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Scholarly Report submitted in partial fulfillment of the MD Degree at Harvard Medical School

31 January 2016

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Practicing What We're Taught: An Analysis of Pre-Clinical and Clinical Medical Education of Compassionate Care at Harvard Medical School

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ABSTRACT

Practicing What We're Taught: An Analysis of Pre-Clinical and Clinical Medical Education of Compassionate Care at Harvard Medical School

In the Emergency Department, compassion in clinical practice is necessary not only to improve patient outcomes and physician satisfaction, but also to reduce suffering and its causes. The purpose of this study was to identify the concepts and skills related to compassionate care taught to students in the pre-clinical courses at Harvard Medical School, and to compare this with actual training opportunities in the clinical setting. This study utilized qualitative methods of content analysis to extract themes related to compassionate care from online resources of the empathy-focused classes taught in the pre-clinical portion of the New Integrated Curriculum at Harvard Medical School. These themes were then further explored by surveying students on their experiences in the third and fourth years at Harvard Medical School. Student evaluations of their education on discharge planning ($p=0.01$), communication between specialties ($p=0.04$), and working within interdisciplinary teams ($p=0.006$) were significantly higher for clinical vs. pre-clinical education. Though limited by a small sample size, the other concepts and skills also trended towards a higher rating of the clinical education, suggesting that the medical culture is changing such that compassion and communication have become important skills on the wards.

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GLOSSARY OF ABBREVIATIONS

Epi	Clinical Epidemiology and Population Health
Ethics	Medical Ethics and Professionalism
HP	Health Care Policy
ISM	Introduction to Social Medicine and Global Health
ITP	Introduction to the Profession
PDI	Patient-Doctor I
PDII	Patient-Doctor II

I. INTRODUCTION

Background

A number of studies have demonstrated that students begin medical school with substantial natural empathy and genuine desire to help others, but unfortunately these high ideals are at times eroded rather than amplified over the course of medical education.[1–3] Nonetheless, providing compassionate care is one of the tenets of our profession, with an emerging body of work indicating that this goal is not only intrinsically worthy, but also has a real impact on patient outcomes and possibly hospital finances.[4] Mercer and Reynolds define empathy as "an ability to: (a) understand the patient's situation, perspective, and feelings (and their attached meanings); (b) to communicate that understanding and check its accuracy; and (c) to act on that understanding with the patient in a helpful (therapeutic) way".[5] Compassion is a closely related concept, but is distinct in its motivation to action.[6] In the Emergency Department, compassion in clinical practice is necessary not only to improve patient outcomes and physician satisfaction, but is also likely to provide the motivation for efforts to reduce suffering and its causes. The purpose of this study is to identify the content and skills related to compassionate care that are taught to students in required pre-clinical courses at Harvard Medical School, and to compare with teaching in the clinical setting.

Although Harvard Medical School has made a significant effort to increase formal pre-clinical teaching in concepts related to compassionate care, we hypothesized that the clinical setting likely lags behind in providing student-doctors real opportunities to develop and practice these important skills. We focused on students entering the field Emergency Medicine to obtain evidence that can be used to implement educational interventions in this setting. The research questions were as follows:

(1) In the required courses of Patient-Doctor I and II (PDI-PDII), Introduction to the Profession (ITP), Introduction to Social Medicine and Global Health (ISM), Clinical Epidemiology and Population Health (Epi), Health Care Policy (HP), and Medical Ethics and Professionalism (Ethics), what are the key content domains and clinical skills related to compassion that are taught to pre-clerkship students?

(2) Among fourth year students who have applied to Emergency Medicine residency programs, how do they evaluate the pre-clinical and clinical teaching they have had on these concepts and skills.

Rationale

An emerging body of literature addresses the issue of patient satisfaction in the Emergency Department setting, with evidence suggesting that patients judge a Department on the providers' interpersonal interactions and ability to provide compassionate care.[4] Moreover, this has been linked to better patient compliance with discharge instructions.[7] Accordingly, the ability to provide compassionate care is considered increasingly important for both patient outcomes and Emergency Department functioning, with some groups developing interventions targeted at current physicians.[8–10] Separately, a body of literature exists on the empathy of medical students and how medical education can nourish this fundamental asset despite the rigors of medical school.[1–3,11] This project is unique in linking these two bodies of study, addressing compassionate care education at the medical student level. This project serves as an initial needs assessment, comparing the formal medical education students receive on these topics in the pre-clinical years with the clinical education of such topics that students experience on the wards.

Significance

Intuitively, Emergency Department visits are potentially challenging experiences in patients' lives; many are acutely ill, and some have minor complaints that may be inconvenient at least, and at worst take many hours to address. Nevertheless, the Emergency Department is a gateway for many patients to access care and the means by which a large proportion of patients are admitted to the hospital. Providing compassion in this time of need is an inherent goal of the medical profession. Evidence suggests that higher patient satisfaction in the Emergency Department is associated with better health outcomes, possibly due to higher compliance [7]. Furthermore, greater patient satisfaction may affect patients' choice of which Emergency Department to visit and possibly mediate the volume of malpractice claims, thus impacting the financial security of hospitals.[4,12,13] As such, working to improve patient experience in the Emergency Department is an important undertaking, arguably best addressed by ensuring compassionate care delivery, as the strongest predictor of patient satisfaction in the Emergency Department has been shown to be the quality of interpersonal interactions with Emergency providers.[4] Moreover, maintaining a high level of physician empathy is also imperative as empathy and moral outrage are important motivators of social change.[14] There is evidence

demonstrating that students begin medical school with substantial natural empathy and genuine desire to help patients and better the world, but that these high ideals are occasionally diminished over the course of medical education.[1–3] Ensuring a workforce of compassionate and empathetic physicians and leaders must occur throughout physicians' careers, including interventions at all levels of career development, as well as a greater focus on these educational objectives in medical school and residency training.

Review of Relevant Literature

Hojat et al defined empathy as a "cognitive… attribute that involves an understanding… of patient's experiences, concerns, and perspectives combined with a capacity to communicate this understanding."[15] Using the Jefferson Scale of Physician Empathy, they pinpointed the third year of medical school as the time at which the most significant loss of empathy occurs. They also surveyed students in order to identify what led to this loss, revealing poor role models, a hostile working environment, the demanding realities of patient care, and the complexities of the United States health care system (including insurance, malpractice, and reimbursement procedures), as factors contributing to students' cynicism.

Given this demonstrable loss of empathy and the presumed reasons for it, many medical schools have incorporated coursework focusing on humanism, empathy and compassion into their curriculum. This has led to a significant body of work evaluating the effects of particular educational and curricular interventions on student empathy.

