale: Every student has a unique way of studying. Evaluating study methods is important for medical students because they need to master copious amounts of material in a short amount of time. There is a fine balance between medical students’ self-regulated learning and influence from educators. This study explores the role of repeated ungraded testing in the final exam performance of first-year medical students. We hypothesize students who consistently perform well on repeated ungraded tests and utilize additional practice exams will score higher on final exams.

Methods: The study population was 153 UCLA medical students. Students were put into groups based off of weekly assessment performance and whether or not they utilized a practice exam. Groups 1, 3, and 5 were students who scored lower than the median on weekly assessments while Groups 2, 4, and 6 were students who scored higher. Students who did not use the practice exam comprised Groups 1 and 2. Groups 3 and 4 included students who scored below the median on the practice exam and Groups 5 and 6 scored above. Multiple comparisons between the groups were made using ANCOVA. We were interested in the individual and combined effect of weekly assessment and practice exams on final exam performance.

Results: Adjusted analysis (covariates: GPA, MCAT) showed that practice exam and weekly quizzes had a significant relationship with final exam performance ($F[7,145]=18.765$, $p<0.0005$). Groups 2, 4, and 6 performed better, on average, on the final exam than groups 1, 3 and 5 respectively (Groups 1 and 2, 80.8% vs 88.0%, $p<0.0005$ || Groups 3 and 4, 83.4% vs 88.6%, $p<0.0005$ || Groups 5 and 6, 84.1% vs 90.1%, $p<0.0005$). Group 1, students who scored below the median on weekly assessments and did not take any practice exam, did not perform as well as group 3 (80.8% vs 83.4%, $p=0.072$) or group 5 (80.8% to 84.1%, $p=0.047$).

Impact: Medical school faculty can identify struggling or excelling students by administrating mandatory weekly assessments that do not count towards the final grade. Consistently lower performance on weekly quizzes is predictive of lower final exam scores. Medical students who are struggling in school will benefit from extra practice exams while students who are excelling may not need extra practice.

References:


Utility and Efficacy of a Peer-Based Anatomy Tutoring Program For First-Year Medical Students: Updated Data from the 2013-2014 Academic Year

Harrison, David; Lentz, Jacob; Escovedo, Cameron; Schmalz, Naomi; Stahl, Lesley; Thakur, Sarika; Parker, Neil; Stark, Elena

David Geffen School of Medicine at UCLA

Idea: For the past three years, the Department of Integrated Anatomy in the David Geffen School of Medicine at UCLA (DGSOM) has instituted a peer-based anatomy tutoring program primarily run by upperclassmen students, and concurrently has collected data on the efficacy of this program. As compared to the 2012-2013 academic year in which 12 tutors were hired and 791 sessions were held, the desire for tutoring outweighed the tutors’ availability, and the program was further expanded to 26 tutors for the 2013-2014 academic year.

Methods: First-year students were asked to anonymously and voluntarily complete a series of surveys offered through Survey Monkey. The questions assessed self-perceptions of knowledge and confidence with the material provided during the first-year anatomy curriculum, as well as questions on the efficacy of the tutoring sessions. The pre-clinical anatomy curriculum is divided among three separate “Blocks” (Block 2, 3 and 4) of integrated material with relevant organ system physiology in concurrent lectures.

Results: Out of 180 first-year students in the Class of 2017, 162 (90%) attended at least one tutoring session in Blocks 2 and 3, while 134 out of 180 (74.4%) attended at least one session in Block 4. For the 2013-2014 academic year, twenty-six tutors held a total of 609 tutoring sessions. In total, we collected 178 survey responses over the course of the three organ system blocks using a modified Likert scale. 72.5%-83.6% used as review, which is more heavily weighted in favor of a preview rather than review as compared to the 2012-2013 data. The most helpful aspects of each tutoring session were structure verification, knowing what is important, and increasing overall confidence, and the efficacy of each component was positively correlated with a higher number of sessions attended (r = .371, r = .282 and r = .329, respectively, with a p value < .01 across all three measurements).

Impact: Of the students who chose to participate in supplemental anatomy tutoring sessions, the majority attended the maximum number of sessions per block (either 3 or 4). This suggests that students who receive tutoring derive significant benefit. Attending more sessions led to improved self-perceived helpfulness in all categories, but found the greatest benefit specifically in the areas of structure identification, getting quizzed by tutors, knowing what is important, and overall confidence in the material. As such, there is a need for future studies that focus specifically on which aspects of tutoring were perceived as most useful, with the purpose of ultimately expanding and enhancing this program in a way that optimizes anatomy learning.

References:


Santee J & Garavalia L. Peer Tutoring Programs in Health Professions Schools. American Journal of Pharmaceutical Education. 2006; 70 (3): Article 70.
Rotation Makeover: An Innovative Approach to Teaching Outpatient Family Medicine

Bene, Kristen

PVH/Fort Collins Family Medicine Residency

Idea: This project describes a unique learner-centered outpatient medicine rotation designed for family medicine interns. Residents learn core content and skills needed for an ambulatory family medicine practice including agenda setting, guideline-driven chronic disease management, and strategies for pre-visit planning.

Rationale: The ambulatory practice environment is complex. Family medicine physicians must be equipped to provide preventive care and health promotion, chronic disease management, and urgent and acute care of patients across the lifespan. In the three years of residency training, family medicine residents work in an outpatient clinic environment and have an opportunity to learn and practice these skills. However, not all important conditions will be seen nor all core skills adequately practiced to the same degree for every resident during training. A novel curricular approach is needed to ensure sufficient opportunity, practice, and teaching to achieve competency in these core family medicine skills.

Methods: The Fort Collins Family Medicine Residency created space in the intern curriculum for three weeks of Outpatient Family Medicine. During this rotation interns have a mix of continuity clinics and structured teaching sessions, where the resident is paired with a faculty for chart review and structured teaching on core outpatient diagnoses or skills. The chart review provides a context for teaching and learning on evidence-based guidelines for health maintenance and chronic disease management. It also provides a model for the pre-visit planning expected of family physicians at our clinic. Skill areas include agenda setting, compassionate interviewing, medication management, and utilizing the EHR. Medical content areas include diabetes, hypertension, and adult and pediatric well care. The faculty accompanies the intern into one patient appointment, observing the visit looking for core skills discussed earlier in the day. After the appointment, there is time to debrief, review important learning points, and discuss resident performance on related ACGME subcompetencies. There is additional rotation time devoted to self-learning when residents complete a SAM and a series of case scenarios that require using online guidelines and resources to answer questions about patient care.

Evaluation Plan: To measure success of implementation of the curriculum, we will gather rotation evaluations after each rotation week for each intern (18 evaluations total) and use that feedback to improve the rotation for next academic year. To measure whether this rotation has had an impact on core family medicine skills we will use milestone evaluations to determine if interns have achieved competency in the milestones associated with this rotation (SPB2, SPB4, PBLI 1, 2, 3, C1,2,3,4).

Potential Impact: This novel, personal approach to learner-centered education in the ambulatory care setting will yield excellence in resident advancement along the milestones, and can serve as a useful prototype to other programs seeking to enhance milestone-linked education.
Clinic Work Flow Efficiency Improvement for Physician Residents Utilizing Electronic Medical Record

Djokaklian, Juliana; Vasquez, Marissa; Graham, Nzinga

Kaiser Permanente, Los Angeles

Idea: Clinic Work Flow Efficiency Improvement for Physician Residents Utilizing Electronic Medical Record (EMR) Dashboard Tool.

Rationale: Workflow has been an increasing challenge for physicians to deliver efficient and comprehensive care for patients. With increasing number of insured patients these challenges will significantly become more apparent. In the future, healthcare systems will need to be more efficient in their practices by using every tool they have to provide high-quality patient care. Efficiency is an important component of health care as it will produce better outcomes that require less time, staff, and resources. We are exploring the use of tools in our electronic medical record that can enhance resident physician delivery of care in a timely manner. Although there are many aspects of clinic work flow that could affect delivery of care, we will be specifically looking at tools such as the After Visit Summary tab on the physician dashboard to conclude the visit. The strengths and weaknesses of this tool will be explored through this study and demonstrated at our poster site.

Methods: In this pilot we are working with 18 family medicine second and third year physician residents within our family medicine residency program. The first year residents were not included in this study due to minimal time spent in our clinic and lower patient volume compared to 2nd and 3rd year residents. The After Visit Summary tool was selected as this was already a part of our electronic medical record and was not being utilized by the resident physician as most residents were unaware of the existence of the tool. In addition this tool is simple to use with no cost associated with its use. Residents were oriented on how to access and set up the tool tab on their personal schedule dashboard beginning the third month of the academic year. The goal is to use this tool every time the residents are in their clinic seeing patients. The After Visit Summary is meant to summarize the patients visit including their vitals, medications, diagnosis, and patient instructions. The resident provider will need to print the After Visit Summary to completely conclude the visit. Having the After Visit Summary tab on the dashboard will allow the resident to see if the After Visit Summary was printed prompting the nurse to conclude that patient encounter. The objectives of this study is for 1) Resident practice improvement in the clinic. 2) Identifying conclusion of the visit by closing the encounter with the After Visit Summary distribution. 3) Utilization of an existing tool in our current EMR.

Evaluation Plan: 1) Reaction: the residents (n=18) will be surveyed to determine the strengths and weaknesses of this tool and of our overall satisfaction of work flow. 2) At the level of practice behavior, we will track reported usage of the tool for 3 months.

Potential Impact: If the pilot demonstrates overall satisfaction of clinic work flow, further studies could be conducted to expand its use among interns, faculty physicians and nursing staff.

References:


Bridging Internet Point of Care (PoC) with Healthy People 2020

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Idea: Linking online, best-practices learning with science-based, objectives on improving the nation’s health can strengthen population-based outcomes.

Rationale: There are limited studies describing intersecting outcomes of internet based continuing education (CE) activities and population health needs. This project aims to bridge a learning tool with advancing the goal of improved population health, using Healthy People 2020 as a framework. The goal of Internet PoC is to enhance physician’s knowledge, competence, and performance, placed in the context of relevant patient care, physician’s self-assessment, and reflective practice through Evidence-Based Medicine (EBM) practices, and documentation of information, meeting the computer-based resource needs of the busy practitioner. The desired outcome is better health care for patients through diagnosis and treatment. Healthy People is a comprehensive document of national health-related goals issued every ten years by the US department of Health and Human Services (HHS), developed to encourage collaboration, measure the impact of prevention activity and guide individuals in informed health decisions. Healthy People 2020 continues the efforts to address major health problems and their associated and preventable risks at each stage of life. Although most medical care is focused at the individual level, the majority of medical decision-making that occurs in clinical practice is based on population statistics, and as such, public health and medical care are closely related and intertwined.

Methods: In this particular study, we hypothesize that an Internet PoC educational activity offered for physicians from a rural, undergraduate medical education institution can provide corroborating data on regional population health needs and Healthy People 2020 goals. The target population will be appointed clinical adjunct faculty in the third and fourth year rotations of the undergraduate medical education program. Internet PoC activity links will be distributed electronically with instructions on registering and completing the online CE program. Data collection will take place beginning with the release of the Internet PoC continuing education activity in January 2015 and will end on September 30, 2016 using submitted results from the online PoC webform, a standard questionnaire used with Internet PoC programs. Webform feedback that will include information on clinical diagnosis, course management, and practice application, will be tracked and broadly categorized by the research team for descriptive, statistical comparison with Healthy People 2020 topics, such as adolescent and sleep health.

