



Carl J. Shapiro Institute for Education and Research  
**2016-2017 ANNUAL REPORT**

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# IMPACT OF EDUCATION AT BETH ISRAEL DEACONESS MEDICAL CENTER

# Center for Education

Carl J. Shapiro Institute  
Education and Research

Center for Faculty  
Development

Undergraduate  
Medical  
Education



Richard M. Schwartzstein, MD

Dear Friends,

The BIDMC mission statement highlights the medical center's commitment to world class education and research in the service of patient care. The Center for Education is proud to support and contribute to the work of the hospital's faculty, educational leaders and administrators, residents, fellows and medical students through creation of programs and resources for teaching and learning.

As we enter a new phase of implementing our strategic plan for education, it seems an ideal time to highlight the impact of the work of our faculty and staff. The following pages share some of the outcomes of our initiatives in working with students, junior and senior faculty, and hospital-wide staff. We believe that education, like clinical medicine, should be evidence-based. Consequently, education research methods should employ the same rigor as is used in the basic sciences; with this approach, our office of educational research is now documenting the effects of specific educational interventions on patient care.

We are pleased to provide you with this update on our ongoing efforts to expand BIDMC's reputation as a national and international leader in medical education.

A handwritten signature in cursive script, reading "Richard M. Schwartzstein, MD".

Richard M. Schwartzstein, MD  
Vice President for Education  
Executive Director, Carl J. Shapiro Institute for Education and Research  
Ellen and Melvin Gordon Professor of Medicine and Medical  
Education, Harvard Medical School

# Undergraduate Medical Education

The Office of Undergraduate Medical Education, under the leadership of Dr. K. Meredith Atkins, continues to have a positive impact on the lives of students who rotate through BIDMC each year. First year students are assigned to BIDMC and begin coming to the hospital one day a week participating in the Practice of Medicine course where they learn interviewing, clinical reasoning, and physical exam skills. Students then continue at BIDMC for the Principal Clinical Experience.

Since 2005, more than 600 Harvard students have completed their Principal Clinical Experience (PCE) at BIDMC. The BIDMC PCE course enrolls over 50 HMS students annually who complete all of their required third-year clerkships here. Along with Associate Directors Drs. Alexandra Hovaguimian and Daniel Ricotta, the curriculum features management of common inpatient medical emergencies, immersion experiences, regular case conference, elective sessions in simulation training, book clubs, and opportunities to follow individual patients throughout the year. Formal mentoring and feedback sessions are also offered. The Principal Clinical Experience at BIDMC is characterized by an emphasis on continuous improvement of the course, flexibility to meet the needs, interests, and learning styles of students, and opportunities for all students to challenge themselves and receive the support they need to

succeed.

The UME Office also coordinates a monthly interactive case-based conference for students from all four years of medical school, called Clinical Physiology Grand Rounds, which is now in its twelfth year. In this novel learning format, a case presented by third-year students is used as the basis for discussion encouraging integration of basic and clinical sciences, the development of mechanistic hypotheses, and the utilization of mechanism or concept maps and other critical thinking techniques. The program furthers peer-assisted learning, reinforces key physiology principles, and clarifies clinical reasoning processes. The novel approaches of this course were documented in a study published in *The Clinical Teacher* (2013: 10: 88-93).

The UME office also supports students in research and innovation in medical education both at BIDMC and at Harvard Medical School.

With curriculum reform, the UME office now assists students in the post PCE year by supporting the Advanced Integrative Science Courses as well as required sub-internships and advanced clinical electives. Our UME office is also the leader in developing a new required Clinical Capstone for students in their final year that will be required in 2019.

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*“Working with Dr. Atkins over the last four years has been a dream. She has already done so much to shape my experience here at Harvard and BIDMC. She has been an invaluable mentor to me. Through her guidance in the development of the MOMS program or her inviting me to join the Undergraduate Medical Education Committee to give feedback that helps to shape the UME experience at BIDMC, Dr. Atkins has helped to shape my future career in medicine.”*

- Mary Tate, Harvard Medical School MD Class of 2018

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Carrie Tibbles, MD, Cynthia Hayne, MD, PhD C. Christopher Smith, MD - all with advanced training as educators

# Graduate Medical Education

The Office of Graduate Medical Education oversees and coordinates the educational activities of residency and fellowship training programs sponsored by Beth Israel Deaconess Medical Center.

