A faculty development program integrating cross-cultural care into a gastrointestinal pathophysiology tutorial benefits students, tutors, and the course.

Helen Shields, MD and Stephen Pelletier, PhD

In response to the national mandate to improve health care for all in the United States, which was articulated in 2002 in Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care, many medical schools have introduced disparities-reducing educational programs. To accomplish this goal, in 2004 Harvard Medical School initiated a uniform evaluation of each course at the preclinical level for the discussion of cross-cultural care topics in the course overall and active teaching by the tutor in the tutorial. End-of-course anonymous student evaluations asked each student to rate whether the course as a whole and the tutor actively discussed cross-cultural care at a “frequently,” “sometimes,” or “never” category level.

In 2007 we developed a one-hour faculty development program for the second-year Gastrointestinal Pathophysiology Course. We used tutorial case “triggers” to stimulate discussion. Triggers are cultural, ethnic, racial, socioeconomic factors integrated into problem-based cases that are relevant to understanding pathophysiology and science and foster active discussion if Objectives are created to specifically cover each of the triggers. The program was created with “hands-on” help and advice from the Student Subcommittee on Cross-Cultural Care at Harvard Medical School.

The mechanics of the one-hour program have remained the same and are listed below:

1. Begin the session with an overview of the importance of cross-cultural care.
2. Move on to a discussion on disparities in healthcare that are relevant to the diseases being covered.
3. Divide the teachers into small groups to discuss the tutorial cases where cross-cultural care triggers are in bold lettering. Ask tutors to develop questions to use in their own tutorial groups to promote the discussion of the case triggers in relation to the pathophysiology of the disease.
4. Discuss each case’s trigger’s relevance to the etiology, management and possible cure of a disease.
5. View and discuss a 5-minute video clip made of a tutorial with a faculty member leading a focus group with real students.
6. Provide references for each of the trigger elements to help tutors understand cross-cultural care and its importance and relevance.
7. At the weekly required tutors’ session, reinforce the importance of teaching cross-cultural care by asking each tutor specifically about the discussion of cross-cultural care objectives. Experienced tutors are asked to help new tutors by sharing their own anecdotes and tips.

We achieved a positive impact on the frequency of teaching cross-cultural care in the overall course and the tutorial from 2007-2012. The statements “This tutor actively teaches culturally competent care” and “Issues of Culture and Ethnicity were addressed” were both significantly improved (P<0.001) over baseline 2004 data according to anonymous student evaluations. These increases were sustained over six years.
A tutor's overall rating as a teacher was moderately correlated with his/her "Frequently" actively teaching cross-cultural care ($r=0.385$) ($p<0.001$). Course evaluation scores were excellent and put the course into the group of pre-clinical courses with the top ratings. Students in the Race in Curriculum Group found the integration of cross-cultural care discussions into the tutorials valuable and asked that the program be expanded to other pre-clinical courses.

In summary, from 2007 through 2012, a faculty development program for teaching cross-cultural care increased the discussion of cross-cultural care in the tutorial and the course over each year beginning with 2007 compared to the baseline year of 2004. Our data suggest that cross-cultural care can be effectively integrated into pathophysiology tutorials and helps improve students' satisfaction and tutors' ratings. Teaching cross-cultural care in a pathophysiology tutorial did not detract from the course's overall evaluations, which remained in the top group over the six-year period.

References:

Academy members develop an online 'Constipation Challenge' game to improve implementation of clinical guidelines

B. Price Kerfoot MD EdM

Our group explored the question of whether a novel online educational program based on cognitive psychology research findings would be embraced by pediatricians in practice and be effective in increasing knowledge, changing behavior, and perhaps improving patient care. Although constipation is a common condition in children for which clinical practice guidelines have been published, primary care management of this disorder is inconsistent, and inappropriate referral to subspecialty care is common. We hypothesized that a spaced education (SE) game could improve knowledge and implementation of these guidelines. Combining the spacing and testing effects with game mechanics,2,3 online SE games have been shown to increase guideline knowledge and adherence4,5 but never among pediatric primary care providers (PCPs).