Rosenthal and colleagues used the Jefferson Scale of Physician Empathy to quantitatively assess the effect of a longitudinal course on humanism and professionalism on student empathy.[16] In this course, students debriefed after stressful occurrences, reflected on their experiences, and discussed works of art. The authors found that empathy scores remained stable from the beginning to end of the third year of medical school, suggesting that the intervention prevented the expected erosion of empathy that generally occurs at this time.

Similarly, Shield and colleagues assessed the effect of communication and empathy educational sessions during their 2-year pre-clinical Doctoring course.[17] Students and faculty rated the sessions and how well the students achieved the learning objectives. The sessions got consistently positive results, indicating that both students and faculty found the sessions educational and important to their medical training. The authors suggest that these results

indicate that such communication training may be an effective way to maintain student empathy, but given that these evaluations immediately followed the sessions, their long-term impact on the students is unclear.

Interestingly, it has been shown that the discussion sessions described in the prior studies need not happen in person. This is relevant as third year medical students are sometimes distributed across different clinical sites with varying schedules that make it difficult to meet in person. Duke and colleagues studied an intervention during the third year in which students met virtually every 2-3 months using Google Hangout.[18] Discussions centered on adaptation to stressful environments, experiences observing unethical behavior, and death and dying. This intervention was associated with a preservation of empathy rather than the expected third year decline.

The compassionate care intervention literature was summarized in a 2006 review by Stepien and Baernstein.[19] They evaluated thirteen studies probing the effectiveness of particular strategies for teaching empathy to medical students. The interventions included communication training, utilization of the arts, role-play, and student wellness coursework. As with much of the empathy education literature, these studies suffered from lack of control groups, small sample sizes, varied interventions, and lack of follow-up. Still, the consistent finding and takeaway message of this review is that purposeful interventions can effectively increase or maintain students' clinical empathy.

Another systematic review was published in 2013, this time by Batt-Rawden and colleagues.[20] They reviewed 18 articles, including 15 quantitative and 3 qualitative studies of educational interventions. Some of the interventions analyzed included arts-based education (creative writing, drama, film), reflective essays, communication skills training, interpersonal skills training, and patient interviews. Many of these articles found increases in empathy scores following the interventions, suggesting that purposeful educational interventions can actually increase, and not simply maintain, medical student empathy.

Importantly, all of these studies assess the effect of concrete interventions on student empathy rather than assessing the curriculum as a whole. Although reflection and formalized discussion is imperative, studies continue to focus on efforts to supplement the clinical experience in a way that will enhance compassion rather than evaluate the clinical experiences themselves. If poor role models, a hostile working environment, the demanding realities of

patient care, and the complexities of the United States health care system (including insurance, malpractice, and reimbursement procedures) are what erodes empathy, these must be the target of interventions and inquiry. This study broadly asks students to evaluate the education of compassion and communication skills during the pre-clinical and clinical years in order to incorporate the intangibles of the clinical experience in our assessment.

Burks and Kobus define clinical empathy as "an affective and cognitive understanding of the patient's reactions, thoughts or feelings, followed by a behavioural (sic) demonstration of that understanding back to the patient."[21] They describe the difficulty of incorporating humanism training in traditional medical schools, where the curricula favor scientific endeavors. The authors argue that given tremendous time constraints, both medical students and faculty may view empathy training negatively as taking time and resources away from the real learning they must do. Ultimately, the authors reflect that the largest obstacle to greater integration of empathy education is the culture of medicine and lack of acceptance of such topics. Of course, the formalized pre-clinical interventions that have been incorporated in medical schools around the country and at Harvard Medical School will likely have altered the culture of the medical school itself. Thus, this study's broad survey questions allow for an overarching evaluation of the curriculum as it now stands, formal and hidden alike.

II. METHODS

1. Pre-Clinical Course Analysis

a. Selected Courses

The first phase of this project included a qualitative study of the pre-clinical courses in Harvard Medical School's New Integrated Pathway curriculum (often referred to as the New Pathway.) Of the mandatory courses from Years I and II, only those courses were selected with a humanitarian focus rather than the classic "hard science" courses. Thus, Introduction to the Profession (ITP), Patient Doctor I (PDI), Patient Doctor II (PDII), Introduction to Social Medicine and Global Health (ISM), Clinical Epidemiology and Population Health (Epi), Introduction to Health Care Policy (HP), and Medical Ethics and Professionalism (Ethics) were included in the qualitative analysis. These courses were thought to address a different aspect of medicine, focusing on the quality of interactions with patients as well as the role of individual physicians and the profession as a whole within the larger context of local and global society.

Excluded courses from Years I and II include The Molecular and Cellular Basis of Medicine, The Human Body, Human Genetics, Scholarship in Medicine, Integrated Human Physiology, Immunology, Microbiology & Pathology, Human Systems, Human Development, and Psychopathology & Introduction to Clinical Psychiatry.

b. Sources

The sources utilized for the qualitative analysis of these courses are those that were readily available online. I accessed the course websites on Harvard Medical School's mycourses webpage that were created and maintained for the Class of 2016. Therefore, Year I courses (ITP, PDI, ISM, Epi, HP, Ethics) from the academic year 2012-2013 and Year II courses (PDII) from the academic year 2013-2014 were accessed. Once these webpages were accessed, the course resources tab was opened up, which includes links to every course resource posted for a particular course. This included word documents, powerpoints, PDFs and websites, with a total of 40 sources for ITP, 101 sources for PDI, 121 sources for PDII, 89 sources for ISM, 136 sources for Epi, 139 sources for HP, and 163 sources for Ethics.

c. Qualitative Analysis

The qualitative analysis was carried out in two independent phases. First, each course was looked at sequentially. For a particular course, every course resource was looked at in its entirety: the resource would be skimmed such that all of the general concepts covered therein would be extracted and noted. This first phase did not pass judgment on the relevance of the concepts to the research question, rather all basic concepts described in the document were noted. For example, the concepts extracted from "The pisse-pot prophet" included: cognitive errors, doctors' emotions affect clinical reasoning, urinalysis, medicine is prognosis, treating based on inadequate evidence, imaging artifacts lead to unnecessary procedures, prognostication is difficult, and fallibility of medicine. This procedure was followed for every course resource of each of the included courses. From this, the concepts were consolidated for repetition and relevance to the research question, and then grouped into themes.