Evaluation Plan: Program evaluation will use a theoretical framework of outcomes models (e.g., Kirkpatrick and Moore), and an evaluation logic model used in many public health and CE programs. Kirkpatrick’s Model measures program effectiveness and impact through examination of program satisfaction, learning outcomes (e.g., knowledge), practice application, and impact at the community level. Moore’s model provides assessment of learning activities with a focus on desired results and improved outcomes. For example, we propose establishing a preliminary link between practice impact and Healthy People 2020 goals to further interventional training. The logic model provides a structure for evaluating the effectiveness of a program and considers the inputs and outputs such as resources, planning team participation, and stakeholders, with an additional emphasis on formative assessment throughout the program plan.

Potential Impact: Anticipated outcomes include the facilitation of interventional educational activities that are closely linked to population health outcomes, specifically Healthy People 2020, and the potential impact on medical care at the public health level.

References:


Learning Together Eval: Innovative Approach to Teaching Residents the Value of Practicing in a PCMH

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White Memorial Medical Center

Idea: While enacting PCMH clinic transformation, the “Learning Together” model can help overcome obstacles of Residency training for PCMH methodology.

Rationale: The Patient-Centered Medical Home (PCMH) delivery model is consistent with the “Triple Aim” promoted by the Affordable Care Act. Despite the increasing prevalence of PCMH primary care clinic transformation occurring in the United States, there remains a lack of newly-graduating clinicians adequately trained to deliver care within this coordinated care system. Residencies have acknowledged the need to teach this practice model but this has proved challenging due to the lack of both faculty knowledge and of curricular/teaching models. The White Memorial Medical Center (WMMC) Family Medicine Residency in East Los Angeles has adopted the “Learning Together” approach. We are teaching PCMH concepts as we implement system changes and transform our Residency clinic into a Level 3 PCMH. “Learning Together” poses new challenges; this teaching style is alien to teaching faculty who are used to teaching in a traditional master-apprentice relationship. The study will assess the effectiveness of this multi year educational endeavor and gauge how much our Residents are learning about practicing in a PCMH environment, in preparation of implementing didactic focused online modules.

Methods: Our PCMH curriculum is built on any available best practices in the field while also developing our own resources and methods as necessary. As teaching faculty learn about and implement practice redesign, we are teaching PCMH concepts primarily using role modeling techniques. In 2015, the WMMC Residency program will begin using new web-based PCMH learning modules developed by the University of Colorado as part of our PCMH training. Residents will complete 12 online modules over the course of the longitudinal curriculum and will have 1 hour debriefing sessions with faculty after completion of each online module. Modules include titles such as “Virtual Patient Registry” and “Personal Physician.”

Evaluation Plan: We measure the effectiveness of our teaching strategy by surveying Resident knowledge of working in a PCMH over time. We developed a survey tool based on the tool used in: Joo P, Younge R, Et al. Medical Student Awareness of the Patient-Centered Medical Home. Fam Med 2011; 43(10); 696-701. Performance improvement on the tool is anticipated after implementation and utilization of PCMH learning modules. Additionally after each PCMH module, there is feedback on content and learning is evaluated during the faculty debriefing session.

Potential Impact: “Learning Together” can be a useful model for Family Medicine Residency Programs while they transition into a PCMH. Validating this model can allow Residency practices to focus on practice redesign, knowing residents are also learning or allow it to serve as a component of a more comprehensive PCMH curriculum.

References:
Joo P, Younge R, Et al. Medical Student Awareness of the Patient-centered Medical Home. Fam Med 2011; 43(10);696-701

Eiff M, Waler E, Et al. Faculty Development Needs in Residency Redesign for Practice in Patient-centered Medical Homes: AP4 Report. Fam Med 2012; 44(6);387-395

Out of the Dark; A New Take on Shadowing in the Outpatient Pediatric Clinic

Collins, Jolene

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Idea: Enhancing pre-medical college students' knowledge of the activities of an outpatient physician through a non-traditional "shadowing" experience.

Rationale: Shadowing a practicing physician has been viewed as an important step in the premedical path for college students and there are many "how to" guides online for prospective students to reference (1). However, little has been published for clinicians who might be teaching these inexperienced learners (2). Recent articles have pointed to the benefit of using junior faculty in the role of mentor and guide to college students visiting an outpatient setting (3), however clear guidance for how to instruct a "shadowing" student is required since junior faculty members typically have significant clinical demands for patient through put. Because of this there is a hesitance to take in college students when they could take “too much” time and interfere with clinic flow. A clear structure utilizing learning principles could allow for effective interaction with college students in a way that is meaningful for both the clinician and the student without significantly interfering with clinic flow.

Methods: After reviewing current guides provided for shadowing students, along with basic learning principles, a learner-centered model for premedical "shadowing" was created as a pilot. The key learning principles utilized in the model are prior experience, motivation and scaffolding. Over the six months of this pilot project, approximately 12 students will participate. The model includes the following: 1) 15 minutes of focused time prior to the start of clinic to discuss the learner’s prior experience and what they would like to learn during the half-day; 2) shadowing the physician into doctor-patient encounters that represent the breadth of pediatrics and provide scaffolding for learning; 3) summary of the patient encounter into one of four overarching themes of outpatient pediatrics (well child care, communication with parents, communication with colleagues, making plans to care for sick children and my continuous learning); 4) self-directed activities the "student" will engage in between encounters chosen from a set designed to help them learn about outpatient practice (with a short 3 minute debrief after); 5) End of clinic discussion (15 minutes) to review visits and to discuss what was learned. Example activities might include review of well child guidelines, viewing a patient education video, review of a flow chart (time line) of the care of a child with a chronic condition. Each activity will be linked to a mind map of the job of an outpatient doctor that the learner will be provided to help scaffold what they are learning.

Evaluation Plan: To assess learner reaction and knowledge, each learner will be asked to complete a brief online survey, which includes assessment of the experience and an opportunity for the learner to discuss what they learned and how they will utilize this knowledge. Additionally to assess if the intervention has affected workflow, timing of days with students and those without will be compared utilizing the office’s electronic record system.

Potential Impact: Primary care is attempting to attract more medical students. This pre-medical experience might be a way to engage learners to have an accurate perception of outpatient pediatrics even before they begin medical school.

References:


Putting the Continuity Back in Continuity Clinic: A Resident-Driven, Longitudinal QI Pilot Project

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Idea: Residents have limited opportunities to design and implement QI projects that impact their practice environments, especially in the ambulatory setting.

Rationale: The ACGME has placed increased emphasis on the core competencies of systems-based practice and practice-based learning and improvement. The Milestones used for trainee evaluation include 8 items in these domains. The Clinical Learning Environment Review (CLER) also focuses on resident engagement in these areas. Our Internal Medicine Residency program includes a “block” rotation during which residents act as a full-time primary care physician at their continuity clinic site. A practice improvement project has been required by each resident, and in prior years, consisted of focused chart reviews or outreach projects that did not impact other residents or carry over to the rest of the practice. Residents had little opportunity to improve the clinic operations. Meanwhile, resident satisfaction with the overall continuity clinic experience was lower than expected despite major recent changes.

Methods: We performed a literature review to evaluate QI educational initiatives in the ambulatory setting and interviewed people at our institution who have attempted projects in similar settings. We reviewed resident evaluations of continuity clinic for the last 2 years and turned the commonly cited suggestions for improvement into sample AIM statements. Residents assigned to the “block” rotation were asked to rank the statements in order of their interest via an anonymous online survey. The most popular topic was chosen. The project was implemented in a longitudinal manner. Mentors include 3 on-site attending physicians who are also leaders of the resident continuity clinic, 2 institutional QI experts who also lead other QI experiences, and 1 resident “QI champion”. Residents receive a structured verbal and email sign-out from the prior resident to explain the project and suggest the next steps. They receive an orientation, and then they meet with the mentors to determine the direction of the project for their rotation. The resident decides, with the guidance of the others, how to advance the project. At the completion of the block rotation, he or she does the evaluation and gives the next sign-out. The evaluation was adopted from one used at our institution for an existing QI rotation. Residents rated themselves on 9 domains before participating in the rotation (as viewed retrospectively) and currently.

Results: Ten (of 18) residents completed the initial survey. Seventy percent selected “increasing continuity” as first or second. To date, 8 residents have participated in the shared QI project. Each made contributions and summarized their work in the sign-out. Participation remains high among the mentors. The residents have been engaged and advanced the project through data collection, implementation of countermeasures and standardization of processes. A visibility board is in the resident room so all residents are aware of the project and can contribute ideas. Four rotation evaluations have been done. There were 2 “low” or “very low” self-reports in various QI domains after the rotation compared to 6 (of 36 possible) before the rotation. Twenty responses were in the “medium” category before and after the rotation. Ten were “high” before but 14 after the rotation. The feedback included a request for more teaching modules, the option to work on one’s own project, and to learn about national metrics.

Impact: We initiated a new project to allow experiential learning of QI in the ambulatory setting. The project has led to several process changes and has given residents a chance to contribute meaningfully to improving their practice environment during protected time.

References:
Developing Skills for Giving and Receiving Feedback among Family Medicine Residents in an Arab Culture

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Idea: Utilize a longitudinal communication curriculum to build skills in providing and receiving peer feedback for Saudi Arabian family medicine residents.

Rationale: A study showed a low level of patient satisfaction in Saudi Arabia for communication and consultation skills among primary health care physicians (Ref 1). Practice in peer feedback could improve resident communication skills. However, feedback can contribute negatively as well positively in relation to learners taking appropriate action (Ref 2). A culture of reflection and provision of appropriate feedback (delivery and message) can result in greater use of the feedback provided (Ref 3). However, the greater culture within which the training takes place also impacts learner receptivity to feedback. There are two issues in Arab cultures. First, high social bonding makes it hard to give or receive feedback in a “public” venue like a classroom. Also, learners come from different tribes with historic relationships to one another (higher versus lower status). The proposed curriculum will work on these challenges.

Methods: We have a longitudinal 36-hour communication curriculum for 12 family medicine residents in the Eastern Region of Saudi Arabia. The peer feedback element will be integrated into all nine of the four-hour sessions. The initial session starts with communication skills for communicating with patients. As an example we will add to this session a discussion of the challenges of providing feedback to each other. We will set the rules for peer feedback as a group. Then a patient education role-playing exercise will be conducted. Each learner will play all three roles, doctor, patient and observer/feedback provider. All elements will be debriefed to help build learner competence and confidence in providing feedback. At the end of the exercise learners will reflect on their role as doctor and as observer/feedback provider answering three questions a) What did I do the best? b) What can I improve? c) What is my plan to enhance my skills in each role? Each session would include a peer feedback activity including review of a video of a doctor-patient interaction, followed by a professional giving peer feedback. The learners would rate the doctor patient interaction and the feedback activity. These data would be used to assess learner progress in observing and assessing the doctor-patient interaction and the feedback. Each session would have a increasingly challenging activity.

Evaluation Plan: Learner reaction to the peer feedback elements of the course will be assessed using a standard session rating form. Learner performance will be assessed throughout the training using tools like the one described above (accuracy of rating both the doctor-patient interaction and the peer feedback). A pre and post questionnaire will collect students' views regarding acceptance and application of feedback in their own practice settings. Skills in providing feedback will be assessed in an OSCE station where learners provide feedback to a standardized peer.