We investigated whether the implementation of a team-based SE game (called the 'Constipation Challenge') among private-practice, pediatric PCPs could improve knowledge of constipation management guidelines. Our 13-week prospective trial enrolled 1 pediatric PCPs from a large network of private practices affiliated with Boston Children's Hospital. The SE game consisted of 15 validated multiple-choice questions and explanations on constipation clinical guidelines. PCPs were sent 2 questions every week via an automated e-mail system (Qstream, Inc; Burlington, MA). Adaptive game mechanics re-sent the questions in 8 or 16 days if answered incorrectly and correctly, respectively. Points were awarded based on performance. Physicians retired questions by answering each correctly twice-in-a-row (progression dynamic). PCPs were assigned to one of 10 teams based on geographic location (e.g. North
of the Charles, Coast and Cape, etc). Competition was fostered by posting scores on individual and team leaderboards. To protect participants’ identities on the leaderboards, each was assigned an alias in the form of an adjective and an animal (e.g. Striking Penguin, Itchy Eagle, Jazzy Chicken, etc). Main outcome measures were baseline scores (percentage of questions answered correctly upon initial presentation) and final scores (percentage of questions answered correctly upon final presentation). A post-game survey was administered online.

Of 266 network PCPs, 120 (45%) enrolled, 117 enrollees (98%) participated in the game, and 103 (86%) completed it over the allotted 13 weeks. Mean baseline and final scores were 58% (SD 19) and 88% (SD 20), respectively (p<0.001, Cohens d = 1.5). Scores did not vary significantly by gender, provider-type (nurse or physician), or years in practice. Among the 99 survey respondents (85% of enrollees), 96 (97%) agreed that the SE game was easy to incorporate into their schedules, 89 (90%) agreed that they were likely to implement new ways of managing constipation into their practices, and all (100%) reported that they would like more continuing medical education using SE games.

Our results demonstrate that a team-based SE game is an effective and well-accepted educational methodology to improve constipation management among private-practice, pediatric PCPs. Even though baseline scores among PCPs were low, the SE game generated strong gains in knowledge of constipation management guidelines. While self-report survey data have inherent limitations, almost all pediatric PCPs reported that the SE game made them more likely to implement improved methods of constipation management into their practices. Future studies will investigate actual clinical adherence to management guidelines among pediatric PCPs.

References


The Shapiro Institute for Education and Research at HMS and BIDMC is pleased to announce the

Rabkin Fellows in Medical Education for 2016 - 2017

Beth Harper, MD
Hospital Medicine
Boston Children’s Hospital

Molly Hayes, MD
Pulmonary/Critical Care
Beth Israel Deaconess Medical Center
Please join us in congratulating our colleagues on this wonderful opportunity!

New Members of the Academy Fellowship in Medical Education Research
Amy Sullivan, Ed. D.

Congratulations to our new Academy Fellows in Medical Education Research! Four new fellows representing Beth Israel Deaconess Medical Center (BIDMC), Brigham and Women's Hospital (BWH), Boston Children's Hospital (BCH), and Massachusetts General Hospital (MGH) have been accepted into the 2-year fellowship beginning September 2016. They will be joining four HMS faculty, Cindy Ku, Daniel Saddawi-Konefka, Molly Hayes, and Phoenix Chen, who will be completing the second year of their research fellowships. Our fellows are pursuing a range of research areas including using informatics and technology-assisted approaches to enhance learning and procedural competencies, improving resident and faculty communication about critical illness and end-of-life care in the ICU, advancing the effectiveness of teaching in the OR, and applying evidence-based approaches to enhancing motivation and promoting behavior change in learning.

