

Professional Educational Materials or Reports:

1. Educational website – Virtual Patient Reference Library (<http://research.bidmc.harvard.edu/vptutorials>). I designed a library of multimedia online tutorials in topics ranging from clinical reviews to video-based instruction in physical examination to interactive animations in pathophysiology. *These tutorials receive 5000 visits a month from trainees, educators, and patients around the world.*
2. Curricula – Virtual Patients at Harvard Medical School (<http://mycourses.med.harvard.edu>)
I worked with faculty experts to create cases on common topics. “Virtual patients” permit students to interview, examine, diagnose and treat patients and contain rich multimedia and interactive modules, which I developed. The virtual patients are optional for 3rd-year students in the Principal Clinical Experience at BIDMC and available to all HMS students through MyCourses. Additionally, they are available through MedEdPORTAL. The specific cases are listed below, with notations for the cases being used in other institutions’ curricula.
 - 21 Year-Old Woman with a Headache
 - 33 Year-Old with Chest Pain
 - 45 Year-Old Woman with Polyuria
 - 48-year old Man with Obesity and Fatigue – *used at San Juan Bautista School of Medicine, Puerto Rico, as part of an integration exercise, a learning strategy of their biomedical sciences curriculum*
 - 70 year-old man with an undiagnosed cough
 - 75 year-old man with altered mental status
 - A 50 year-old Woman with Lower Abdominal Pain – *used as part of the Integrated Community Clerkship at Faculty of Medicine & Dentistry at the University of Alberta*
 - A Man with Cough and Dyspnea – *used by Dr. John Wysocki at the Commonwealth Medical College (Pennsylvania), who states, “That case was extremely helpful in covering most of the American Physiology Society’s list of Learning Objectives for Respiratory Physiology.”*
 - A Patient with Edema – *used by Dr. Emran Rouf at the University of Missouri - Kansas City School of Medicine for his 3rd-year medical students. He states that “I have used portions of the case to stimulate differential diagnoses and work-up of a patient presenting with generalized edema...They valued the exercise and thought the case helped with their learning.” This case was also used by Dr. Ahmed Hakemi at Central Michigan University, who stated, “I used it in my nephrology course and it was a great success...We really enjoyed the graphics too.”*
 - A Pregnant Woman – *required in the BIDMC Principal Clinical Experience*
 - A Well Child
14. Educational website – Clinical skills database (<http://research.bidmc.harvard.edu/clinicalskills> - retired). Shapiro Institute for Education and Research; 2002. I managed the Clinical Skills Database, an online

resource of websites related to the physical exam. *Websites were listed in order of rank, as determined by visitors to the site. The database received 4000 visits a month from around the world.*

15. Educational website –Beth Israel Deaconess Medical Center medical housestaff manual [website, handheld product]. Beth Israel Deaconess Medical Center; 2002. Web- and handheld-based clinical manual for residents in Internal Medicine from 2002-2004.
16. CD-ROM – Update in internal medicine [CD-ROM]. Department of Continuing Education at Harvard Medical School; 2002.*CD-ROM of clinical images and radiographs with captions, distributed annually to 900 attendees of the Update in Internal Medicine Review course by Beth Israel Deaconess Medical Center from 2002-2004.*
17. Handheld product – Interactive procedural modules. Harvard Medical School; 2003. *I designed interactive animations for handheld computers on arterial blood gas, thoracentesis, lumbar puncture, and paracentesis, intended for medical students for reference at the point-of-care.*
18. Handheld product – Frisch D, Cho M, **Huang G**. Checklist in internal medicine. New York: PocketMedicine; 2005. *Commercial handheld product for practicing internists.*
19. Educational website – Potter J, **Huang G**. Web-based video tutorials of the breast examination. Washington, DC: MedEdPORTAL, Association of American Medical Colleges; 2005. Available from: <http://www.aamc.org/mededportal>, ID = 141.
20. Educational website – Potter J, **Huang G**. Web-based video tutorials of the pelvic examination [website]. Washington, DC: MedEdPORTAL, Association of American Medical Colleges; 2005. Available from: <http://www.aamc.org/mededportal>, ID = 142.
21. Educational website – Medical Procedure Service Website (http://home.caregroup.org/templatesnew/homepage/homepage_out.asp?pageid=5506). I designed online multimedia materials and organized educational resources for the Procedure Service at BIDMC that instruct BIDMC residents on proper technique and cautions in performing lumbar puncture, paracentesis, thoracentesis, and central lines.
22. Online educational modules – CME Online (<http://cmeonline.med.harvard.edu>). I expanded the CME Online program at HMS from 4 to 25 courses in 3 years. By the end of my tenure at CME Online, more than 2500 health professionals from 70 countries had purchased CME Online courses.
23. OSCE case – The Breast Exam. I was the second author on the Comprehensive Exam breast exam station assessing 4th-year medical students in the evaluation and work-up of an abnormal mammogram.

24. Facilitator's guide – Newman L, **Huang G**, Kassutto S, Delbanco T. "When Things Go Wrong": a guide for learners and facilitators. Cambridge: CRICO/Risk Management Foundation; 2006. *This guide was distributed by CRICO to its 8,300 insured staff physicians and trainees as an educational tool for health care providers to understand the patient's perspective about medical error.*