Potential Impact: The giving and receiving of peer feedback can be a step in becoming a life long learner. We hope that our model might be useful to other programs.

References:


Pelgrim, E. A. M., et al. "Reflection as a component of formative assessment appears to be instrumental in promoting the use of feedback; an observational study." Medical teacher 35.9 (2013): 772-778.
**Rural Community Immersion Curriculum**

Conley, Amy; Hatton, Twana

*St. Claire Family Medicine Residency, Rural Training Track for the University of Kentucky*

**Idea:** Utilizing community immersion experiences to help transitioning second year residents build skills required for rural practice.

**Rationale:** The transition for rural track family medicine residents from urban year to rural practice location can be challenging. Residents typically arrive from a variety of prior educational and life experience and are often poorly prepared for the challenges of working with patients from isolated rural areas. The need for training in cultural humility and respect is clear, as is the need for communication tools. We are designing a curriculum based on recommendations of the AAFP/NRHA (American Academy of Family Physicians/National Rural Health Association) that training should be ‘anchored in the experience of rural places, complemented by facilitated reflection and intentional learning from that experience’. Clearly these guidelines are in line with evidence-based learning principles that tell us that the cognitive base should linked always with ongoing practice (1,2)

**Methods:** Two learners transition to rural practice each year, resulting in four learners in the rural track each year. Once developed, the community immersion curriculum will occur during their orientation to the rural training site. Over this next year we pilot a series of activities: 1) use of segments of the History Channel’s “Hillbilly,” which provides a a brief overview of Appalachia, its history and customs, as a catalyst to discussion about our feelings, values and experiences with rural culture; 2) written reflections on each experience; 3) exercises to build awareness and cultural humility; 4) a Community Scavenger Hunt to actively engage with local resources; 5) work with the St. Claire Foundation in its yearly Community Needs Assessment; 6) preparation of a monthly budget the income of our “average” patient; and 7) a home visit with faculty mentor to talk to patients in their own environment with 8) debriefing to the duo’s observations about rural life and barriers to health care. Each resident will then utilize the knowledge gained during their community engagement and other activities to make a presentation to faculty and other residents.

**Evaluation Plan:** The evaluation will include tracking to assess how well our implementation matches our plan, with any modifications or barriers noted. We will also gather data through discussion with the two residents each year about the value to them of each activity. Resident reflections will be reviewed using a content analysis to record the elements of rural culture and facets of cultural humility included. A six-month follow-up will also be conducted to learn their perception on how the 8 activities impacted their patient care and self-perceived development as rural care providers. These reflections will be used along with other data to help describe the Intervention and its impact on our learners’ knowledge, skills, attitudes and behaviors. Pre-post comparison of patient satisfaction with resident care will help determine any impact on patients.

**Potential Impact:** If the pilot is successful, we plan to work with the Rural Training Track Consortium to conduct a study of effectiveness with other programs, which could impact rural family medicine training nationally.

**References:**

“El-Sir” - Early Leadership Sensitization and Informal Reinforcement

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Idea: Undergraduate medical education desires development of leadership and team skills, as favorable outcome but cannot spare curricular space for a course

Rationale: Health care is in metamorphosis. New realities necessitate change and change demands leadership. Prof John Tooke, (2008) says that “the doctor's frequent role as head of the healthcare team … requires that greater attention is paid to management and leadership skills regardless of specialism. The General Medical Council’s Tomorrow's Doctors (2009) desires development of leadership and team skills, as favorable outcomes. “Working within a team” is among the desirable competencies, recommended by ACGME. Undergraduate medical education develops knowledge and skills, for practice of medicine, but gives scant consideration to development of leadership and teamwork. O Connell (2004) says that not many schools have a curricular course focusing on leadership, and those, that do have, implement diverse formats, in the clinical years. The authors plan to implement an early and longitudinal program to sensitize undergraduate medical students them regarding the importance of leadership in medical practice and to offer continuous re-enforcement through maintenance of log books, creation of social media groups sharing of relevant readings and conduct of annual workshops on leadership.

Methods: First year students will be administered leadership style questionnaire. These will be analyzed and their style will be discussed individually, by their academic advisors. This will followed by presentation and small group discussions, focusing on importance of leadership in medical profession. Students will be orientated during this session about the maintenance of an informal diary, wherein they will make entries about the situations where they either observed leadership or they took up the role. They will reflect critically on these entries. They will be invited to join the social media group, which will be the meeting place in virtual world for sharing important resources pertaining to leadership. Every six months there will be a one-day workshop, focusing on leadership for all students.

Evaluation Plan: The authors will evaluate the gains at incremental intervals through on-line quizzes and compare them with the students who do not belong to the cohort. The students from other schools in the region will also serve as a control group. The evaluation of the perceived differences will enlighten us about the efficacy of the intervention, suggest ways for improvement and might transform it into a useful informal method for instruction in health care leadership

Potential Impact: It is presumed that undergraduate education implicitly help the students imbibe leadership and teamwork. We believe that early sensitization and incremental reinforcement, using social media and informal diary writing, will keep them tuned to this learning outcome, at all times. It will foster a desire and encourage students towards leadership.

References:


A Mentoring Curriculum for Family Medicine Residents: Leveraging the Power of All to Achieve Equity

Svetaz, Maria Veronica

Hennepin County Medical Center (HCMC)

Idea: This project proposes a leveraged intervention; family medicine residents will be trained on mentoring teenagers, and together with the teens, the residents will carry out community projects in the vulnerable neighborhood they serve.

Rationale: Latino teens living in our residency catchment area face numerous social and health challenges. In MN, not only do they have one of the highest disparities in mental and sexual health, they are also bearing the effects of the deeper achievement gap in education, a crucial point of potential resilience for their future, if overcome. Family medicine residents have ties to the community and also hold great potential as social healers if provided adequate training and experience. Physicians who receive community project mentoring training are also more likely to both include a community focus in their professional practice, as well as go on to mentor future medical practitioners. In addition, the collaboration between vulnerable teens and residents in training promises the implementation of creative and useful community projects and resource development. Finally, this proposed collaborative project contributes to resident training in arenas of community needs assessment, communication, empathy, creativity and depth of understanding of the social determinants of health. These training arenas together add to the goal of forging leaders of health equity among the residents we work with. Social determinants of health tend to conglomerate in neighborhoods, which is the case in the Twin Cities; our family medicine residents serve the most vulnerable. The proposed intervention will bring G2-teen teams to better connect the community with our clinic, and to both map resources and challenges.

Methods: This intervention consists of three phases: Phase one: Second year residents will begin the year with didactic training on mentoring skills and executing community needs assessments. They will be trained on how to sensitively develop a collegial mentoring relationship. Development of collaborative skills with teenagers also assists residents to more effectively function as physicians in the provision of adolescent health. An evidence-based curriculum on mentoring will be chosen for this purpose. Phase two: The second year residents will team up with a teen mentee to, 1) serve as a role model/mentor, and 2) together fulfill a requirement for both: residents will become involved in community work, learning to do community needs assessment, and teens will complete volunteer work with “perks” (mentoring and support), to help them reach higher education. Teens interested in the experience will be identified by the School Connector, a member of our Family Centered Health Care Home for Latino teens, “Aquí Para Ti /Here For You” team. The School Connector will serve as the bridge and coordinator of this initiative. Phase Three: For the two years that follow, residents will be paired with a teen from the local community/clinic, and together they will develop a project addressing community needs, identifying and linking resources. Residents will receive ongoing longitudinal supervision on both mentoring and community project implementation.

Evaluation Plan: This project will be evaluated according to the following criteria: 1) The Family Medical Resident's skills and knowledge of mentoring will be measured before and after the didactic training phase of the project; 2) Teen participants will be surveyed about their experience and growth from the mentoring and their project participation; 3) The School Connector will provide information about the percentage of teens who successfully completed college applications; 4) The School Connector will help teens summarize their volunteer work, helping to make their college applications stronger; 5) A culmination community event, sponsored by the residency, will highlight the projects completed by the resident-teen teams; 6) The residents will “map” these interventions in their main neighborhood of care, balancing different areas important for the community; 7) Results will be shared at the state level, with the Minnesota Department of Health, bringing our results and interventions to them.

Potential Impact: This project will model how to train residents in leadership skills for Health Equity, while creating future mentors in Medicine. Mentoring during the teen years, while conquering the achievement gap, has leverage potential. Doing this work in the community where teens and residents live and work will create local sustainable social capital.
Filling the Gaps: Implementing a Capstone Course to Better Prepare Students for Pediatrics Residency

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Children's Hospital Los Angeles

Idea: To develop and implement a capstone course to help fourth year medical students ease their transition into postgraduate training.

Rationale: Traditionally, the fourth year of medical school is reserved for sub-internships, specialty electives, and time to interview for postgraduate training. In most institutions time is not set aside for clinical preparation for residency, and medical students often face a difficult transition after graduation. Not only are they given increased autonomy and responsibility while entering their training programs with inconsistent backgrounds, but they often lack confidence and underestimate their abilities to perform clinically. Studies have shown an inverse relationship between the amount of clinical experience during medical school and the level of stress associated with the transition into residency. Many fields use a “capstone course” to mark the culmination of a degree program and to provide an experience that prepares the student for work beyond graduation. Recently some medical schools have begun to offer a similar course before the start of residency, although there is no published data on courses developed for pediatrics residencies. A short pediatric capstone course prior to starting residency could potentially reinforce knowledge and skills acquired throughout medical school, while also addressing attitudes and confidence in preparation for pediatric residency.

Methods: Our capstone curriculum is meant to improve the transition from graduating medical student to incoming resident and better prepare first year pediatrics residents. We have a two step approach to the development of our capstone course. Prior to initiation of a curriculum we will begin with a needs assessment. We first plan on surveying all current first year USC-affiliated pediatrics residents regarding whether their medical school offered anything similar to a capstone course. We hypothesize the majority did not, and for these students the survey will describe a capstone course asking if they think it would be beneficial. The survey will further ask what topics are most important to include and how to cover these topics, for example, case review, simulation, or didactic sessions. We also plan to survey first year residents at other programs by contacting program directors and providing the same survey. Once we have the survey results, we plan to develop an optional pediatrics-focused capstone elective for USC fourth year students matriculating into pediatrics-based residencies with simulation, case-based learning, and didactic sessions. The capstone elective would be based on the ACGME and COMSEP core competencies and developed using Kern’s 6-Step Model for Curriculum Development.

Evaluation Plan: Using Kirkpatrick’s model of curricular evaluation, our initial goal in the first years would be to assess satisfaction and ensure we are imparting clinical knowledge and skills (levels one and two). This would be accomplished via feedback forms at the end of the elective. We would also assess knowledge and skills by implementing a pre- and post- capstone test. The post- test could be implemented at different periods after completion of the curriculum to gauge retention of knowledge and skills. Once these two items have been evaluated and the capstone curriculum improved based on results, an assessment would be completed on graduates of the capstone course for confidence, stress, and behavior change (level three). The ultimate goal of this curriculum would be to improve patient care during the first months of pediatric residency while the trainee is experiencing increased stress during this transition period (level four) which we hope to achieve with future studies.

Potential Impact: A standardized pediatric capstone course can bridge a much needed gap between the graduating medical student and beginning pediatrics intern, leading to decreased stress at the beginning of pediatrics residency and improve patient care.