Jonathan Hausmann, MD
Using Questions to Enhance Undergraduate Medical Education

Dr. Hausmann is completing a combined fellowship in Pediatric and Adult Rheumatology at Boston Children's Hospital and BIDMC. He completed his residency in Medicine and Pediatrics at BWH. His research interests are in stimulating the creation and sharing of questions to enhance learning. He has developed an online application called AskUp to facilitate the development of learner-generated questions to foster critical thinking, and will extend this work to enhance the quality and effectiveness faculty-generated questions to promote learning.
Jacob H Johnson, MD

Development and Implementation of an Objective Structured Teaching Encounter (OSTE) Curriculum

Dr. Johnson is a clinical fellow in the combined MGH/BWH Infectious Disease Program. He completed his residency in Internal Medicine at MGH, where he also led the Residents Interested in Medical Education (RIME) group. His research interest include how to best enhance and measure teaching skills among residents and faculty. For his fellowship project he will create, validate, and implement an OSTE curriculum.

Navin Kumar, MD

A Smartphone Application for Attending Assessment of Fellow Endoscopic Skills

Dr. Kumar received his MD degree at HMS, completed internal medicine residency at BWH and is currently a gastroenterology fellow at BWH. He has been involved in medical student teaching as a Co-Site Director of Patient-Doctor II, teaching fellow of the HST GI Pathophysiology Course, tutorial leader in the New Pathway GI Pathophysiology Course, and clinical preceptor for the HST Introduction to Clinical Medicine and the New Pathway Practice of Medicine Course. His research will focus on developing and assessing a smartphone application to enable immediate feedback on fellows' endoscopic competencies.

Dorothy Sippo, MD, MPh

Using Informatics to Improve Radiology Education and Practice

Dr. Sippo completed a combined Fellowship in Breast Imaging and Imaging Informatics at BWH as well as a Master’s in Clinical Effectiveness at the Harvard Chan School of Public Health. She has served on the faculty of the Johns Hopkins University School of Medicine and joined the HMS faculty in July 2015 when she became a staff member in the Department of Radiology at MGH. Dorothy is subspecialty Board Certified in Clinical Informatics, and her research focus is to develop and evaluate informatics tools to enhance education and practice in Screening Mammography and to improve the quality of diagnosis and clinical outcomes for radiology patients.

Who's Who in the Harvard Medical School Academy

Dr. Deters is a Board Certified Clinical Neuropsychologist. He is currently on staff at McLean Hospital. He was previously on staff at Spaulding Rehabilitation Hospital and Massachusetts General Hospital. He served as the Director of Neuropsychology at Spaulding and was on the staff of the Law and Psychiatry Service at the Massachusetts General Hospital. Dr. Deters has served as a tutor in the Human Nervous System and Behavior Course for many years and has served on the planning committee for this course. His professional focus is on clinical consultation and teaching. His clinical and teaching interests are in the areas of neuropsychological assessment, forensic neuropsychology, and the rehabilitation of patients with neurological and psychiatric conditions. Some areas of particular clinical interest include the evaluation and treatment of patients who have sustained a traumatic brain injury, patients with acquired and developmental learning difficulties, and patients with attention and executive function impairments. For many years a substantial part of his professional work has focused on the interface of neuropsychological functioning and psychosocial matters, consulting on, and testifying in civil and criminal cases. Dr. Deters is originally from the state of Wisconsin, he moved to Boston to complete a fellowship, and has been in the Boston area ever since. Dr. Deters lives in Cambridge, and in his spare time, enjoys a workout at one of the Harvard gym or along the banks of the Charles River.
Michael M. Fuenfer, MD