The second phase of the qualitative research analysis utilized coding methodology as described in Auerbach and Silverstein's *Qualitative Data: An Introduction to Coding and*

Analysis.[22] Again, each course was analyzed sequentially. First, every course resource was looked through to extract relevant text. These were excerpts of text that touched on the research question. Once each course had a document containing all of the relevant text from its mass of sources, relevant texts were grouped into repeating ideas, which were titled with a description. Repeating ideas were further grouped into themes, and then themes grouped into theoretical constructs. This was done for each course separately. For each theoretical construct, a theoretical narrative was written describing the course's approach to this theoretical construct and what the main lessons of the course were on this particular concept.

Finally, the themes garnered through the first phase of analysis and the theoretical constructs that emerged from the second phase of coding were compared for consistency.

2. Student Survey

a. Survey

The survey was constructed to cover concepts that had emerged from the qualitative analysis. These concepts were consolidated into a smaller number of skills or clinical scenarios that require excellent communication. For each of these skills/scenarios, students were asked to rate their satisfaction with the education they received on this skill during their time at Harvard Medical School, with pre-clinical and clinical education being rated separately. Finally, for each concept, students were asked to rate their overall sense of preparedness to practice such skills or encounter such scenarios in their upcoming residency. Next, a series of questions asked students to rate the level of emphasis placed on particular concepts/skills during the pre-clinical years and during the clinical years.

b. Sample population

The sample population chosen to take this survey included Harvard Medical Students who were in the process of applying to residency programs in Emergency Medicine and therefore expecting to match into an Emergency Medicine residency program on March 18th, 2016. Inclusion criteria included those students with the additional criterion that they studied under the New Integrated Curriculum (New Pathway) curriculum at Harvard Medical School.

c. Statistical analysis

The data were largely set up as comparisons of two means, in which the pre-clinical and clinical education were compared. Thus, such data was analyzed with paired two-tailed T tests using $p < 0.05$ to determine significance.

III. RESULTS

1. Qualitative Analysis

The humanitarian courses at Harvard Medical School (specifically Introduction to the Profession, Patient Doctor I, Patient Doctor II, Medical Ethics, Introduction to Social Medicine and Global Health, Health Policy, and Clinical Epidemiology) focused on different aspects of the medical profession than did the basic science courses. Whereas the traditional courses taught students the basic sciences required to be a competent physician, the humanitarian courses taught how to be a compassionate physician. The goal wass not simply to have the knowledge necessary to treat patients' diseases, but the knowledge of *how* to treat patients.

Effective communication with patients

One of the main lessons of the pre-clinical curriculum was the importance of communicating effectively with all types of patients. This was approached during ITP from two angles: teaching effective communication skills and teaching cultural competence. Effective communication requires both information input and output, thus there was a focus both on active listening and how to provide information to patients in a way that they could understand. Listening was emphasized not simply as a way of gaining information in order to diagnose disease, but also as a means of connecting with the patient. Providing the patient with information, in turn, focused on the manner in which information was communicated and how this exchange can impact patients. In both listening and speaking to patients, demonstrating concern and behaving professionally were considered paramount. While respecting appropriate boundaries, the physician's gentle touch was taught to be an important portrayal of care and concern. Importantly, ITP and PDII both emphasized the need to communicate effectively with patients of all cultures. To do so requires an appreciation for sociocultural differences between the provider and the patient and patient health beliefs while simultaneously avoiding the danger of stereotyping. Ethics taught the importance of avoiding cultural imperialism and not pushing physicians' values onto their patients.

PDI continued this education in communication by teaching about counseling patients and shared decision making. Shared decision making requires working with the patient as a team and understanding the crucial role of patient choice. In both PDI and Epi, the conversation between patient and doctor was construed as between two equals where the physician has more knowledge about the disease process and management options whereas the patient has more knowledge about their priorities and values. Ultimately, any treatment option requires informed consent in which the patient knowingly agrees to this course of treatment. These skills were taught to be particularly important in counseling patients on lifestyle change. PDI focused on the technique of motivational interviewing, in which patients are guided toward change due to their own intrinsic desires and motivations. The central tenet of these skills is the understanding that change can ultimately only be implemented by the patient himself and it is therefore important to be sensitive to patient desires and patient autonomy. PDI taught students how to discuss sensitive information, including sexual histories, drug and alcohol histories, and anything that may be personal to a particular patient. Giving bad news or discussing stigmatized diagnoses were given a particularly high level of focus due to their tremendous sensitivity. PDI taught that being able to conduct such difficult conversations effectively, whether difficult due to the sensitive nature of the material or because physicians are recommending lifestyle change, was fundamental to being a physician.

Both PDI and PDII focused on the importance of learning to be a good doctor. Effective medical education requires teaching of cultural competency skills, learning to give and receive constructive feedback, and teaching tools for effective communication. Such tools include open-ended questions, summarizing, reflection, active listening, demonstration of concern and good transitions. PDI considered the patient-doctor relationship to be the heart of clinical medicine, such that forming this relationship is a necessary first step to all other clinical skills.

Patient centered care

Another important tenant of the pre-clinical curriculum was connecting with patients and focusing on their interests. In ITP, a strong emphasis was placed on patient-centered care in which physician's understood patients' lives as the context in which illness occurs and considered the patient experience of illness. A patient's life context is vast, including their gender, ethnicity, race, sexual orientation, spiritual beliefs, family structure and personal

understanding of health. For some patients, poverty, literacy, and access to care tremendously impact the level of priority given to health and illness. Moreover, the experience of being ill increases patient vulnerability. Given this vulnerability, PDII taught that the patient's body and beliefs must always be respected, particularly during the physical examination. This must be performed professionally, with respect for patient modesty. Perhaps most importantly, it is important to communicate to the patient what one is doing during the physical exam. This helps the patient relax, enhances comfort and establishes rapport. Through such understanding, a strong patient-doctor relationship can be formed. Indeed, ITP taught that developing such a relationship requires being attuned to patients' many varied needs. Once such a relationship is formed, both ITP and PDII taught that it has the potential in itself to make a difference in a patient's disease course and experience of illness. ISM reached further and said this relationship also serves as a guiding principle for physicians throughout their careers.