References:
Assessing the Perception of Medical Students Towards Social Media Behaviors and their Reasoning

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Keck School of Medicine of USC

Idea: This project seeks to understand the decision-making process that medical students undergo when deciding what to post online, and how to react to other posts online.

Rationale: Professionalism and medical ethics training in undergraduate medical education is a field in flux. The advent of social media has resulted in differing conceptions of what is appropriate behavior between medical students, faculty, and the public. There exists literature in which “unprofessional” online conduct by medical professionals in all stages of training has been reported, and there is a wide perception that the amount of this conduct is rising. Efforts to educate medical students about social media are underway at many medical schools, but many such efforts do not address an important aspect of the problem - students’ and attendings’ conception of what sort of conduct posted online is unprofessional differs significantly. This has had practical effects. Six percent of all applicants to one orthopedic surgery program were deemed to have content on their publicly accessible Facebook profiles that was deemed to be unprofessional (Ponce). Another study found 27% of 300 publicly available profiles of surgical residents in the Midwest contained clearly or possibly unprofessional content (Langenfeld). However, some recent work has suggested that a physician with a social media profile featuring healthy social behaviors may boost patients’ views of that providers’ professionalism even more than a profile consisting solely of professional content (Clyde). In order to shed light on this issue, more research is needed into how students decide what constitutes professional and unprofessional behavior online - that is to say, what drives their posting habits and their acceptance of others’ online activities. We are proposing a study to explore the schema used by medical students to guide their decisions regarding their online presence.

Methods: As a pilot effort, 3-5 small groups of 10 students each will be randomly selected. Using anonymous electronic polling, individual students will be asked to respond to a set of cases that range in degree of unprofessionalism as to whether they would post or repost the content in question online. Each student will also be asked to justify their answer choice. The discussion groups will be led by fellow medical students in order to ensure that participants are not inhibited by the presence of faculty. In these groups, the decision-making process and reasoning employed by medical students when deciding what to post will be examined. In particular, scenarios described in the previous papers will be used; including scenarios featuring online postings with strong political statements, consumption of alcohol, religious statements, firearms, and humor. The same electronic polling will be collected again at the end of the small group discussion to gather evidence of whether and how social interaction would change someone’s decision for the better.

Evaluation Plan: Both quantitative and qualitative data will be collected. Chi-square test will be used to assess changes in responses and thematic analysis of their reasoning process using grounded theory will be used to explore students’ reasoning behind their choices.

Potential Impact: Outcomes from this study will help guide the development of training sessions for medical professions that focuses on the prevention of unprofessional behaviors both online and offline.

References:


Mindfulness in Emergency Medicine

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Maimonides Medical Center

Idea: An innovative wellness curriculum integrated into a four-week Emergency Medicine elective for senior medical students using mindfulness-based techniques to manage stress and reduce risk of burnout.

Rationale: Studies using the Maslach Burnout Inventory (MBI) indicate that 40-76% of medical students score in the range for moderate burnout (1). Research linking physician burnout to decreased empathy further highlights the need for wellness training, as empathy remains a key element in physician-patient communication (2). Mindfulness-based strategies have been implemented at some medical schools to address both burnout and empathy (3). Notably, these programs achieved success in their outcomes—in both self-assessments such as the MBI and Jefferson Scale of Physician Empathy, as well as learner-reaction evaluation measures. Students planning a career in Emergency Medicine may benefit tremendously from mindfulness training, as the emergency department is a particularly high-stress environment in which to practice. An informal poll of the current medical students rotating through our department demonstrates that the majority have not had any exposure to a formal wellness curriculum. Our idea is to incorporate specific training in wellness using mindfulness-based techniques into our four-week medical student Emergency Medicine elective.

Methods: The participants will be approximately 60 senior medical students from U.S. medical schools planning a career in Emergency Medicine. The Emergency Medicine elective offered by our department lasts for four weeks, with a new group of students beginning every two weeks. This allows for every other group of students to be a control group, who will be engaged in a different activity during the time that the intervention group participates in the wellness curriculum (90 minutes per week for four weeks). The intervention is based on self-directed learning theory and focuses on building relatedness, competence, and autonomy to help cultivate mindfulness. The classroom methods will include: 1) ice breakers to build community; 2) brainstorming on the students’ current stressors to create relevance; 3) brief didactics about wellness and mindfulness; 4) role-playing to foster value; 5) weekly practice exercises in mindfulness; 6) daily meditation; and 7) creation of an individual long-term wellness plan.

Evaluation Plan: Evaluation of the curriculum will take place on multiple levels. Learner reactions will be assessed by use of a rating scale form for content, methods, quality of teaching, workload, and resources provided. Students in the intervention group will complete a pre- and post-test to assess learning of the foundational concepts of mindfulness and wellness. Students in both the intervention and control groups will also take the MBI before and after participating in the curriculum to capture any changes in burnout levels. Finally, phone interviews with the students in the intervention group will be conducted six months later to determine changes in behavior as a result of using mindfulness techniques and whether or not the students have passed their knowledge to others.

Potential Impact: This brief intervention could easily be adapted for any rotation, not just for Emergency Medicine, during the third and fourth years of medical school to reduce burnout rates and increase physician wellness.

References:


Dobkin PL and Hutchinson T. Teaching Mindfulness in Medical School: Where Are We Now and Where Are We Going? Medical Education. 2013;47:768-779.
Recognizing Excellence of Resident Teachers in Undergraduate Medical Education to Promote Cultural Competence

Thang, Christine; Chung, Melody; Laiwalla, Azim; Szumski, Meredith; Fried, Joyce

David Geffen School of Medicine at UCLA

Idea: Medical students on clinical clerkships encounter new teachers: resident physicians. A student-drive initiative was implemented to formally recognize resident educators.

Rationale: Following the publication of a study demonstrating that 60% of third and fourth year medical students at UCLA reported some type of mistreatment while on their clinical rotations,1 the Medical Student Council (MSC) at the David Geffen School of Medicine at UCLA (DGSOM) sought to augment this culture by initiating a process to formally recognize resident educators. The MSC created the “Excellence in Teaching with Humanism Residents Award” to recognize residents who serve as excellent teachers and model exemplary behavior toward medical students and other members of the health care team. Such an endeavor fell in line with the school’s ongoing efforts to improve the culture of medicine and celebrate a respectful environment for medical students.

Methods: The DGSOM MSC developed a list of qualities and attributes of an effective resident educator including mentorship, commitment to medical student education, and concern for medical student well-being. A link to an electronic survey was made available to third and fourth year medical students to nominate residents for the award. Nominations required a 150-word vignette describing why the resident deserves the award. All nominations were evaluated by a subcommittee of the MSC and narrowed down to 20 resident candidates. The MSC then voted for the final 10 resident winners to receive the award, which consisted of a certificate, lapel pin of distinction, and gift card. Selection was based on a three-numbered scoring system. Awards were presented at the school’s annual senior banquet attended by fourth year medical students. Words of advice were solicited from resident award winners and distributed to graduating fourth year medical students as the rising intern class.

Results: A total of 164 nominations were received from third and fourth year medical students between December 2013 and March 2014. A total of 129 different residents were nominated when excluding multiple nominations by different students for the same resident. The breakdown in year of residents nominated was as follows: postgraduate year (PGY) 1 (n=29), PGY2 (46), PGY3 (30), PGY4 (11), PGY5+ (7), and fellows (6). Most nominees were from the DGSOM core clinical clerkships across all DGSOM-affiliated teaching institutions: internal medicine (48), surgery (28), obstetrics and gynecology (15), pediatrics (13), psychiatry (10), and ambulatory/family medicine (1). Residents from other specialties were also nominated, such as emergency medicine (3), internal medicine-pediatrics (2), dermatology (1), and radiology (1). Due to the overwhelming number of responses from the medical student body and the high caliber of residents nominated, the MSC selected 11 deserving residents as recipients of the award in its inaugural year. Resident winners spanned all class years as follows: PGY1 (1), PGY2 (1), PGY3 (4), PGY4 (3), PGY5+ (1), and fellow (1). Winners represented the following specialties: neurology (2), internal medicine (1), medicine/pediatrics (1), pediatrics (1), surgery (4), and obstetrics and gynecology (1). Nine male residents and two female residents were recipients of the award.

Impact: The “Excellence in Teaching with Humanism Residents Award” created by the DGSOM medical student body represents a successfully implemented student-led program to formally recognize resident educators. This initiative takes a positive, bottom-up approach to reduce the mistreatment of medical students by honoring residents for good behavior rather than focusing on the negative.

References:
Idea: In 2015 our medical school will include 3-year MD program campuses, which requires analysis of student outcomes in order to optimize student success.

Rationale: The development of a new 3-year regional medical school on a separate campus requires a new sequencing of courses/clerkships that match the same competency-based medical education curriculum being used in the 4-year program. The measurement of student medical knowledge and clinical performance will remain the same. Interpersonal/communication skills as measured during clinical experiences will require a different distribution of student characteristics such as personality and empathy for the 3-year vs. 4-year curricula. Empathy is a desirable trait in physicians and an important element of the relationship with patients and has been associated with personality¹. Variation in personality traits of medical students between different medicine schools has been reported² but personality variations at one school using two different timelines (3- vs. 4-year) has not. Personality is a relatively stable trait for adults, but empathy can change for medical students throughout a standard 4-year curricula.³ It is anticipated that aspects of personality such as extraversion - an important aspect with interpersonal relationships - will emerge more predominantly in 3-year vs. 4-year curricula and that the strength of relationship with empathy will change concurrently. In fall 2014, M-1 students in the 4-year curriculum were assessed in the personality and empathy areas to establish a baseline for comparative analysis with the M-1 students who will enter the 3-year curriculum in 2015.

Methods: In Fall 2014, 45 M-1 medical students voluntarily completed self-reported surveys of personality and empathy using validated instruments: (1) 50-item Five Factor NEO Personality Inventory and (2) 21-item Interpersonal Reactivity Index (IRI) for dispositional empathy. The personality inventory consisted of five domains: openness, conscientiousness, extraversion, agreeableness, and neuroticism; the IRI index consisted of three domains: empathic concern, perspective taking, and personal distress. Overall sums of each of personality domain can range from 10-50, while sums of each empathy domain can range from 7-35. Pearson and Spearman correlations and stepwise multivariate linear regression established relational strength between personality (predictor) and empathy (outcome) survey items and domains. Inter-item reliability analysis determined via Cronbach alpha. IBM SPSS 21.0 was used to generate statistical analysis.

Results: Overall sums of the five personality domains ranging from lowest to highest were: neuroticism (mean ± sd) = (22±6), extraversion (34±7), conscientiousness (38±6), and openness (38±6), agreeableness (40±5). Overall sums of the three empathy domains ranging from lowest to highest were: personal distress (15±4), perspective taking (26±5), empathic concern (27±5). Conscientiousness, extraversion, agreeableness, and neuroticism have statistically significant correlations with at least one empathy domain. Extraversion and agreeableness are significantly correlated with empathic concern (r=0.4 and r=0.7, respectively) and perspective taking (r=0.4 and r=0.7, respectively), while conscientiousness and neuroticism are correlated with personal distress (r= -0.4 and r=0.3, respectively). Linear regression models revealed that the personality item "making people feel at ease" (agreeableness) is the best predictor of empathic concern (R²=.54); "having a good word for everyone" (agreeableness) is the best predictor of perspective taking (R²=.64); "am often down in the dumps" (neuroticism) is the best predictor of personal distress (R²=.45).