is an Associate Pediatrician at the Massachusetts General Hospital in the Division of Pediatric Critical Care Medicine and holds an appointment as Instructor in Pediatrics at Harvard Medical School. Dr. Fuenfer graduated from Northwestern University in 1972 and the University of Louisville School of Medicine in 1976. He completed a Pediatric Residency at Kosair Children's Hospital in Louisville, a Fellowship in Perinatal-Neonatal Medicine at the University of Connecticut, a Residency in General Surgery at Yale University, a Fellowship in Pediatric Surgery at the University of Alabama and a Fellowship in Pediatric Critical Care Medicine at the Massachusetts General Hospital (2013). He serves as a reviewer for the journals Pediatrics and Military Medicine, has published numerous articles and book chapters and co-authored a book published by the Department of Defense entitled "Pediatric Surgery and Medicine for Hostile Environments". Prior to moving to Boston, Dr. Fuenfer held academic appointments at the University of South Alabama, Yale University and the Uniformed Services University of the Health Sciences. He enlisted in the Kentucky Air National Guard in 1981 where he served as a F-4 Squadron Flight Surgeon from 1981-1984 before transferring to the US Army Reserve. He completed training as an Army Flight Surgeon at FT Rucker, AL, graduated from the US Army Airborne School at FT Bragg, NC. Dr. Fuenfer served as a Green Beret officer in the 11th and 20th Special Forces Groups (Airborne) from 1985-1998 when he was promoted to the rank of Colonel. He was mobilized to Afghanistan in support of Operation Enduring Freedom in 2003-2004, serving tours as a Combat Surgeon assigned to the 452nd Combat Support Hospital (Bagram), commanded a Forward Surgical Team (Kandahar), and served as a Special Forces surgeon at a firebase in Helmand Province, Afghanistan. Dr. Fuenfer volunteered to be mobilized in 2005 and served as a Pediatric Surgeon and Deputy Chief of General Surgery at Walter Reed Army Medical Center in Washington, DC from 2005-2009. Having a lifelong interest in aviation and air evacuation, he holds FAA ratings as a Commercial Pilot, and Flight Instructor, and has authored a popular book for pilots currently in its 6th edition. Dr. Fuenfer is currently involved in developing new curricula for teaching basic surgical skills to students, housestaff and attending staff in the MGH Simulation Lab, treating patients in hyperbaric therapy and wound care, developing innovative medical devices with collaborators at the Massachusetts Institute of Technology, and serving as a US Army Flight Surgeon assigned to the Army Institute for Environmental Medicine at Natick Army Labs, Natick, MA.

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Upcoming Academy Event

Medical Education Grand Rounds: Best of the Best: Society of General Internal Medicine's Review of Academic Papers Most Likely to Impact Medical Education

- RSVP

Friday, June 10, 2016 // 7:30-9:00 AM // TMEC Room 250

Carol K. Bates, MD, Associate Professor of Medicine, Associate Dean of Faculty Affairs, Beth Israel Deaconess Medical Center, Harvard Medical School

Click here for more information

Simulation Academy Interest Group Symposium: Modern Simulation: A New Frontier for Performance Assessment in Medicine- RSVP

Thursday, June 16, 2016 // 3:00-5:00 PM // TMEC Room 209

Click here for more information

For the complete calendar of Academy Faculty Development Programs click here
Symposium on the Science of Learning 2016
Podcast and video Links

**Bouncing Back: The Science of Resiliency**
**Thursday, April 28, 2016// 9:00-12:00 AM**

Life is full of challenges. We all experience successes and failures. Unfortunately, everyone is touched at some time by death in their family, an unexpected accident, a disappointment. Some people, when faced with adverse circumstances are able to assess the situation, see the "silver lining" in the clouds on the horizon and move into the future with hope; others are mired in seeming tragedy of the moment. What is the difference between these individuals? Are there predictors of how a person will react to the inevitable difficulties of life?

Within medicine today, we hear increasingly about burnout and depression among our students, trainees and practicing physicians. There have been reports of increasing numbers of suicides. All of this has occurred despite the implementation of duty hours and more attention to safe learning environments. In this context, the 2016 Symposium on the Science of Learning focused on the way the brain responds to stress and the impact of research findings on our understanding of the behavioral responses which enhance or degrade our ability to deal with stress. We examined the development of resilience in the face of failure or adversity while exploring ways in which faculty can support students to aspire to high achievement.

If you missed this event and would like to watch the video [click here](#). If you would like to listen to podcast of this event please [click here](#).

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Podcasts of Past Academy Events:
**Medical Education Grand Rounds**

**Teaching in new ways: The importance of faculty development**
**May 06, 2016**

Barbara Cockrill, MD  
*Harold Amos Academy Associate Professor, Director of Faculty Development, The Academy at Harvard Medical School*

[Click here](#) for podcast
For a complete list of all past podcast, please click here

New Medical Education Pubmed Citations from Academy Members

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