PDI covered similar themes and expanded on the material of ITP. For example, PDI similarly emphasized the importance of understanding where patients are coming from. In this course, this understanding was founded on the patient experience, the patient's explanatory model, cultural competence and awareness of the social context of health. The patient experience includes all aspects of care, from empathy in clinical interactions and responding to patient emotions, to ensuring patient comfort, privacy, and modesty during clinical encounters, particularly during the physical examination. According to this model, patient centered care requires physicians to demonstrate to the patient that they are the physician's primary concern in this moment. This includes inquiry into both the patient's symptoms as well as the patient's concerns and experience of illness. PDI made a distinction between disease and illness, wherein illness includes how the patient and their social network live with and respond to the disease. In both PDI and PDII, the patient's understanding of their illness, or their explanatory model, was taught to be crucial to effective patient-doctor communication as it is the framework through which patients view clinical encounters and the management plan. Often physicians have very different understandings of the disease and illness than do patients, and such discrepancies can make negotiating a shared plan quite difficult. Moreover, understanding where a patient is coming from includes not only their thoughts and feelings, but also an understanding of their customs and social situation. Culture itself may impact health and decision-making. Another layer of complexity is rendered by the social context in which patients live and seek care. Given

that many screening tools for certain social risk factors and unhealthy behaviors are imperfect, many of the social items influencing health are unknown to providers. This is a serious detriment as physicians widely believe that social stress and support networks, patients' environments, their degree of control over their lives, and literacy level can have a tremendous impact on health and health care.

Despite the broader vantage point of ISM, it continued to teach that the specific needs of the patient are important. The course focused on social circumstances that can have a large impact on patient health and detection of such social problems as a first step towards important interventions. Some social conditions can impair adherence as limited agency may not allow patients to follow through with particular management plans. Some lack access to effective pain medication and palliative care, which seeks to improve patients' quality of life and is insufficiently utilized both domestically and internationally. HP took a similarly broad vantage point, teaching that patient-centered care requires redesign of the entire health system with the patient at the forefront in order to provide timely, effective, equitable care.

In Ethics and Epi, patient-centered care was taught to yield from patient autonomy. Respecting patient's autonomy requires a respect for the patient's perspectives, beliefs, choices and actions. Autonomy is the foundation of the practice of informed consent, which requires patient competency, disclosure of the pertinent information, comprehension of this information, voluntariness, and consent. Shared decision making rests on similar principles, as mutual respect and participation in the decision is a necessity. Further respect for patients is found in the teachings of respect for patient modesty, a focus on the patient's understanding of illness or their explanatory model, and palliative care. In addition to autonomy and informed consent, confidentiality is another patient right that comes from respect for persons. Rules of confidentiality are paramount in ethics, but the course taught that this right is not absolute when the rights of others are endangered.

Barriers to Equal and Effective Care

All of the pre-clinical courses highlighted the large disparities that exist in health care. ITP revealed that racism and stereotypes continue to play a role in clinical encounters. For example, African Americans are prescribed less pain medication when it is required. Outside the clinical encounter, social determinants of health exist as unhealthy conditions disproportionately

affect impoverished communities. Globally, access to care is severely limited in developing nations. PD1 suggested that such barriers to effective care exist because we work in a flawed system. Such barriers exist due to cultural differences (in the form of cultural misunderstandings), racial disparities, socioeconomic disparities, differences between patient and physician explanatory models, language barriers highlighting the need for medical interpreters, limited agency of the poor and disadvantaged, limited access to care, stigmatization of diseases, and poor health literacy. ISM described that people of lower socioeconomic status are unhealthier and die earlier, and homeless patients in particular suffer from poor health and limited supports systems. The mentally ill are also vulnerable, as mental health can sometimes limit adherence of help-seeking behaviors.

HP further expanded on the large racial disparities in care; for example, living donor transplantation is less likely to be discussed with African American patients. Clinicians are often unaware of such disparities or believe the problem is due to income or other social factors. Moreover, racial disparities can be viewed as a systems failure wherein flaws in the system affect minority patients more significantly than white patients. Due to a history of racism, many black patients continue have limited trust in the medical system. Epi further described the complex and long-lasting effects on health of various populations as well as the care that is received that was caused by a long history of racism. A great deal of research on racial disparities is done but it is critical to discuss how race and ethnicity are conceptualized for the purposes of such research in order to assure that the process of doing this research does not exacerbate the problem. PDI taught that awareness of such racial disparities is an important first step to combat unintentional bias.

Another focus of the courses included barriers to adherence. Ethics emphasized that although patients are often blamed for poor adherence, it is important to assess miscommunication, side effects, and management plans that are not amenable to a patient’s life context. Similarly ISM noted that the most important factor affecting adherence is patient agency and life circumstances. In addition, HP shed light on the tremendous financial burden of health care and explained that many Americans cut back on medical care due to cost concerns. Such reduced access can have detrimental health effects. When people do access care, health literacy can be a problem as many patient information tools are written at an unsuitable reading level for patients. Such limited understanding as well as cost, cultural differences and difficulty navigating

the system pose barriers to adherence to treatment regimens. Non-English-speaking patients in particular tend to rate their care as lower quality.

Medical Errors

Even when care is attained, ITP introduced students to the concept that mistakes can and do happen in medicine. Students must learn that physicians are not infallible. Patients often lack the knowledge or assertiveness to question medical errors, but physicians too must learn to be accountable, to face and accept mistakes. This is an imperative first step to correcting errors. Nonetheless, physicians have difficulty asking for help.

HP approached this issue pragmatically, ensuring that students will know how to react to medical errors. Disclosure of adverse events is important as transparency is central to the patient safety movement and allows everyone to learn from errors. Some clinicians fear disclosure as they believe it puts them at risk for malpractice. Because of the malpractice system, many clinicians practice defensive medicine for fear of liability. This poses a social problem and introduces inefficiencies in the system. When adverse events do happen, many clinicians struggle with the burden of responsibility of such a mistake and malpractice litigation further adds to the stress and emotional toll.

Ethics raised the question of how to maintain trust in health care despite these imperfections. Disclosure of errors is important for patient safety and respect for persons, but is difficult as physicians are both uncomfortable with the limited information they may have on the topic and may exacerbate conflict. The appropriate way to disclose adverse events is to do so as soon as possible, emphasizing caring and compassion, focusing on the needs of the patient and family, and expressing apology when warranted. Still, medical errors have a large impact on physicians who are often unprepared to deal with mistakes. Without such disclosures, there would be further loss of trust in the profession. Many patients distrust their physicians, perhaps due to some barriers to effective communication, or because of misunderstandings. Lying to patients, even for their own good as is sometimes called therapeutic privilege, is simply wrong as it takes away patient autonomy and threatens trust in the medical profession.

Medical Ethics

The Ethics course taught that often, the personal and ethical problems encountered in health care lack a clear right and wrong. Some ethical dilemmas faced by physicians include the ethics of practicing on people, professional boundaries, futile care, and medical student-specific dilemmas. Although it is obvious that physicians will always perform each procedure for a first time, doing so on a patient, often one who does not have the means to advocate for themselves, seems wrong. Professional boundaries exist to ensure that physicians do not take advantage of the power differential of the patient doctor relationship to exploit patients. Nevertheless, there is a fine line between maintaining these boundaries while also needing to develop emotional connections with patients in order to provide meaningful care. Other ethical issues discussed included futility debates and conflicts of interest. These ethical dilemmas begin in medical school, where student doctors must balance their ethical principles with the importance of fitting in with the team. The informal curriculum is a powerful shaper of their actions and future practices.