**A goal of the Education Strategic Plan is to have every program and associate program director participate in advanced training as an educator within the next five years.**

Their participation in the year-long Rabkin Fellowship, which provides a rigorous foundation in educational principles and skills, is part of the strategy to achieve this. Below

are statements of the impact the Fellowship has had on some of our current GME program leadership.

Today, under the leadership of Dr. Carrie Tibbles as Director and Dr. Carlo Rosen, Associate Director, BIDMC sponsors 55 ACGME-accredited programs with 621 trainees in addition to 60 trainees in non-accredited programs (typically, programs in new areas for which accreditation standards are not yet established). The GME Office manages affiliation agreements with other hospitals whose residents rotate at BIDMC, and works with the hospital-wide GME Committee (GMEC) to assure the quality of education in all of our residency training programs through its bi-monthly meetings and collaboration

with the Annual Program Review process.

The Annual Program Review (APR) Committee is a sub-committee of the GMEC and comprises Core Program Directors, Fellowship Directors, and Program Coordinators. Every year, each ACGME-accredited program presents information on its educational efforts to the APR Committee, which determines the program's compliance with accreditation criteria. The GME Office, GME Committee, and Annual Program Review committee support quality improvement, wellness, and special review initiatives to maintain top-flight standards of excellence in graduate medical education at BIDMC.



*“While I was able to put many of my newly learned skills to immediate use, the full rewards and lessons of the Rabkin Fellowship were only fully revealed over the next decade. Today, as Director of the Internal Medicine Residency Program and Associate Vice-Chair for Education in the Department of Medicine, I have the honor of working with and learning from amazing students, residents and faculty.”*

- C. Christopher Smith, MD  
Department of Medicine



*“Although I have spent all of my career in academic medicine, much like my predecessors, I never had formal training in medical education. As a young Program Director, I had raw skills, but lacked the foundation from which to further my program's growth and my own career trajectory. Being a Rabkin Fellow was critical to who I am today and what I want to be. I have gained self-confidence and executive presence. I have cemented my niche, and spearheaded several innovative education projects in medical education, diversity, and recruitment since completion of the program. Equally important, I now have a resource of like-minded educators with whom I can collaborate and with whom to share ideas. It has rejuvenated my love for teaching, learning, and has spearheaded my career as a medical education researcher.”*

- Monica Mendiola, MD  
Department of Obstetrics and Gynecology



*“The Rabkin Fellowship has taught me useful, practical skills I use regularly in my role as a residency program director. The fellowship itself is an example of expert utilization of current teaching strategies and ideas in curriculum development, teaching us to use these same strategies and ideas to benefit our own learners.”*

- Cynthia Hayne, PhD, MD  
Department of Pathology



*“Following the Rabkin experience, I worked with our institutional and departmental educational teams to develop and initiate several additions to the usual surgical curriculum, including programs on resident-as-teacher, on the learning environment, and (still in development with other collaborators leading the way) cultural dexterity. Our residency Practical Skills Curriculum focuses on both technical and non-technical skills, as surgical trainees must be equipped with technical and non-technical tools/skills to become successful surgeons and surgeon-leaders themselves. Working with our resident-leaders, we converted our previously traditional, lecture-based curriculum into one that reflects better adult learning principles, and is now based on interactive, team-based learning.”*

- Tara Kent, MD  
Department of Surgery

# Education Research

Faculty who teach in the clinical setting are a bit like high wire performers: each day on the hospital wards or in the ambulatory clinics, they are called upon to perform an ongoing, high-stakes balancing act. First and foremost, they are responsible for the care, treatment, and safety of their patients. Alongside this commitment to their patients is the responsibility for training the next generation of physicians—medical students, residents, and clinical fellows. Both sides of this balance require ongoing education, training, practice and feedback. While we expect faculty to be at the top of their game and well-supported in providing patient care, when it comes to teaching, faculty are likely to receive little assistance in cultivating and updating their skills. Therefore, to address long-term faculty needs in teaching, the Shapiro Institute for Education and Research launched a multiyear Strategic Initiative Faculty Development project in 2016. The role of the Office for Education Research was to design and conduct a yearlong effort to measure the impact of the first phase of this program.