Impact: Relationships of medical student personalities and empathy were reported to help determine the aspects which is particularly important as students encounter patients more frequently in less time.

Challenges and Solutions in Developing an Assessment Process of a Longitudinal Physicianship Course

Tan, Amy; Lai, Hollis; Hillier, Tracey

University of Alberta

Idea: Assessment of students’ developing Physicianship skills and attitudes throughout the year in a competency framework, presented novel challenges.

Rationale: A longitudinal and integrated Year 1 Physicianship course was developed to deliver a series of knowledge, skills and attitudes (KSA) related to the profession using multiple modalities and experiences in varied settings with overlapping but different areas of focus. We sought to identify the challenges in implementing a robust competency-based assessment that could capture the development of these skills and attitudes throughout the year, and propose solutions to these challenges to facilitate the assessment system’s effectiveness in achieving our needs.

Methods: To organize this process, different assessments were first mapped to different course threads and activities by date and type. Assessment types included: peer/self-assessment, observation feedback, low-stake assessment, assignment, attendance, preceptor assessment of skills performance, preceptor assessment of group interactions within discussion groups, professionalism assessment, written examination, and OSCE. Continuity of learner and learner/preceptor relationships were established as key components of this curriculum structure to allow for robust feedback of progression and/or change of skills and attitudes over time. Students were required to remediate on a particular assessment until they had met the competent standard through specific strategies determined by an academic mentor and the Physicianship director.

Results: Four challenges were found in implementing this longitudinal competency-based assessment strategy: 1) the resources required to administer the collection and capture the complex assessment data, 2) the need for a dedicated reporting system, 3) an increased demand in faculty time in providing and reviewing continuous assessment data, 4) a means for ongoing and timely remediation. A continuous collection of assessment data was crucial in identifying students with professionalism concerns, and skills gaps this past year. This source of evidence was crucial for identifying remediation needs and supporting academic decisions for the 2013-2014 academic year. We will share our solutions for each challenge in detail from our experience.

Impact: The purpose of the Physicianship course was to introduce and reinforce the appropriate development of professional knowledge, skills and attitudes in different settings. Our assessment process developed concurrent to the curriculum implementation for this new course was found to effectively facilitate this goal.

References:

Brown, Diane; Franco, Jose; Bragg, Dawn

Medical College of Wisconsin

Idea: Today’s medical school curricula is undergoing revitalization from the perspective of the competencies that physicians must have to meet the demands of practice in the 21st century. Change of this magnitude is not an event but a succession of incremental steps that must continuously be evaluated, analyzed, and built upon the momentum of the improvements, celebrating successes, and identifying areas requiring immediate attention. Developing a comprehensive, systematic evaluation process to provide direct, immediate feedback that empowers key stakeholders to engage in the overall process is challenging but critical in order to maintain the ebbs and flow of the overall changes taking place.

Rationale: In 2010, the process of curriculum revitalization began at one Midwestern medical school. Traditional lectures were replaced with active, participatory sessions in a newly designed, high-tech classroom; the environment went “paperless”, and early clinical exposure was introduced to all first-year medical students. During this revitalization, a uniquely structured evaluation system was implemented to give students the opportunity to provide immediate feedback to address any unforeseen “brush fires” requiring immediate attention. A faculty-driven, third-party, workgroup, the “Discovery Evaluation Workgroup” (DEW) was created to address student concerns, identify solutions, and recommend improvements. The DEW differed from the LCME-mandated Curriculum Evaluation Committee which has responsibility for the overall design and evaluation of the curriculum that provides feedback at the end of a course, the DEW was vested in the overall success and effectiveness of the revitalization of the curriculum and recognized the need to engage key stakeholders throughout the curriculum change process.

Methods: To avoid additional stress with the start of the new academic year/curriculum, students were asked to complete a brief electronic form and provide anonymous weekly feedback. The form was comprised of three questions: (1) knowledge of expectations, (2) presentation of material, and (3) sequence of material. Responses were on a dichotomous scale (Yes, No) with an option for unable to judge/don’t know. Students were asked to comment on what was working well and what concerns they had. In addition to this weekly survey, periodic face-to-face focus groups were conducted at the end of every curricular unit to address any issues that arose throughout the unit.

Evaluation Plan: A total of 554 unique responses were collected. Strengths/Concerns were identified and examples of recommendations that were immediately implemented included: (1) the establishment of an Exam Review Committee when students identified errors (e.g., misspellings, typos) on exams; (2) the development of a course template using the school’s learning management system (Desire2Learn) where all course would be uploaded to provide students easy accessibility to materials; and (3) 10 minute breaks after every 50 minutes of class.

Potential Impact: Although traditional evaluation occurs at the completion of a course, a change of this magnitude requires direct feedback and continuous evaluation from key stakeholders to lessen the risk of losing momentum during curriculum revitalization and possibly failing to recognize unforeseen concerns that could potentially increase resistance to change. Implementing a method that engages key stakeholders helps to establish an enriched teaching/learning environment for faculty and students during curriculum change.
Systematic Reviews as a Service: Correcting Misconceptions from the Top Down

Kysh, Lynn; Johnson, Robert
Norris Medical Library; Keck School of Medicine of USC

Idea: By formalizing systematic review services to research teams (faculty and residents), librarians have effectively trained the trainers in understanding levels of evidence, systematic review methodologies, and scholarly communication.

Rationale: Systematic reviews are a research methodology that provide a high level overview of primary research on a focused question. Because of their reproducible nature and their end product of a synthesis of information, systematic reviews are ranked as high levels of evidence and can be used to inform clinical practice and establish guidelines. However, common misconceptions regarding the arduous process of completing a systematic review jeopardize their contribution to existing medical literature. These same misconceptions are also likely to be passed down to the undergraduate medical students through instruction, mentorship, and collaboration. Librarians, with their expertise in research, have the potential to not only assist in creating search strategies for systematic reviews, as recommended in PRISMA Statement, but can also help educate the research team thereby supporting evidence-based practice and improving medical education.

Educational points librarians at the Norris Medical Library have addressed include:
- The difference between a systematic review and a standard literature review
- Establishing attainable timelines and research protocols
- Methods of removing bias while conducting a systematic review
- Copyright best practices

Methods: A team of four librarians at the University of Southern California (USC) Health Sciences Libraries (HSL) was formed to respond to requests for systematic review consultations. The request process was formalized requiring interested researcher to complete an online form. The form provided basic information to the librarians including the research question, the purpose of the systematic review, anticipated timeline, and key articles related to the topic. A standardized worksheet was created that the assigned librarian complete with the research team during their first consultation meeting. The worksheet includes the following elements:
- Organizing the research question into PICO format
- Inclusion/Exclusion criteria
- Potential databases
- Citation management tools

Following the initial consultation appointment, the assigned librarian continues to communicate with the research team to collaborate on the research strategy, delivering search results, and providing assistance as needed.

Evaluation Plan: Since the formalization of the systematic review consultations in April of 2014, the Norris Medical Library has received and responded to twenty-three consultation requests. Assigned librarians have worked with the teams and can provide information about the struggles and successes in an anonymized case report format. Data to support these case reports are pulled from the following sources: a) Qualtrics data for consultation request form; b) Initial consultation worksheet; and c) Email correspondences. Additionally, the presenters will send out a follow up survey to the twenty-three research teams soliciting their feedback on the services offered by their assigned librarian.

Potential Impact: Librarians have a significant role to play in supporting the educational mission of programs on the University of Southern California’s Health Sciences Campus. The educational component of the Systematic Review service will help increase research teams’ awareness of best practices, scholarly communications, and evidence-based practice, enabling research team members to bring this information to medical students.

Using Student Feedback to Improve the OSCE as an Assessment of Clinical Skills

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Keck School of Medicine of USC

Idea: There is no clear consensus regarding the most effective role of the Objective Structured Clinical Exam (OSCE) in assessing medical students’ clinical skills. We will use student opinions to improve the medical school OSCE process.

Rationale: The manner in which medical schools evaluate student OSCE performance varies greatly. Some schools allow OSCEs to be evaluated solely by the standardized patients, while others utilize feedback from physicians who observe this interaction. Additionally, while some institutions provide students with numeric or letter grades for their performance, others assign only “pass” or “fail” marks. Studies have shown that the OSCE is a reliable tool to assess clinical skills and progress when students are evaluated by physicians using case-specific checklists and global rating scales [1]. Importantly, student performance and satisfaction with the OSCE process is also dependent on its objectivity. Among 108 third-year medical students surveyed at the Keck School of Medicine, only 24% felt prepared to succeed on any given OSCE. In addition, 90% felt they have been unfairly evaluated by a standardized patient, and only 14% felt that the OSCE process improved their clinical skills. From student feedback, this frustration is due to a lack of transparency in the grading process, unclear expectations from evaluators, discrepancies between skills taught by physician preceptors and those assessed on the OSCE, and a lack of informative, direct feedback provided to students following the examination.

Methods: Our goal is to improve the OSCE as a measure of clinical skills by enhancing and demystifying the overall student experience. We propose an evaluation system in which the history and physical exam of a patient encounter would be graded “pass” or “fail”, similar to the format of the USMLE Step 2 Clinical Skills exam, while a post-encounter note would serve as the basis for the final OSCE score factored into a student's clerkship grade. Specifically, this note will test proficiency in acquiring and analyzing clinical information by requiring students to list pertinent positive and negative findings, and their likely differential diagnoses. In addition, students will propose laboratory and radiographic diagnostic studies, as well as potential management options. This note will be graded by a physician familiar with the specific OSCE case. To assist in preparation and eliminate ambiguity, the grading criteria will be standardized and provided to students before each OSCE. The evaluation of this note, as well as feedback from the faculty evaluator and standardized patient, will be provided to the student so that he/she may identify strengths and weaknesses. In this paradigm, while a student’s OSCE performance still relies on satisfactory patient interaction skills, his/her grade will be dependent on their mastery of the clerkship’s aimed competencies. These changes will address students’ concerns about making the OSCE grading process more objective, transparent, and representative of their performance during the clerkship.

Evaluation Plan: Students who complete the OSCE after the implementation of this new grading scheme will be given the same survey described above, in order to assess their feeling of preparedness and overall satisfaction with the OSCE evaluation process.

Potential Impact: If effective, these changes will improve students’ perception of the OSCE as a valid evaluation tool and as a valuable learning opportunity in building their clinical and patient interaction skills.

References:

Decreased Didactic During Introduction to Scholarly Pathways Did Not Affect First-Choice Enrollment

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Medical College of Wisconsin

Idea: Does decreased faculty contact through didactic presentations during Introduction to Pathways course result

Rationale: A scholarly concentrations program called Pathways was introduced at the Medical College of Wisconsin (MCW) in 2009 as a required curriculum component for M1s and M2s. In order to help students learn about each specific pathway, the Introduction to Pathways (ITP) course was designed. The objectives of the ITP course are to: 1. Familiarize students with the purpose, perspective, and expected activities of each Pathway, 2. Assist students in the selection of a Pathway that would best meet their personal development goals. Initially, ITP consisted of over 40 hours of required didactic experience for students. Student feedback for the course consistently requested fewer and shorter didactic sessions. Annually through 2013, the number of sessions was increasingly reduced and the length of sessions shortened, but students’ desire for less didactic time persisted. In 2014, a self-directed, asynchronous distance-learning format with only 1.25 hours of required didactic time was implemented. Despite the marked reduction in faculty contact time in the 2014 ITP course, the percentage of students that chose their first choice pathway is consistent with past ITP course formats that utilized many more contact hours.