Need for Change

With so many flaws in the current system, ISM taught that dramatic change is necessary in health care. Access to care must be improved. This includes better pain relief and opioid policies, as current laws and practices have the potential to lead to both oligoanalgesia, in some cases, and opioid abuse in others. Cultural competence training is required as well, such that providers have the skills to serve each patient within the framework of their life context and cultural beliefs. While improving access in these ways, support is needed to help patients navigate the existing system. Health coaches can help with such navigation, assisting with health insurance and ensuring follow up. Meanwhile, value and outcomes must be a focus of improvement and physicians themselves must take part in health care reform. Given that social conditions so largely contribute to poor health and health disparities, it is a physician's obligations to improve the system so that it takes care of the sickest and most vulnerable patients.

End of Life

Finally, as an introduction to the world of medicine, where students entered with dreams of helping people and curing disease, ITP warned students that as physicians, they will face death often. Students often experience an anxiety surrounding death, which first culminates in

the anatomy course and dissection of a human cadaver. Student doctors learn to depersonalize and hide their emotions. Although some degree of suppression is necessary, ITP taught positive coping mechanisms and how to continue to function professionally in times of sadness while maintaining compassion for the human experience. These skills are perhaps most importantly balanced when physicians give bad news, a skill which unfortunately many physicians have not yet perfected.

PDI described the difficulties of communicating with patients and their families near the end of life. End of life decisions are challenging in that every person has different values and different thoughts on what death should be like. Family meetings are organized for this purpose, but the techniques to handle them well are not covered comprehensively during training. For this reason and due to the difficulty facing death, end of life conversations are often wrought with ambiguity. Often terminality is not acknowledged and people continue to treat disease believing they are fighting for a cure which simply does not exist. Palliative care exists to assist patients and their families at the end of life but many misconstrue the focus on maintaining quality of life with a cessation of effort.

One of the main topics focused on in the Ethics course was making medical decisions at difficult times, including competency and surrogacy, and end of life decision making. Competence refers to a patient's ability to make decisions and is sometimes lost when patients' reasoning capacities are impaired due to disease or disability. When this happens, a surrogate decision maker must be selected, but who should be selected and how they should make decisions is often disputed. The goal is for a surrogate decision maker to make the decisions a patient themselves would have made. Thus, advance care directives play an important role. Many patients lack advance care directives or they are too vague to be helpful, but the goal is respect patient autonomy and maintain decisions in the hands of patients. Excellent communication is required for end of life conversations, but often physicians lack these skills and patients have limited knowledge about what particular scenarios might involve. Furthermore, patients and families can have very different values at the end of life, some favoring dying with dignity while other wanting to do all they can. Patients and doctors share a false optimism about recovery and physicians fear telling patients that their prognosis is very poor. Sometimes, medical staff and the patient's family may disagree and negotiation is necessary. Social workers can be helpful moderating these discussions and helping each party understand the others' understanding of the

situation. Often such disagreements are founded in misunderstandings caused by poor communication, misperceptions, and excessive use of jargon. Such difficult discussions often involve the withdrawal of life-sustaining care, which though difficult is not considered unethical.

Teamwork in Medicine

ITP taught that medicine has become very team-based. Interdisciplinary teams have become a necessity in medicine due to technological complexity and an inexhaustible amount of information. Furthermore, socially and racially diverse teams improve cultural competence and function to reduce disparities in care. Functioning effectively in such teams requires training and effective communications with colleagues. Physicians with specialized knowledge and capabilities must work together to achieve the common goals of their patients.

ISM shed light on teamwork by describing how the scope of medicine has changed. Western frameworks of mental health have been globalized, imposing cultural assumptions about human nature onto other nations and peoples. Many believe this is tremendously important as the impact of mental illness is vast and impacts physical health as well by complicating help-seeking behaviors, reducing the quality of care provided, and limiting adherence to treatment. Both globally and abroad, there is an emerging need for new knowledge and skills in medicine. Community health workers function as liaisons between patients and providers and in so doing improve access to care. As new types of provider roles are being defined, efficient division of responsibilities becomes important such that team members each have unique and complementary functions. In this way, multidisciplinary teams can optimize patient care.

HP and Epi identified teamwork as a tool to improve care in complex situations. Interdisciplinary teams allow better management of complex cases. When multiple personnel are involved, communication and coordination of care between settings and specialists becomes important. Particularly during transitions in care, many adverse events can occur. Some hospitals are redesigning the discharge process so that such transitions go more smoothly and are less fragmented. One solution is the use of patient navigators who provide advocacy and coordination activities. As cultural differences sometimes pose a problem, the need for effective cultural competence education is highlighted. Such training has been shown to increase knowledge about health disparities and improve communication.

2. Quantitative Analysis

The first portion of the survey dealt with particular skills or scenarios that relate to compassionate care, asking students to evaluate the pre-clinical and clinical education they received on these topics separately. Students rated their education on a 5-point, Likert-type scale where Poor = 1, Fair = 2, Good = 3, Very good = 4, Excellent = 5. The pre-clinical and clinical means were compared using two-tailed paired t-tests. Although the sample size was very modest, a few of these items reached significance. Thus, student evaluations of their education on discharge planning ($p=0.01$), communication between specialties ($p=0.04$), and working within interdisciplinary teams ($p=0.006$) differed significantly for the pre-clinical and clinical education. For each of these, students more highly evaluated their clinical education. The only other skill that approached significance was code status discussions ($p=0.07$) and for this the clinical education was also rated more highly.

Interestingly, although none of the other skills reached significance, the clinical education of all skills was rated more highly than the pre-clinical education, with the exception of cross-cultural care, though again this did not reach significance.

The second portion of the survey asked students to evaluate the focus and emphasis placed on particular concepts in the pre-clinical curriculum as compared to during their clinical experiences. These were rated on a 5-point Likert scale, where not at all important = 1, somewhat unimportant = 2, neither important or unimportant = 3, somewhat important = 4, very important = 5. No skills had significantly different ratings of their importance

IV. DISCUSSION

The results of the qualitative portion of this study are described and discussed above in the results portion. Skills and concepts relating to compassion were repeated throughout the pre-clinical humanistic curriculum, with tremendous overlap between courses. Each course, however, shed new light on particular concepts and approached them from new perspectives.