The Strategic Plan project was aimed at enhancing faculty teaching of specific topic areas that were selected to align with the BIDMC hospital operating plan and represent three topics related to optimal patient care: critical thinking, high value care, and health care equity. Faculty working

groups from three departments—Medicine, Emergency Medicine, and Obstetrics and Gynecology—led by members of the Shapiro Institute, met regularly to develop 2-hour workshops and associated materials (videos, booklets, and reference cards) for each topic. The program was rolled out in Spring 2017 to 30 Faculty Scholars from the three participating departments. To assess the impact of this program, we created an observation guide to document faculty teaching before and after the training, and we also observed a control group of 30 faculty to compare trained and untrained teachers. For each of the topics taught, we observed a greater frequency of teaching among Faculty Scholars (those who participated in training) compared with faculty in the control group.

What is the impact of this work? Most studies of faculty behavior rely on faculty self-report: this study provides objective measures of faculty teaching behaviors. We are extending this work with a Phase 2 study, in which department faculty create the educational intervention with assistance from expert educators at the Shapiro Institute.

Our study has been accepted for presentation at the AMEE (Association for Medical Education in Europe) international conference in Basel, Switzerland this fall.

“*As a pulmonary and critical care fellow with aspirations to become a leader in medical education, I have found tremendous support in the Shapiro Institute. I had the opportunity to present our work from the grant at the Association of Pulmonary and Critical Care Program Directors (APCCMPD) Conference in Salt Lake City. This project received the Medical Education Research Abstract Award.*”

- Morgan Soffler, MD  
Department of Medicine



Morgan Soffler, MD

## Education Research Grants

The Shapiro Institute awards two grants per year to support BIDMC faculty who propose innovations in education aligned with BIDMC’s annual operating plans. Successful applications are those with potential to be shared across departmental training programs. The Institute has provided over \$275,000 to support projects on teaching value-added care, evaluation of quality and safety initiatives, enhancing clinician-patient-family communication skills and practices, and optimizing the clinical environment for learning at BIDMC. In 2016, grants were awarded to two projects that implemented strategies to optimize effective and compassionate communication with patients and families. Projects emphasized faculty development for enhancing and assessing residents’ and fellows’ communication practices with patients and their family members. In 2017, grants were awarded for projects that utilized simulation to assess student competencies in clinical clerkships.

### Shapiro Institute Education Research Grant Recipients

#### Enhancing clinician-patient-family communication skills and practice at BIDMC (2015-2016)

- Feuerstein J, Leffler, D. Dept. Medicine, Div. Gastroenterology  
“Ensuring quality and understanding: a pilot study of an informed consent curriculum in gastroenterology.”
- Ullman E, Hall M, Landry A. Dept. Emergency Medicine  
“Breaking bad news in the Emergency Department.”

#### Simulation for Assessment of Student Performance (2016-2017)

- McSparron J, Hayes M, Soffler, M, Ricotta D, Royce C. Dept. Medicine, Div. Pulmonary Med. “Simulation as a tool for assessment: does performance during a simulation assessment alter medical student grades?”

#### Creating Faculty and Learner Concept Videos and Learning Modules to Optimize the Clinical Learning Environment (2017-2018)

- William, Jeffrey H., Hall, Matthew. “Learning Environment Video Research”
- Ricotta, D, Freed J, Soffler, M, Hayes, M. “Training for Excellence in Microteam Performance Outcomes (TEMPO)”
- Stead, W, Kershaw, C, Rowley, C. “Educational Intervention to Improve Communication with Patients who Have Opioid Use Disorder.”

# Academic Careers and Faculty Development



Grace Huang, MD, and Anita Vanka, MD

“*Led by Drs. Grace Huang and David Cohen, the Academy provides a robust framework and community within which to learn from and grow as a medical educator. Through the Academy, I have had support and invaluable mentorship in refining my skills as an educator, developing and implementing projects, and receiving guidance on scholarship.*”

- Anita Vanka, MD  
Department of Medicine

The Office of Academic Careers and Faculty Development is headed by Dr. Grace Huang and is responsible for supporting the career advancement of faculty at BIDMC regardless of whether their primary activities are in clinical service, medical education, or investigation. This position was previously held by Dr. Terry Flier until her recent recruitment to the pharmaceutical industry, which resulted in a strategic re-invisioning of the office.