Methods: Students were asked to complete a survey about Scholarly Pathway interests during the first week of M1 classes. With no additional Pathway course information, students were asked three specific questions: 1. Which Pathway they would enroll in on that very day; 2. Their level of certainty on a 3-point scale in choosing that Pathway; 3. Which Pathway would be their second choice. The ITP course began the week after the survey, and continued for 6-10 weeks. At the end of the ITP course, actual Pathway enrollment data was compared to each student’s pre-ITP survey. Data was collected and analyzed for the period between 2010 and 2014.

Evaluation Plan: In 2010, 60% of students selected their first-choice Pathway. Despite the increased emphasis on self-directed learning, with fewer faculty contact hours, 52% of students in 2014 chose their first-choice Pathway.

Potential Impact: Reducing contact hours between students and faculty did not dramatically affect the students’ enrollment in their first-choice Pathway. It is possible to honor students’ desires for less classroom time, and still provide quality opportunities for exploration of all Scholarly Pathways. The students enrolled in a Pathway not indicated as their first or second choice experienced a greater shift between 2011 and 2014, during the time of decreases didactic – and during a time when additional materials began to appear on the learning management system for individual student perusal. Only one year’s data is available to compare accessed online resources, but will be curated and compared in coming years.
Mixed-Methods to Identify Opportunities for Improvement in Clinical Research Fellowship Program

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Idea: To develop a clinical outcomes research curriculum based on gaps identified by past and current research, critical care, and international fellows.

Rationale: The Accreditation Council for Graduate Medical Education (ACGME) requires a training program to include a research component in its curriculum. These learning experiences should focus on the basic principles of how research is conducted and on how medical/surgical investigations are appraised critically. Residents should be skilled at applying medical/surgical evidence to patient care. Residency programs with active research agendas are more likely to improve a resident's ability to critique the medical literature, to enhance the academic productivity of a department, and to increase the number of residents who choose a career in academic medicine. Although resident research is a key component of the surgical education process, the specific components of training residents to perform research are not defined. Furthermore, many barriers exist in the current residency and hospital climates that may make research more difficult. The purpose of this study was to identify the gaps in the current pediatric surgery fellowship and to create a research curriculum to fulfill those gaps.

Methods: After institutional review board approval, we sent a link to an anonymous, voluntary online survey to all past fellow trainees and current fellows in June 2013. The survey included questions about demographic characteristics, research background, current research training, and academic output. One voluntary focus group was held with current trainees. Constructs discussed included past research training, expectation in training program given current research experience, and suggestions for changes to the current training. Frequencies and percentages were calculated from survey response. Thematic analysis was conducted from focus group notes.

Results: Nineteen individuals (73%) completed the online survey. Ten (53%) were female. Eighteen (95%) reported having any training about the conduct of research. Eight (44%) reported that the training was comprised of a discussion with their mentor while 39% reported "Other," which include online education, peer mentoring, and self-directed. Topics discussed included institutional review board (82%) and manuscript preparation (71%). When surveyed about topics that they would like to have discussed, response included “funding opportunities” and “biostatistics.” Three current trainees participated in the focus group. Focus group discussion identified the desire for a more formal curriculum at the start of the program and increased focus and feedback on individual projects. Based on the results, we developed and implemented a training research curriculum and are currently in the second year of the pilot program. The first part of the curriculum is an eight-week research overview which includes basic biostatics, institution review board submission, research study design, and an overview of PubMed. We will continue to apply mixed methods to gain information about the utility and relevance of this program and make any requested changes. We also continue to track academic output as an evaluation of the success of the training curriculum.

Impact: Training programs vary widely. In an effort to introduce a standard level of research training to residents who have varying degrees of knowledge of research methods, we have developed a research training curriculum. The curriculum discussed is widely adaptable and modified as necessary by respective institutions.

References:
Konstantakos EK, Laughlin RT, Markert RJ, Crosby LA. Assuring the research competence of orthopedic graduates. Journal of Surgical Education. May-Jun 2010;67(3):129-134.


Preceptors’ and Physician Assistant Students’ Views about the Value of Clinical Site Visits

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Keck School of Medicine of USC

Idea: The purpose of this study is to determine preceptor and student views about the value of clinical site visits.

Methods: An online survey of preceptors and students was conducted after completion of one-year clerkships, during which each student received two visits from program faculty. An 11-question Likert scale (1 = strongly disagree, 5 = strongly agree) survey was administered to preceptors and students. Analysis was by descriptive statistics (percentage, mean± SD), and theme extraction.

Results: Response rate was 70% for preceptors and 77% for students. A majority of both groups agreed or strongly agreed that site visits met a need for clerkship clarification, addressed expectations, and improved clinical experience; that visits were important, added value to education, and improved communication with the program. Visits increased preceptor self-reported confidence in faculty. Preceptor themes included “face-to-face validation,” “personal touch,” and “hands-on interaction.”. Student themes included “value of direct feedback from site visitor,” “ability to improve skills between visits,”, and “connectedness to program.”

Impact: Preceptors and students agreed on the importance and value of site visits for improving communication, clinical skills, and quality of educational experience.

References:


Emergency Medicine Resident-Run Cadaver Lab

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Keck School of Medicine of USC

**Idea:** Senior emergency medicine residents will function as instructors rather than passive learners during cadaver procedure skills lab to enhance their educational experience.

**Rationale:** In order to master a topic, learners need to understand general principles and applications of the subject matter and then formulate their own original framework of the knowledge (Bransford 2000). Residency programs utilize cadaver labs and other simulation modules for residents to practice both common and infrequent emergency medicine procedures (Okuda 2009). We aim to maximally engage the resident during cadaver lab sessions by assigning the resident an instructional role. As with all forms of learning, procedural competency is best achieved via an active educational process. By functioning as a teacher, the resident instructor will be motivated to understand the assigned procedure in such detail that he or she is able to clearly describe and demonstrate the procedure.

**Methods:** Each cadaver lab session will consist of four emergency medicine residents and an emergency medicine faculty member. Two residents will randomly be assigned as resident instructors (RI) and two residents will randomly be assigned as resident learners (RL). Each of the four participants will receive the same didactic content for each procedure one week prior to the lab. The resident instructors will prepare material to demonstrate their assigned procedures while the learners will be instructed to look over the material. We will focus on thoracotomy and cricothyrotomy procedures in this educational intervention as these are both rare procedures for emergency medicine residents. During the session, the resident instructors will demonstrate the procedures to the resident learners. The faculty will act as a facilitator and evaluator.

**Evaluation Plan:** All four residents (instructors and learners) will be sent a pre-test on the critical information for both procedures as well as a pre-skills session confidence survey. Upon completion of the skills session, the residents will fill out a post-test and post-skills session confidence survey. In addition, both groups of residents will be tested on performance time (minutes) and performance accuracy (a percentage score based on a critical skills checklist for each procedure) during the cadaver lab.

**Potential Impact:** We anticipate that resident instructors will advance their procedural skills more effectively in an active teaching role. If successful, we will assign senior residents as instructors for junior residents during each cadaver lab session. This could serve as a model of both teaching and active learning for senior residents in procedural skills lab.

**References:**

Dedicated Breast Rotation Service for Surgery Residents to Learn Management of Breast Cancer

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William Beaumont Hospital; Oakland University William Beaumont School of Medicine

Idea: Dedicated breast rotation service for general surgery residents to enhance decision making skills on management of breast cancer.

Rationale: General surgeons provide a substantial proportion of breast surgery in America at present. A survey of 374 general surgery (GS) and family medicine (FM) residents showed a diagnosis–treatment disparity whereby both groups incorrectly treated more breast and skin lesion than they diagnosed (1). Also, another recent survey of 35 applicants for surgical oncology fellowship position showed that comfort level of the applicants was the lowest in the area of medical management of patients with breast cancer. Given the integrated nature of surgical, radiation, and systemic therapy in breast cancer care, surgeons are required to have a thorough understanding of these related fields (2). Competent general surgeons are required to confidently and effectively counsel patients and skillfully perform appropriate procedures (3). A learner-centered rotation in breast surgery that integrates knowledge, problem solving, procedural and communication skills can meet these needs.

Methods: This pilot intervention will be a one-month rotation for PGY3 residents (n=5). Each learner will be rotating one-on-one with the author. The rotation will be designed to optimize learning through: 1) assessing learners prior knowledge and experience; 2) setting clear expectations; 3) provide reading and discussion assignments tailored to each learner’s knowledge needs and build problem solving through target case review; 4) role playing exercises to enhance relevant communication skills; and 5) opportunities to build skills in communication and in breast surgery though mentored contact with patients in pre-operative, peri-operative and post-operative settings. Learners will make a brief presentation at the multi-disciplinary tumor board to encourage each learner to pursue in greater depth a topic of personal interest. In addition, learners will participate in journal club to help them understand evidence-based medicine, and in our survivorship program to better understand the impact of breast disease and breast cancer on the patient and their family.

Evaluation Plan: The evaluation will include: 1) gathering learner reaction through end of rotation debriefing and through confidential learner assessment of teaching (reported once per year to instructors); 2) Assessment of learning will be through pre and post rotation quiz/multiple choice questions, use of mock oral exam questions; and one-to-one assessment in the all phases of surgical care; 3) Assessment of changes in learner behaviors will be estimated through use of a end of rotation written reflection with feedback on what they are doing, or plan to do differently in their future care of patients. We plan to follow-up a year later to determine what was actually incorporated into their daily work.

Potential Impact: This pilot could provide a set of activities that could used by any surgical preceptor who works on-to-one with residents.

References:
Cohen S et al. Are university-based residency training programs lacking in resident education of proper diagnosis and treatment for common skin and breast lesions? 2012-12-01Z, Volume 204, Issue 6, Pages 981-987


Score Curriculum Outline for General Surgery Residency Surgical Council on Resident Education www.surgicalcore.org
Idea: Performing ultrasound-guided procedures on cadaver models provide an ideal environment for the trainee to practice essential emergency applications.

Rationale: Emergency physicians are expected to be competent in a variety of life saving diagnostic and therapeutic procedures. The introduction of point-of-care ultrasound (POCUS) has led to increased diagnostic accuracy, improved procedural success, and lower complication rates for many of such procedures. Therefore, ultrasound education is a crucial component of Emergency Medicine (EM) training. Currently, this involves education on healthy volunteers (which lack pathology and do not undergo procedures), use of simulators (which can be expensive), and performance of procedures on consenting patients (which are infrequent, and are at risk for harm). Cadavers are an integral part of medical education. Cadaver dissection has been an essential component of gross anatomy education for over 100 years. Many surgical training programs use cadaver models to train surgical residents and fellows on complicated procedures that are not routinely performed. A cadaver model has a significant advantage with regards to procedural training; the trainer can easily replicate pathology, and the trainee can practice hands-on learning in a stress free environment without the worry of inflicting pain or causing complications to the patient. Multiple attempts can be made and a single cadaver model can provide an education opportunity for multiple trainees. To this effect, we believe that incorporation of a cadaver model in EM POCUS training can have promising results on resident physician training.