The results of the quantitative portion of this study are particularly notable. The literature suggests that the third year of medical school is when empathy most declines in medical students. Given this information, we hypothesized that the clinical education of compassionate care skills would be less substantive and therefore not evaluated as highly as the pre-clinical education of these skills. This was not the case. Although many of the items in the survey did not

achieve significance, and there remains a risk of a type II error, there was only one of eleven skills (cross-cultural care) probed in which the mean of the pre-clinical evaluation was higher than the clinical evaluation, and it was not significantly higher ($p = 0.22$). Otherwise, the clinical education of all of the other skills was rated more highly than the pre-clinical education, although only three of these skills reached significance including discharge planning, communication between specialties, and working within interdisciplinary teams. This is an interesting and unexpected result because it indicates that the clinical education of compassionate care skills is better received by the students surveyed than is the pre-clinical education.

This evidence may indicate a changing culture on the wards where compassion and communication skills are more emphasized than they had been in the past. As the culture of medicine is shifting, and compassionate care is considered a tenet of medical education, this concept may be beginning to pervade all of medicine. Thus, physicians with a stronger interest in compassionate care and patient satisfaction are possibly taking on a larger role in clinical medical education. Thus, medical student role models may begin to be a force for good rather than teaching students to be cold or uncaring as they had in the past. Perhaps, then, this data shows that the hidden curriculum is changing for the better, where being thoughtful and caring towards patients is rewarded in the same way as a strong fund of knowledge.

Alternatively, it is possible that students may still experience a reduction in empathy despite their highly rated clinical education, perhaps if students believe that on the wards they are taught to approach particular communication scenarios in more practical or time-saving ways. This could lead to higher evaluations of the clinical care despite an erosion of compassion and empathy. Given that this survey did not ask for open-ended responses, it is not possible to predict what students were thinking when they answered questions and what a higher evaluation of their education meant to them.

Limitations

There are a number of limitations of this study. The major limitation of the qualitative portion of this work is that the course resources were only analyzed by a single person, posing some questions of internal validity. However to account for the single reviewer, the course resources were analyzed twice. The independence of these two reviews was assured as they were separated in time by at least one month and at most three months. The methodology of these two

reviews was also distinct, as described in the methods section above. The results of these two separate processes were then compared for consistency and inter-review reliability. Thus, although the study was limited by a single reviewer, the two distinct processes did provide some reliability and internal validity of the results.

The major limitation of the quantitative portion of this work is the limited sample size of the survey. Only five students submitted responses, and only four fully completed the survey, significantly limiting the power of the study. At the time the study was designed, the population to be surveyed was designated as Harvard Medical School students who had submitted applications to Emergency Medicine Residency programs. The goal was to inform how the education at Harvard was perceived by students entering into the field of Emergency Medicine, where compassionate care is important for patient satisfaction, outcomes, and possibly prevention of physician burnout. We largely underestimated the number of students entering into Emergency Medicine. Ultimately, seven students were identified as applying in Emergency Medicine. Given that I am one of those students and therefore biased in my knowledge of the qualitative analysis results, this limited our potential sample size to six. Thus, although the sample size is very limited, there was 66-83% response rate. This does not account for other students entering the field of Emergency Medicine from HMS this year who were not identified by our recruiting techniques.

This study only assessed the required coursework of Harvard Medical School's New Integrated Curriculum. The school offers a variety of additional experiences including elective courses, student interest groups, volunteer opportunities, and accessibility of all other University opportunities. Many of these incorporate compassionate care and cultural competence enrichment. These were not included in the analysis given their voluntary nature. It can be predicted that students who seek out and devote their limited time to such experiences may inherently be more compassionate.

Importantly, this study analyzed the education of compassion within the HMS New Integrated Curriculum. This curriculum has now been replaced by the curriculum Pathways, beginning with the HMS Class of 2019. Moreover, the Pathways curriculum puts students on the wards earlier, blurring the traditional line between pre-clinical and clinical medical education. Although this study did not utilize resources from the Pathways curriculum, the conclusions of

this study are valuable as HMS continually modifies and updates its coursework and places significant value on training compassionate physicians.

Patient Doctor III, the longitudinal third year discussion based course at Harvard Medical School, was purposefully omitted from this analysis. This course serves as a bridge between the pre-clinical education in the classroom and the ward teaching that occurs in the clinical years. This course was omitted from qualitative analysis because each small group selects its own topics for conversation and thus the resources posted on the course webpage are suggestions that are very rarely utilized in class. Whether students considered their Patient Doctor III experiences when responding to survey questions is impossible to know, but falls under the umbrella of the final survey question asking for students' overall sense of preparedness.

Suggestions for future work

Despite the limitations of this study, the data garnered sheds interesting light on the education of compassion and effective communication techniques. This study assesses pre-clinical and clinical education, but training compassionate physicians likely requires a long-term commitment to these ideals. Given that the hidden curriculum is suspected to play a large role in reducing student empathy, these ideals and concepts must begin to permeate the culture of medicine. Accordingly, further research is required at the intern, resident, and attending level. Furthermore, given that compassionate patient-centered care is becoming increasingly prioritized, it is likely that perceptions of education on compassion will change over time, even without formal curricular change. Accordingly, such analyses should be repeated with each new class to bear witness to the greater changes that are occurring in medicine.

V. ACKNOWLEDGEMENTS

I would like to thank the many people who helped me in the completion of this project. First, Dr. Kimo Takayesu for listening to my musings and encouraging me to come up with my own research question, and then identifying the best mentor to help me carry out that work. Dr. Benjamin A. White, as my research mentor encouraged me to pursue a project I was passionate about. Dr. White was instrumental in helping me clarify and improve my research protocol, improving the methodology of this work. He also checked on my progress throughout the research project to ensure it was going smoothly. His recommendations improved the quality of

the survey enormously. Dr. Amy Sullivan, my project reviewer, helped me consolidate my research goals to a more attainable size, as she had far better awareness than I did of the time and resource constraints I would face. I also thank her for her guidance through the IRB process and ensuring this project was completed in a timely manner. I also appreciate the involvement and of the Academy, who reviewed and approved this work. Finally, I appreciate the work of the Harvard Institutional Review Board, particularly Kimberley Serpico, who worked with me to perfect my IRB application and significantly sped up the process with their help.