Specifically, she and Dr. Schwartzstein have restructured the ACFD to consolidate offerings to benefit a greater range of faculty at BIDMC. The office will continue offering the traditional seminars on grant-writing, promotion, CV construction, giving a research talk, that have benefited investigators, many of which are done in partnership with the HMS Office of Faculty Affairs. The BIDMC Academy of Educators, however, will now move under the ACFD heading and will have an expanded scope in supporting the careers of both clinicians and educators, which will be reflected in its seminars and services beginning AY18-19.

The Rabkin Fellowship in Medical Education is concluding its 20th year and remains a hallmark of the Center for Education's leadership. The fellowship is a nationally recognized

faculty development program that provides intensive training and protected time for HMS faculty to advance careers in academic medicine as educational leaders. The Fellowship is named for Mitchell T. Rabkin, MD, CEO emeritus of Beth Israel Hospital.

“The Rabkin Fellowship monumentally changed my career. My goal as steward of the fellowship is to infuse Rabkin Fellows with the frameworks and skills needed to make them self-reflective teachers, productive innovators, and educational leaders with confidence and humility,” says Huang.

Finally, the BIDMC Academy of Medical Educators, co-directed by Dr. Huang and by Dr. David Cohen, held a highly successful year with many popular seminars, starting with a fall kick-off on Active Learning, and including other sessions like Body Language for Teaching, How to Give a TED Talk, and Effective Strategies in the Face of Conflict. The highlight of the year was Learning Environment Month, during which sessions on the Institutional Perspective on the Learning Environment, Faculty Wellness, and the Hidden Curriculum were held. The BIDMC Academy Twitter account has more than 600 followers, a testament of its function as a resource in the medical education community.

# Simulation and Skills Center

The Simulation and Skills Center has been training medical students, residents, nurses, faculty, and other health care professionals for over 10 years. In that time, we have learned that all learners can benefit from simulation training and have opened our doors as a resource for the entire hospital. Our Co-Directors, Daniel B. Jones, MD, and John Pawlowski, MD, PhD, have focused their efforts in creating an immersive operating room team training simulation program. Surgeons, Anesthesiologists, Scrub Technicians, and Nurses work through realistic crises aimed at fostering closed-loop communication and safety checklists has improved patient safety.

Another area in which we have made an impact is our annual competency training for nurses. Darren Tavernelli, RN, RRT, and Michael McBride, RN, are our full time Simulation Educators and saw an opportunity to improve annual competencies with simulation training. We partnered with the Nursing department to move all of their annual competencies into the simulation center to offer a more immersive and engaging experience, the highlight of which is the mega code. Nurses are filmed during a mega code and are debriefed on their performance. Video review allows for a trained instructor to critique communication, critical thinking, and even form on chest compressions.

Video is another area in which the simulation center is making an impact on teaching at BIDMC. Dave Fobert is our Director of Educational Technology and is working with departments to produce teaching videos. The simulation center is an ideal environment as its OR and ICU are identical to what you would see in the hospital, and our fully digital infrastructure allows for crystal clear video and audio. Some of the videos we have created this year include troubleshooting ECMO circuits, working with patients who have opioid use disorder, identifying and avoiding cognitive biases, giving feedback, and many more.

In 2017, Dan Ricotta, MD, became our Director of Simulation Faculty Development. One of his first initiatives has been to work with hospital departments to form a network of Simulation Education Directors who will serve as champions of simulation training and help foster a community of collaboration and innovation. Our goal for the coming year is to continue to build that network of expertise with a series of educational seminars and courses on teaching with simulation.

This combination of technology, faculty development, and innovative training techniques makes the Simulation Center well positioned to impact our learners and their patients for years to come.



*“The Simulation and Skills Center helped me to breathe life into various educational programs by allowing us to run courses in space dedicated to the education of our staff, in a safe and reliable location. Over the past few years, through the relationship of the SASC staff and the Department of Nursing, we have re-shaped how we utilize the Simulation Center and how we look at education, utilizing the resources we have to maximize the impact on our learners.”*

- Bridgid G. Joseph, BSN, MSN, CCNS  
Emergency Cardiovascular  
Care Center



Bridgid G. Joseph BSN, MSN, CCNS

# Carl J. Shapiro Institute for Education & Research at Harvard Medical School and Beth Israel Deaconess Medical Center

The Shapiro Institute was established in 1996 by Daniel C. Tosteson, MD, Dean of Harvard Medical School, and Mitchell T. Rabkin, MD, President of the (then) Beth Israel Hospital, for the purpose of promoting innovation in medical education to meet the challenges of a rapidly changing health care environment. The Institute's programs continue to have impact on medical education locally, nationally, and internationally, and include:

## International Programs

In 2014, the Institute sponsored a Senior Hospital Executive Education Program for 57 leaders from administrative districts across China. Since then, the Institute has offered week-long courses for Chinese faculty and administrators. At each course, 50-80 learners attend programs designed for hospital presidents, clinical pathologists, cardiologists, oncologists, nurses, and intensive care specialists. Six such programs were conducted in 2016 and again 2017. Not only do these courses have a positive impact on the physicians and their patients in China, revenue from these programs is used to support other educational initiatives of the Institute in its support of medical education at BIDMC, and the reputation of BIDMC as a leader in academic medical education.



International visitors



## Millennium Conferences

Since 2001, the Shapiro Institute has convened educational stakeholders and leaders on nine occasions to advance a national agenda for a topic of pressing importance in medical education. Conference themes have included the clinical education of medical students, simulation, critical thinking, and teaching patient safety. Millennium Conference 2015 focused on transforming the post-clerkship curriculum as an essential curricular element in UME and GME. The topic generated ideas for innovations to redesign the post-clerkship curriculum in undergraduate medical education

(UME) to better prepare graduates for residency and their subsequent careers as practicing physicians. Millennium Conference 2017 focused on aligning UME and GME teaching to ensure success. This conference generated ideas for innovations to bridge the pedagogic transition from UME to GME and align teaching approaches to cultivate active and lifelong learning.

Since 2001, thirty-seven medical schools have participated in these conferences. Consensus statements by working group members have been published in peer-reviewed

**What is the desired product of medical education/training?**

- Independent practitioner?
- How broad/narrow should the experience/knowledge base be?
- Expert in the EMR?
- Self-directed learner for next 40 years?
- Scientist? Humanist?
- Are we producing technicians or professionals?



journals in furtherance of standard practices in the profession, and post-conference task forces have generated multi-institutional studies and additional publications on education research.

See Millennium Conference Impact, pg 16

## Continuing Medical Education



The annual CME course, "Principles of Medical Education: Maximizing Your Teaching Skills" has sold out for each of the ten years it has been offered, with over 1,500 multidisciplinary faculty participating from across the U.S. and 45 countries. It is updated annually to include new topics and approaches to teaching, and is among the most highly rated Harvard Medical School CME courses. The impact of these courses is heard in many of the comments from the participants (see listed comments).

### From CME Participants

*The faculty were exceptional. The opportunity to network with other educators was also very much appreciated.*

*This was the best run and best organized Harvard CME course I have attended.*

*I felt that the entire course was engaging and informative. I have never been so engaged in a course before. I thought that every session was relevant to my practice, motivated me to do better and left me with new ideas and ways to improve.*

*Thank you so much. Best educational conference I have ever been to.*

*I was incredibly impressed by the consistent caliber of the educators in this group. They all came with passion and a skill set that I found engaging and inspiring. I hope they were contagious in a good way!*

*The speaker's enthusiasm, knowledge, and skill was inspiring.*

*The conference is exceptionally taught and motivating.*

*One of the best taught courses I have attended in 30 years.*

*Entire program was exceptional. Showed me what exists beyond myoptic walls of my institution. Inspired me to do better for my learners and myself.*



## Medical Education Week

Our annual celebration of medical education is held each year and recognizes the central roles of teaching and learning at BIDMC. The week included several key features:

### Daniel C. Tosteson Visiting Professorship

This annual visiting professorship in medical education is named in honor of the past Dean of Harvard Medical School. The professorship is generously supported by the S. Robert Stone Endowment Fund, and provides opportunities for faculty from BIDMC and Harvard Medical School to meet with nationally recognized medical educators. Tosteson professors also present at medical education grand rounds during education week. The 2016 Tosteson Visiting Professor was Steven Weinberger, MD, who became Executive Vice President and CEO of the American College of Physicians (ACP) in 2010, after having served for 6 years as ACP's Senior Vice President for Medical Education and Publishing. In 2017, Clarence Braddock, MD, was the



Clarence Braddock, MD

Visiting Professor. Dr. Braddock is the Vice Dean for Education in the David Geffen School of Medicine at the University of California, Los Angeles, and Chief Medical Education Officer in the UCLA Health System. He also has held the Maxine and Eugene Rosenfeld Chair in Medical Education since 2015.