Methods: The following POCUS procedures can be performed on a cadaver model: 1. Confirmation of Endotracheal Tube Placement after Intubation: Trainees will learn the difference in sonographic appearance of endotracheal and esophageal intubations by performing ultrasound evaluation of larynx post intubation. 2. Pleural Assessment for Evaluation of Pneumothorax: A pneumothorax is induced on a cadaver, which is then intubated and ventilated. Trainees can learn the difference in sonographic appearance of pneumothorax. 3. FAST exam: Fluid can be infused into the abdominal cavity using a peritoneal lavage catheter. Trainees can practice identifying a positive FAST with varying volume of fluid infused. 4. Foreign body evaluation and removal: Wood, metal, and glass foreign bodies can be placed in the subcutaneous fascia. Trainees can assess different artifacts resulting from such foreign bodies, and learn the correct procedures for their removal. 5. Venous access: Trainees can learn the correct approach for placement of IV lines in both peripheral and central veins. 6. Lumbar Puncture: Trainees can evaluate the needle entry point in lumbar spine with ultrasound prior to performing a lumbar puncture. 7. Nerve Blocks: Trainees can learn the technique to perform regional nerve blocks on numerous peripheral nerves of upper and lower extremities. 8. Joint Arthrocentesis: Fluid can be infused into joint space to mimic a joint effusion. Trainees can perform ultrasound-guided arthrocentesis.

Evaluation Plan: Pre and post session surveys with a 5-point Likert scale can be used for evaluation of the trainees’ level of confidence and understanding. Other objective methods for evaluation include time to completion of procedure, and number of attempts made until successful procedure completion.

Potential Impact: We believe a cadaver based POCUS procedural education model can provide a unique opportunity for EM resident physicians to learn rare yet potentially life saving procedures, without the stress of causing harm to a patient. This can lead to better-trained EM physicians.

References:
Bedside Ultrasonography Augments Medical Student Gross Anatomy Education

Abdi, Amin; Berona, Kristin; Seif, Dina; Mailhot, Thomas; Kang, Tarina; Chilstrom, Mikaela

LAC+USC Medical Center

Idea: Bedside ultrasound can improve gross anatomy education as it allows students to visualize living organs in conjunction with their cadaver dissection.

Rationale: Gross anatomy is an essential component of medical education. The current model of gross anatomy education includes large lecture series, use of anatomic atlases, and cadaveric dissection of the human body. Many medical schools also incorporate radiology in their anatomy curriculum, where they expose medical students to cross sectional imaging of different organ systems. Yet, cadaveric dissection serves as the hallmark of gross anatomy education at this time. Cadavers are bodies either donated to the school by deceased individual or family members, or unclaimed bodies given to the medical school by the state. Most cadavers are elderly individuals with chronic conditions, and it is not uncommon for these bodies to have had anatomic alterations due to prior surgeries (amputations, cholecystectomy, hysterectomy, etc). Such anatomic alterations may limit the study of anatomy. Ultrasound has become a popular imaging modality in many fields of medicine. The advent of smaller, more portable, and higher resolution machines ultrasound provides a new modality to visualize anatomy. Ultrasound’s lack of ionizing radiation contributes to its safety and allows for repeated scans of healthy volunteers, potentially offering medical students to a new way to study gross anatomy in living subjects. Several medical schools in the United States have already incorporated hands-on ultrasound into their gross anatomy curriculum with promising results.

Methods: Keck School of Medicine of the University of Southern California has a year-round gross anatomy curriculum. Medical students are exposed to regional anatomy in conjunction with learning about the pathophysicsiology of related organ systems. All 186 first year medical students were emailed to determine if they were interested in participating in the Ultrasound Anatomy Pilot Course. Of the 58 students who expressed interest, two groups of six students were randomly selected to participate in Pilot. The Pilot consists of the following seven sessions which directly complement the gross anatomy dissection labs. 1) Thoracic wall and pleura (ribs, thoracic wall muscles); 2) Heart (chambers, valves, aorta); 3) Abdominal vasculature (aorta, inferior vena cava); 4) Abdominal solid organs (liver, spleen, kidneys); 5) Pelvis (bladder, uterus, prostate); 6) Ocular; and 7) Neck (internal jugular, carotid, thyroid, trachea). Prior to each lab, students are asked to review brief (5-15 minute) online pre-recorded lectures to provide background for the session. The day of the lab, students have 45 minutes of hands-on ultrasound instruction in groups of six, where they each have an opportunity scan each other, identify different anatomic structures, and ask questions.

Evaluation Plan: After each session, students are asked to fill out an online evaluation of the experience, which includes questions about the utility of the pre-recorded lectures, whether the hands-on ultrasound sessions helped students understand anatomic relationships, and student comfort both obtaining and interpreting ultrasound images all graded on a 5-point Likert scale. Additionally, students are asked about the length of the hands-on workshop and are given the opportunity to provide free text comments or suggestions for improvement.

Potential Impact: We believe that incorporation of bedside ultrasound in gross anatomy education leads to improved understanding of gross anatomy and a better educational experience. Furthermore, this experience exposes medical students to ultrasound early in medical training, making them more prepared to use this imaging modality in the future, as ultrasound is being increasingly used in a wide variety of specialities.

References:
Using a Simulation Laboratory to Enhance Newborn Curriculum in an Urban Family Medicine Residency

Lopez, M. Cynthia; Lopez, Alma
White Memorial Medical Center

Idea: Using simulation to help family medicine residents be better able to respond to newborns in distress.

Rationale: In response to changes in family medicine accreditation requirements, our Newborn Rotation has evolved into a condensed two-week rotation (1). White Memorial Medical Center (WMMC) in Los Angeles experiences over 3000 births every year, with many newborns placed on the maternity ward in couplet care soon after delivery. Many residents report never having evaluated a newborn in distress in a “ward” setting. Types of distress include respiratory distress, which occurs in 7% of infants (2). Simulation is a proven technique for enhancing learning in areas where “real” practice might be limited (3). By using a simulation laboratory with a newborn model, we plan to help residents practice such scenarios to supplement the two-week experience, and ultimately to be able to provide this level of care after graduation.

Methods: Our initial target learners are residents in family medicine at WMMC (n=21) with the ultimate target being first year residents (n=7 annually). WMMC recently opened a state of the art simulation center, which can accommodate newborn scenarios. We are developing 5 scenarios of newborns in distress to help ensure that residents are able to: 1) transfer relevant medical knowledge to clinical situations, 2) triage urgent situations involving newborns, and 3) provide proper treatment for infants in distress. Each standardized scenario will include a simulator newborn whose vital signs can be manipulated. We will work with the Simulator team to design the cases, then pilot the cases with third year residents who have the most experience. Phase 2 will be to incorporate the resident feedback to adjust scenarios. In Phase 3 will be to begin the instruction and assess its effectiveness. We will begin with a formal didactic session on newborns in distress that will provide the basic information needed along with several cases to assist them in basic problem solving. This will be followed by the simulation laboratory experience for PGY1-2 residents in groups of 2-3. The Simulation Laboratory technician will run the scenarios while the attending physician observes from the media room using a checklist to guide feedback. Debriefing will follow each scenario with structured feedback and an opportunity to repeat any of the scenarios if needed.

Evaluation Plan: The evaluation plan will include tracking of our case development including number of hours of physician time and number of ours of simulator team time required for each. We will assess resident reaction to the simulator training through use of a questionnaire to assess the difficulty of the cases, the usefulness of the debriefing and feedback, and the amount of new information/skills acquired. Resident prerequisite knowledge will be assessed within our didactic session with a brief quiz on infants in distress. Resident performance will be assessed during each simulated case using case-specific checklists. Ultimately control group of residents from a nearby program will be sought to join our residents in a multi-station simulation exercise.

Potential Impact: This project can help other residency programs enhance their newborn curriculum. If shown to be effective, the scenarios will be transportable to other simulation centers for use in any specialty that cares for newborns.

References:
ACGME Program Requirements for Graduate Medical Education in Family Medicine. http://www.acgme.org/acgmeweb/Portals/0/PFAssets/ProgramRequirements/120_family_medicine_07012014.pdf. October 11, 2014


Training Sports Medicine Fellows to Perform Musculoskeletal Ultrasound Using Bedside Simulation

Vasquez, Marissa
Kaiser Permanente Los Angeles Medical Center

**Idea:** Training Sports Medicine Fellows to Perform Musculoskeletal (Sports) Ultrasound Using Bedside Simulation with an Application (App) on the iPad.

**Rationale:** Musculoskeletal ultrasound is moving toward becoming a requirement for sports medicine education (1). Ultrasound is replacing magnetic resonance imaging (MRI) in many settings due to both convenience and cost. Sports medicine physicians are being held to the same standards as radiologist in the usage of this dynamic technology (2). Graduates need to gain these skills to ultimately become physicians certified in musculoskeletal (sports) ultrasound. Simulation has been shown to be effective in building diagnostic and procedural skills for health professionals (2). However, our desire is to bring simulation to the bedside through use of the iPad. The MSKNAV™ application for the iPad was selected for this intervention due to its flexibility in usage at the bedside. This app has several functions that will be used, 1) it contains labeled ultrasound videos with a protocol steps based on guidelines 2) allows viewing of 3-D peel away anatomy 3) demonstrates patient positioning 4) contains a library of pathology images 5) provides interventional injection references and 6) permits a self-paced learning environment from beginner to advanced. The strengths and weaknesses of this application will be explored through this study.

**Methods:** In this pilot we will be working with 2 fellows within our sports medicine fellowship. Beginning in their second month of training the fellows would utilize this twice a week in their ultrasound clinic. The fellows will use the app as a point of care reference while performing ultrasound in the exam room. The app is intended to build skills in recognition of normal and pathologic ultrasound during live scanning of patients. In December the ultrasound OSCE will be used to assess their skills in ultrasound usage. During the second half of the year fellows have their own clinics and it is intended that utilization of this application would be integrated into their normal practice. The objective for this intervention include: 1) diagnose musculoskeletal issues using ultrasound, 2) use ultrasound as an aid in patient education, and 3) use ultrasound in innovative ways to assist in treatment of musculoskeletal injuries by bringing simulation tools to the clinical encounter.

**Evaluation Plan:** 1) The fellows will be interviewed to determine the strengths and weaknesses of this application and of our overall ultrasound training; 2) Learning: An OSCE held in December will assess the fellow's basic skills in use of ultrasound, and passing of the certification exam in ultrasound in May will provide the ultimate evidence of knowledge and skill. 3) At the behavior level we will track usage of the application throughout the year as they log their ultrasound experience in the procedure log in our system medhub. The fellows will also be interviewed to determine their usage of this tool as part of their patient education.

**Potential Impact:** If the pilot demonstrates effectiveness a larger multi-program study could be conducted to study effectiveness. Specialists in other fields of medicine or health care could utilize this I Pad application to help learners build skills required to visualize anatomy as part of any interventional procedure.

**References:**


Peer-assisted Learning in a Gross Anatomy Dissection Course

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Idea or Problem statement: We hypothesized that peer-assisted cadaver dissection would be as effective as faculty-led dissection in terms of students’ understanding and retention of anatomical knowledge.

Rationale or Need: Cadaver-based anatomical education remains essential to understanding the multidimensional body and is a prerequisite for the optimal training of competent, communicative, compassionate, and patient-centered physicians (Ref). Cadaver dissection not only provides opportunities for hands-on learning but also offers a forum for discussions among students and for peer-assisted education. (Ref) Nevertheless, dissection has become a lengthy and tedious activity in which much of time is spent watching somebody else dissect.