VI. STUDENT ROLE

My role in this project was primary. For the qualitative analysis, I reviewed the online course resources of each course, including Introduction to the Profession, Patient Doctor I, Patient Doctor II, Social Medicine and Global Health, Medical Ethics, Health Policy and Clinical Epidemiology, in order to extract key themes and concepts. I went through each of these course resources a second time, utilizing coding methodology to extract the relevant themes taught in the courses. I examined each of these lists for consistency in order to ensure internal validity of the work. It was also my role to construct the survey, in consultation with Dr. Benjamin A. White and Dr. Amy Sullivan who both offered constructive criticisms and recommendations for improvement. I applied for IRB approval with the help of Dr. Amy Sullivan, and distributed the survey through Qualtrics with her guidance. I performed the quantitative analysis, with the help of Dr. Benjamin A. White. This project was informed by a larger study conducted by Dr. Benjamin A. White of MGH, including a systematic literature review that is currently underway probing themes of patient-centered and compassionate care in the Emergency Department Setting. This literature review will include articles addressing how empathy, emotional intelligence, interpersonal interactions, communication, or shared decision making can impact patient satisfaction, the patient experience, or patient perceptions of care in the Emergency Department setting.

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APPENDIX 1: SURVEY

Educating Compassionate Physicians Survey

This research survey asks you to evaluate the education you have received at Harvard Medical School on interpersonal skills with patients and providing compassionate care. There are questions regarding particular skills or scenarios, and we ask that you assess the quality of the education you received on these topics during your time at HMS. We are evaluating the pre-clinical curriculum separately from the clinical curriculum, so please evaluate your classroom learning separately from your teaching on the wards. Some questions will also ask you to rate your overall sense of preparedness to utilize particular skills or handle particular types of encounters during your upcoming residency.

The survey is ANONYMOUS. Your personal identifiers will not be linked to your survey responses and all results will be reported in aggregate (i.e. no individual-level data will be reported). Though we would like to hear from as many medical students entering the field of emergency medicine as possible, your participation is voluntary. Participation will have no effect on your grades or academic standing, and your academic supervisors will not have access to your individual responses.
Please fill out the survey as completely as you can. We anticipate it will take approximately 10 minutes. If you cannot complete the survey in one session, you can save your responses and use the link from your email to complete the survey at a later time.
Thank you for your input.

If you have any questions or suggestions, please contact Magdalena Robak at magrobak@gmail.com

Note: By completing this survey you are giving your consent to participate. Again, your responses will be anonymous.

Please click on the ">>>" button below to begin the survey.

What year did you begin at HMS?

- ○ 2010
- ○ 2011
- ○ 2012
- ○ Other (write in) ______

Which program are you in?

- ○ New Pathway/New Integrated Curriulum
- ○ HST
- ○ Pathways
- ○ Other ______

Which field are you applying to residencies in? (You may include more than one answer)

- ☐ Emergency Medicine
- ☐ Other ______
- ☐ Other ______

The following questions probe your learning on particular communication scenarios. Please evaluate your pre-clinical education on these topics (Years 1 & 2) separately from your clinical education on these topics (PCE and Year 4). Finally, please evaluate your overall preparedness to handle similar scenarios during residency, for this portion you may consider your pre-clinical and clinical training together.

	Quality of pre-clinical education					Quality of clinical education					Overal preparedness for residency			
	Poor	Fair	Good	Very good	Excellent	Poor	Fair	Good	Very good	Excellent	Not at all prepared	Somewhat prepared	Well prepared	Very well prepared
Giving bad news														
Shared decision-making														
Code status discussions														
Family meetings														
Language barriers														
Cross-cultural care														
Discharge planning														
Communication between specialties														
Working within interdisciplinary teams (MDs, RNs, NPs, PAs, etc.)														
Obtaining informed consent														
Dealing with the death of a patient														

The following questions are designed to compare the focus and emphasis placed on particular concepts in the pre-clinical years (1 &2) as compared to the focus and emphasis placed on these concepts in the clinical years (PCE and 4). Please evaluate the value placed on each concept in the pre-clinical and clinical years separately.

	Pre-clinical value					Clinical value				
	Not at all important	Somewhat unimportant	Neither important or unimportant	Somewhat important	Very important	Not at all important	Somewhat unimportant	Neither important or unimportant	Somewhat important	Very important
Open-ended questions										
The patient's explanatory model										
Patient modesty during the physical examination										
Explaining the need for sensitive portions of the physical examination										
Patient confidentiality										

APPENDIX 2: QUALITATIVE ANALYSIS COURSE RESOURCES

TITLE	AUTHOR	SOURCE	YEAR	COURSE
A Model Patient	Jerome Groopman	The New Yorker	2005	ITP
Acute HIV-1 Infection	Cohen et al.	NEJM	2011	ITP
Being a Student at Harvard Medical School				ITP
Cowboys and Pit Crews	Atul Gawande	The New Yorker	2011	ITP
Enemies	Anton Chekhov		1887	ITP
Etiquette-Based Medicine	Michael W. Kahn	NEJM	2008	ITP
Excerpts from *After the Diagnosis: Transcending Chronic Illness*	Julian Seifter with Betsy Seifter		2010	ITP
From the Heart	Rachel Naomi Remen			ITP
Guidelines for Beth Israel-Deaconess Hospital Experience				ITP
Guidelines for Brigham and Women's Hospital Experience				ITP
Guidelines for Cambridge Hospital Experience				ITP
Guidelines for Children's Hospital Experience				ITP
Guidelines for MGH Hospital Experience				ITP
Hospital Experience – Observation and Interview Questions				ITP
Introduction to the Profession Course Guide	Harvard Medical School		2012	ITP
Lest We Forget: The Art of Medicine	Kurt J. Isselbacher	African Yearbook of Rhetoric	2011	ITP
Presentation: HIV/AIDS – From Laboratory to Bedside	M.S. Hirsch			ITP
Map - BIDMC				ITP
Map - BWH				ITP
Map – Cambridge Hospital				ITP
Map – Children's Hospital				ITP
Map – Dana Farber Cancer Institute				ITP
Map - MGH				ITP
MGH Shuttle Schedule				ITP
Excerpt from: My Own Country	Abraham Verghese		1994	ITP
Not Me! Doctors, Decisions, and Disparities in Health Care	Betancourt, J.R & O. Ananeh-Firempong	CVR&R	2004	ITP
David Foster Wallace on Life and Word	David Foster Wallace	The Wall Street Journal	2008	ITP
One Disease, Two Epidemics – AIDS at 25	Kent A. Sepkowitz	NEJM	2006	ITP
Online Posting of Unprofessional Content by Medical Students	Chretien et al.	JAMA	2009	ITP
Pneumocystis Pneumonia – Los Angeles		CDC MMWR Weekly	1981	ITP
Chapter 1: Resurrectionist from *Final Exam: A Surgeon's Reflections on Mortality*	Pauline W. Chen		2008	ITP
Symptoms Visible and Invisible	Julian Seifter	Psychology Today	2011	ITP
System Failure versus Personal Accountability – The Case for Clean Hands	Donald Goldmann	NEJM	2006	ITP
The No-Touch Zone	Julian Seifter	Psychology Today	2011	ITP
The Pisse-pot Prophet	Betsy Seifter	Psychology Today	2011	ITP
The HIV-AIDS Pandemic at 25 – The Global Response	Michael H. Merson	NEJM	2006	ITP
Toward a Normative Definition of Medical Professionalism	Herbert M. Swick	Academic Medicine	2000	ITP
Alcoholics Anonymous at a Glance		Adapted from www.aa.org/pdf/products/f-1_AAataGlance.pdf		PD1