### J. Antony Swartz-Lloyd Media Grand Rounds



Jim Braude

The Media Grand Rounds program honors Antony Swartz-Lloyd, former senior vice president of communication and public affairs at Beth Israel Hospital and Beth Israel Deaconess Medical Center. The 2016 featured speaker was Jim Braude, host of Greater Boston and co-host of Boston Public Radio, WGBH-TV, who spoke about medicine and the media and the challenges of getting your message across.



Peter Healy, Richard Schwartzstein, MD, and Anthony Weiss, MD, with 2017 Stone Award Winner Anita Vanka, MD

### Annual Teaching Award Ceremony

The Shapiro Institute solicits nominations for teaching awards from faculty, residents, and medical students. Faculty and residents from all departments, and all teaching venues – classroom, clinic, laboratory, operating room, and bedside – are recognized for their contributions and excellence in teaching.

Since 1981, the Shapiro Institute has annually presented the S. Robert Stone Award for Excellence in Teaching. This award, founded in honor of the late Honorary Trustee and past Board Chairman of the former Beth Israel Hospital by his children, was the first to be established at a Harvard teaching hospital to honor medical

student teaching. In 2016, the S. Robert Stone Award was presented to Dara Brodsky, MD, in recognition for her many contributions to education.

A second Stone Award, recognizing lifetime service to teaching, was presented in 2016 to Michael Kahn, MD. In 2017, the S. Robert Stone Award was presented to Anita Vanka, MD, in recognition for her many contributions. A second Stone Award, recognizing lifetime service to teaching, was presented to Yvonne Gomez-Carrion, MD. The list of recipients of the Stone Award for the past 10 years is an indication of BIDMC's commitment to excellence in teaching over time.



Yvonne Gomez-Carrion, MD

#### Stone Award Winners

- 2007 David H. Roberts, MD
- 2008 Sara Fazio, MD  
Theodore Steinman, MD\*
- 2009 Peter Clardy, MD
- 2010 Amy Ship, MD
- 2011 John Mitchell, MD
- 2012 Bernard Chang, MD
- 2013 Mark P. Callery, MD  
Adolf W. Karchmer, MD\*
- 2014 Melanie Hoenig, MD  
Thomas Lamont, MD\*
- 2015 Grace Huang, MD  
Paul Sprin, MD\*
- 2016 Dara Brodsky, MD  
Michael Kahn, MD\*
- 2017 Anita Vanka, MD  
Yvonne Gomez-Carrion, MD\*

\*Senior



Richard Schwartzstein, MD, and Mark Zeidel, MD, with 2016 Tosteson Visiting Professor Steven Weinberger, MD

## Millennium Conference Impact 2001-2015

The purpose of the Millennium Conference series is to assemble educational stakeholders and leaders to discuss a topic of pressing importance in medical education, in the hopes of advancing a national agenda for that area. Institutional teams, rather than individuals, are chosen to participate through a selective application process.

In all, 37 medical schools from the U.S. and Canada have participated in the nine conferences convened since 2001.

### 2001-2002 The Clinical Education of Medical Students

The proceedings were disseminated as a special report released by the Association of American Medical Colleges (1).

### 2003 The Continuum of Clinical Training in Undergraduate and Graduate Medical Education

### 2005 Medical Simulation—Theory and Practice

The proceedings were published in *Simulation in Healthcare* (2).

An accompanying editorial (3) stated, “[They] are to be congratulated for providing such a clear concise account of a meeting that has helped both to give us a snapshot of where medical simulation thinks it is in the early years of the 21st century and also to set and clarify an agenda not only for the medical simulation community, but for the whole healthcare simulation community. The success of simulation in healthcare will be determined by how successfully we respond to those challenges.”

### 2007 A Collaborative Approach to Educational Research

The proceedings were published in *Teaching and Learning in Medicine* (4).

The keynote, given by Larry Gruppen, was published in *Teaching and Learning in Medicine* (5).

The work of a task force on longitudinal databases for medical education research was published in *Academic Medicine* (6).