Several reports have supported the effect of peer-assisted compared with faculty-led learning, indicating that students’ academic achievement after peer-assisted learning was as good as or slightly inferior to that of faculty-led learning in the domains of clinical skills, problem-based law, and health science. (Ref)

Methods: All subjects performed dissections after a lecture about upper-limb gross anatomy. Group 1 (n = 134) dissected a cadaver while guided by peer tutors who had prepared for the dissection in advance, and Group 2 (n = 71) dissected a cadaver after the introduction by a faculty via prosection.

All participating students were asked to complete a short questionnaire requesting demographic information and to rate their knowledge with regard to the upper-limb learning objectives on a self-administered survey. The learning objectives were addressed by 12 items based on the core anatomy syllabus and the learning objectives for medical students. Students were asked to indicate the degree to which they agreed with each item using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). Immediately after completing the study sessions, all students completed a written examination that consisted of multiple-choice, short-answer, and essay questions focusing on their understanding of the anatomy of the upper limb and the application of anatomical concepts to clinical situations. The Mann–Whitney U-test was used to compare self-assessments regarding learning objectives and academic achievement between groups. All analyses were performed using SPSS software version 21.0 (SPSS, Inc., Chicago, IL, USA).

Results: The self-assessment scores on all but one item of the 12-item questionnaire addressing upper-limb learning objectives were significantly higher in Group 1, which performed peer-assisted dissection, than in Group 2, which performed faculty-led dissection. With the exception of the ability to describe the position and function of the retinacula of the wrist and the tendon sheaths of the wrist and hand, students in Group 1 perceived themselves as having a better understanding of the major structures and their courses and functions than did those in Group 2. The total self-assessment scores were also higher in Group 1 than in Group 2. Additionally, Group 1 achieved significantly higher academic scores than did Group 2.

Limitations of study?

Potential impact or lesson learned: Peer-assisted dissection enhanced self-confidence and the ability to learn and explain anatomical knowledge. Students who serve as tutors are better able to acquire knowledge by teaching and tutees are encouraged to actively participate rather than act as bystanders. Institutions should offer programs that help students understand the meaning of peer-assisted learning, to learn how to become effective tutors, and to provide constructive feedback to peers.

References
THANK YOU REVIEWERS

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**Mohamad Imam, MBBS**  POSITION TITLE 1.Internal Medicine Resident 2. Academic Editor, Medicine (Editor in Chief: David B. Hellmann, MD. ISSN: 0025-7974) EDUCATION/TRAINING 1. Postdoctoral Research fellow Mayo Clinic, Rochester, MN, 2010-2013 2. MBBS, Jordan University of Science and Tech, Irbed, Jordan, 2003-2009. A. Personal Statement The goal of the proposed research is to investigate the value of handheld point of care ultrasound and diagnosis of pulmonary embolism. Specifically, we plan to identify the changes in clinical outcomes including hard endpoints such as mortality when this novel technology is implemented as a tool in residency for utilization by care providers to obtain non-invasive and cost-effective real time data. I have the expertise, leadership and motivation necessary to successfully carry out the proposed work. I have a broad background in medicine, with specific training and expertise in key research areas for this application. As a postdoctoral fellow at Mayo Clinic, I carried out several clinical outcome trials and performed data analysis. B. Positions and Honors Education Chair, Mayo Research Fellows Association, Mayo Clinic, June 11-13. drmohdimam@gmail.com

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Kelly Jones, MSIII is a third year medical student at the Keck School of Medicine. After completing her undergraduate education at the University of Notre Dame, she returned to Southern California where she originally hails from. While she is remaining open to every rotation, she is most interested in potentially pursuing a career in primary care. She ultimately hopes to combine her love for educating patients and pursuing her work in positive body image among young females. Her recent completion of the Albert Schweitzer Fellowship, a year-long service project with partner Meghan Ward, further inspired her to begin work in the areas of eating disorders and body dysmorphia. kellyrjo@usc.edu

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Abdul Sattar Khan, MD Assistant Professor & Head, Department of Family & Community Medicine, College of Medicine, King Faisal University- Saudi Arabia. Having qualifications in family medicine, public health and medical education. I have been on the faculty at different universities in Pakistan, Turkey and Saudi Arabia. I have an honored to be a part of a team, which developed diploma in family medicine and national training programs for general practitioners in Saudi Arabia and modified undergraduate medical curriculum in Turkey. I have been a member of a team invited to establish a postgraduate training program in family medicine in Libya and conducted workshops on assessment in Yemen. As principal investigator received grants from WHO and PMRC for researchers at primary health centers and have published around 40 papers too. Currently beside undergraduate and postgraduate teaching, being a part of several committees including faculty development committee at my institute and continuously involve in trainings of faculty members specially related to problem-based learning. My wife is also involved in teaching, have three children and love to travel. My future plan includes move to Canada permanently. yardockhan.ask@gmail.com

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Meghan Ward, MSIII is a third year medical student interested in family medicine and women’s health. Prior to starting clinical rotations this fall she enjoyed serving on the board of Keck’s American Medical Women’s Association chapter, participating in USC’s interdisciplinary student run clinic, and getting to know medical, pharmacy, occupational therapy and physical therapy students in Keck’s Christian Scholars Fellowship group. She and her research partner Kelly Jones created a body image and eating disorder education program at a high school near their campus. She sees body dysmorphia and eating disorders as problems that are often faced in isolation without the support or information needed to choose a full and healthy life and is simultaneously sobered and excited about the delicate nature of the topic. Like Kelly, Meghan first became interested in this field while working in student development. During her time as a Resident Assistant and Assistant Resident Director at Wheaton College (Wheaton, IL) she became passionate about women’s health and integrating her faith and convictions about social justice with her future profession.

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Warren Wiechmann, MD, MBA is an Assistant Clinical Professor of Emergency Medicine and the Associate Dean of Instructional Technologies for the University of California, Irvine School of Medicine. He is the project lead behind UC Irvine’s iMedEd Initiative, recognized this year for a second time as an Apple Distinguished Program. Warren has spoken internationally about medicine + technology + education, is a TEDx speaker, and has received a distinction as an Apple Distinguished Educator in 2013. Warren is the Course Director for the Health 2.0 + Digital Literacy course. He believes that creating focused materials using new media and new technology fosters an environment of self-directed, and subsequently life-long learning, for our residents. Within the medical school curriculum and the Emergency Medicine curriculum, he has already taken great strides at creating resources for self-directed learning using tools like social media, iTunesU, and podcasting. wiechmaw@uci.edu

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Paul Wimmers, PhD is Director of Evaluations at David Geffen School of Medicine at UCLA. He joined UCLA in 2006 and in 2009 he was promoted to Associate Professor and served as Associate Director for Research in the Center for Educational Development and Research of the School of Medicine. He is the course chair of the 1st and 2nd year medical student elective program and course chair of the Doctoring 4 Teaching Fellowship. His experience in educational research has been shaped by his academic training in cognitive, experimental psychology at the University of Maastricht (leading to an M.S. degree) and Erasmus University Rotterdam (leading to a Ph.D. degree). His professional interests include the acquisition of expertise, professional learning and assessment, and problem solving. His research includes the application of multivariate statistical methods such as structural equation modeling in practical learning and assessment settings. His most recent research focuses on the development of expertise and how different types of cognitive and non-cognitive abilities such as knowledge, skills, and professional behaviors develop over time.

Alisa Wray, MD is a 3rd year resident in the University of California, Irvine Emergency Medicine Program. She attended UC Irvine for her undergraduate degree in Biological Sciences, after which she traveled to New Orleans where she attended Tulane University School of Medicine, graduating with her MD in 2012. She is interested in how new innovations in technology can advance education, and in adult learning theories. awray@uci.edu

Brian Wu, BS is a seventh year MD/PhD student at the Keck School of Medicine. He is currently finishing his dissertation while working in the Clinical Exercise Research Center. He obtained his Bachelors of Science at the University of Maryland, College Park. He is the founder and creator of the Storybook Illustrated Guides, a medical education tool for patients and their families. These guides provide key facts about specific illnesses and proper care in an entertaining and fictional manner. Previously, Brian was in the USC Coulter Stevens Institution Innovation Intern program, the Health Technology Engineering program at USC, and the Cal-Tech Entrepreneurship workshop. He is interested in pursuing a family medicine residency and becoming a physician scientist focused on empowering patients through improved education.

Shirley Wu, MD I am on the Geriatrics faculty at Harbor-UCLA Medical Center (HUCLA), as an Assistant Clinical Professor, Clinician Educator Track, at the University of California, Los Angeles, since 2013, where I am also a Fellow in Medical Education, a 2-year certificate program. I assisted in developing the HUCLA Geriatrics Inpatient Consult Service and Transitions of Care Program. I teach on inpatient Geriatric consultations, inpatient Medicine Wards, and primary care clinics. I completed fellowship at the VA-UCLA Geriatric Medicine Fellowship and am boarded in Geriatric Medicine. Prior to fellowship, I was Primary Care Faculty at the UC Davis Internal Medicine Residency, where I completed Internal Medicine Residency, Primary Care. I received an M.D. degree from UCSF in 2008, with an M.S. in Health and Medical Sciences from the UC Berkeley School of Public Health Joint Medical Program. My interests are in integrating geriatrics in the outpatient and inpatient settings, with a focus on patient and caregiver education and communication, particularly among vulnerable, frail elderly populations such as those with low health literacy and socioeconomic status, and language barriers. swu@dhs.lacounty.edu

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Stephanie Zia, MD is a three-time alumnus of USC, Dr. Zia received her B.A. in education in 1999, M.D. in 2003, and completed residency in Combined Internal Medicine and Pediatrics (Med/Peds) in 2007. She completed a Pediatrics Chief Resident year before joining the faculty in 2008. In addition to her duties as a Med/Peds hospitalist, Dr. Zia has a passion for mentorship and teaching. She is the Co-Course Director for Keck’s Professionalism and the Practice of Medicine course, the Med/Peds Faculty Advisor, and Assistant Program Director for the Med/Peds residency program. She is an AOA member and received the Leonard Tow Humanism in Medicine award. She was selected the Class of 2007’s Resident Teacher of the Year and achieved Master Teacher distinction in 2013. Currently, she is pursuing her Masters in Academic Medicine at Keck. Dr. Zia is deeply devoted to USC and its students, and loves inspiring her students to be lifelong learners. zia@usc.edu

Michael Zobel, MSIV Ravi Agarwal and Michael Zobel are both students at the Keck School of Medicine of the University of Southern California. For the past four years, they have served together as Curriculum Co-Chairs on the Class Council for the Keck Class of 2015. As part of their duties, they have been privileged to work with the very supportive faculty and administrators at Keck while implementing a number of school-wide academic changes, including major improvements to the Year 1 and 2 curricula and the introduction of the research-oriented Required Scholarly Project. This year, Ravi is conducting a research project with the department of Obstetrics and Gynecology as part of the Dean’s Research Program, while Michael is completing his 4th year of medical school and applying to General Surgery residency programs. Their fulfilling experience as Curriculum Co-Chairs has fostered within each of them a passion and commitment to the rapidly changing field of medical education, which they hope will serve them throughout their careers.

Aline Zorian, MSIV is a fourth year UCLA medical student hoping to pursue a career in Internal Medicine, with a focus on primary care and global health. She is passionate about medical education and plans to work in academic medicine in the future. Aline is a board member for the non-profit organization H.E.A.L. and is designing a curriculum for medical students who volunteer with the organization.