The work of a task force on research priorities was published in *Academic Medicine* (7).

The work of a task force on the IRB process in medical education research was published in *Academic Medicine* (8).

### 2009 Patient Safety – Implications for Teaching in the 21st Century

The proceedings were published in *Teaching and Learning in Medicine* (9).

### 2011 Critical Thinking

The proceedings were published in *Teaching and Learning in Medicine* (10).

The work of a task force on developing milestones in critical thinking was published in *Academic Medicine* (11). A letter of intent submitted to the Stemmler Fund was selected to go on to full proposal for the second time. Meanwhile, the task force has been invited to collaborate with the National Board of Medical Examiners to create a critical thinking assessment for the health professions. The task force submitted two grant proposals to the NBME for the Stemmler Fund; both were asked to submit full proposals.

The work of a task force on strategies to teach critical thinking was published in *Medical Education*. This study represented the characterization of 44 interviews of faculty at 9 institutions (12). This paper was identified at the Clerkship Directors of Internal Medicine as one of the top medical education articles of 2016 and was one of the top 5 downloaded articles in *Medical Education* in 2016.

A second manuscript on faculty development strategies to teaching critical thinking has been submitted for consideration of publication.

### 2013 Teaching Value-Added Care

The proceedings were published in *Teaching and Learning in Medicine* (13).

One task force tackled the issue of the bedside teaching of high value care principles, using SOAP-V, a framework to include “Value” as part of SOAP presentations on inpatient rounds. This work resulted in a multi-institutional randomized controlled trial to teach medical students about high value care. The study took place at Penn State, Case Western Reserve University, and Harvard Medical School and concluded in June 2015.



SOAP-V won the 2015 Teaching Value and Choosing Wisely Challenge sponsored by the ABIM Foundation and Costs of Care (14). As part of the award, Eileen Moser presented the project at the ACP 2015 conference.

An abstract submitted to the NEGEA 2015 conference was accepted for oral presentation. The presentation went on to win an award for Best Short Communication, UME Clerkship.

The task force published an article describing this work for the *Journal of Hospital Medicine* for their Choosing Wisely series (15). The group gave a webinar for the Teaching Value in Health Care Learning Network supported by the ABIM Foundation and Costs of Care in 2015.

In 2016, the task force received an ABIM Foundation grant to translate SOAP-V to the outpatient setting for internal medicine residents.

SOAP-V was presented as a workshop at the AAIM Skills conference in October 2016 and at an AAIM HVC pre-course in March 2017 as well.

A paper describing the quantitative and qualitative results of the multi-institutional study was published in *American Journal of Medicine* (16).

SOAP-V has been incorporated into the curriculum at 11 medical schools.

The work of a task force to propose a framework for communication skills completed 5 case scenarios to exemplify value conversations, using the input of patient advocates, and a manuscript is in draft. Daisy Smith from the ACP developed a communication guide based on this work and piloted it at the Waxman Center at the ACP 2015 conference in three HVC cases, as part of a randomized controlled trial of physicians, supported in part by the ABIM Foundation.

## 2015 Transforming the Post-Clerkship Curriculum

The work of two task forces is currently in progress. The first focuses on investigating the views of students, faculty, and residents on the drivers of student choices in the post-clerkship curriculum. The second task force is focusing on and developing frameworks and tools for student assessments in the post-clerkship curriculum.



## 2017 From Student to Doctor: Aligning UME and GME Teaching to Ensure Success

The proceedings of this conference is in its final draft and will be submitted for publication soon.

There are two hardworking task forces comprised of educators from across the country who are working to improve alignment of UME and GME. The first task force is completing a national study using a modified Delphi Method to determine which aspects of Social Determinants of Health should be taught in UME (medical school) and which should be taught in GME (Residency and fellowship). The other task force is in the process of completing a multi-institutional randomized trial of explicit verses implicit clinical modeling to determine what learners “actually learn” from each type of modelling.

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# Educational Scholarship

The faculty and staff of the Center for Education have made major contributions to medical education scholarship over the past ten years, through presentations at national and international conferences, as authors of books, chapters, and web-based resources for educators, and as participants in funded education grant projects. The following pages, limited to papers published in journals since 2015, provide a representative example of this scholarship. Names in **bold** indicate membership in the Center for Education Staff at time of publication: listings are limited to authors' contributions to topics in medical education.

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