Communication Skills Form				PD1
Clinical Assessment Exercise: Content Areas and Skills				PD1
Observed Interview – Feedback Worksheet				PD1
Review of Systems				PD1
Session 1 Handout				PD1
Session 12Handout				PD1
Session 3 Handout				PD1
Session 4 Handout				PD1
Session 5 Handout				PD1
Session 6 Handout				PD1
Session 7 Handout				PD1
Session 8 Handout				PD1
Session 9 Handout				PD1
Session 10 Handout				PD1
Session 11 Handout				PD1
Session 12 Handout				PD1
Session 13 Handout				PD1
The Story of Cynthia		This case is taken from the transcript of an interview with Cynthia, a recovered alcoholic. A tape of the session was provided by William Clark, M.D., formerly of Cambridge Hospital. Adapted for Patient-Doctor tutorial by Eleanor V. McLaughlin and Donald B. Levy, M.D. October 1988.		PD1
A Little Confidence	Alaine Le	Ann Intern Med	2005	PD1
Complementary and Alternative Medicine Use Among Adults and Children: United States, 2007	Barnes et al	US Department of HHS: National Health Statistics Reports	2008	PD1
An Emotional War on the Wards	David H. Hwang	Current Surgery	2003	PD1
Battering Victimization Among a Probability-Based Sample of Men Who Have Sex With Men	Greenwood et al	Amercan Journal of Public Health	2002	PD1
Behavioral approaches to smoking cessation	Elyse R Park	UpToDate	2015	PD1
Escape Fire (Introduction)	Donald M. Berwick		2002	PD1
Brief Approaches to Alcohol Screening: Practical Alternatives for Primary Care	Bradley et al	J Gen Intern Med	2009	PD1
Caring for Patients at the End of Life: Reflections after 12 Years of Practice	Richard A. Parker	Ann Intern Med	2002	PD1
Cross-Cultural Primary Care: A Patient-Based Approach	Carrillo et al	Ann Intern Med	1999	PD1
Cultural Competence and the Culture of Medicine	Renee C. Fox	NEJM	2005	PD1
Culture, Illness, and Care: Clinical Lessons from Anthropologic and Cross-Cultural Research	Kleinman et al	Ann Intern Med	1978	PD1
On Being a Doctor: Curiosity	Faith T. Fitzgerald	Ann Intern Med	1999	PD1
Do Ask, Do Tell	Jennifer E. Potter	Ann Intern Med	2002	PD1
Efficient Identification of Adults with Depression and Dementia	Thibault et al	American Family Physician	2004	PD1
Ending LGBT invisibility in health care: The first step in ensuring equitable care	Harvey J. Makadon	Cleveland Clinic Journal of Medicine	2011	PD1
Patient Doctor Year I Fall Course Syllabus			2012	PD1
Feedback in Clinical Medical Education	Jack Ende	JAMA	1983	PD1
Guidelines for Doctors on Identifying and Helping their Patients Who Batter	David Adams	JAMWA	1996	PD1
Healthcare Communciations for Students	Beth A. Lown		2002	PD1
House Calls	Sandeep Jauhar	NEJM	2004	PD1
Improving Americans' Health Literacy	Rima E. Rudd	NEJM	2010	PD1
Improving patient-provider communication: insights from interpreters	Patricia Hudelson	Family Practice	2005	PD1
Integrating Social Factors into Cross-cultural Medical Education	Green et al	Academic Medicine	2002	PD1

Intimate partner violence: Epidemiology and health consequences	Amy Weil	UpToDate	2015	PD1
Language, Culture, And Case of Willie Ramirez	Gail Price-Wise	http://healthaffairs.org	2008	PD1
Chapter 1: Learning From Hearing and Seeing Yourself from *The Clinical Encounter*	Billings & Stoeckle		1998	PD1
Presentation: Taking a History of Sexual Health	Makadon, H.J. & B. Woo		2013	PD1
"Let Me See If I Have This Right…": Words That Help Build Empathy	Coulehan et al	Ann Intern Med	2001	PD1
Let's Not Contribute to Disparities: The Best Methods for Teaching Clinicians How to Overcome Language Barriers to Health Care	Diamond, L.C. & E.A. Jacobs	J Gen Intern Med	2009	PD1
Revised Global Scales: Motivational Interviewing Treatment Integrity 3.0	Moyers et al		2007	PD1
Motivational interviewing	Rollnick et al	BMJ	2010	PD1
Neck Cancer: A Physician's Personal Experience	Itzhak Brook	Arch Otolaryngol Head Neck Surg	2009	PD1
Negotiating Cross-Cultural Issues at the End of Life	Kagawa-Singer, M. & L.J. Blackhall	JAMA	2001	PD1
Compliance, Caricature, and Culturally Aware Care	Debra Malina	NEJM	2005	PD1
PDI Fall 2012 Schedule			2012	PD1
PD1 Tutorial Groups				PD1
PDI Winter Spring 2013 Schedule				PD1
PDI Winter Spring 2013 Course Guide				PD1
Physician, Know Thyself: The Professional Culture of Medicine as a Framework for Teaching Cultural Competence	Boutin-Foster et al	Academic Medicine	2008	PD1
Pulse The Medical Student Section of JAMA: pages 398-493		JAMA Volume 271, No. 5	1994	PD1
Recognizing Occupational Disease – Taking an Effective Occupational History	Lax, M.B. & W. D. Grant	American Academy of Family Physicians	1998	PD1
Reducing Racial Bias Among Health Care Providers: Lessons from Social-Cognitive Psychology	Burgess et al	Journal of General Internal Medicine	2007	PD1
Screening for Drug Use in General Medical Settings: Resource Guide		National Institute on Drug Abuse	2010	PD1
Rethinking Drinking: Alcohol and your health		NIH: National Institute on Alcohol Abuse and Alcoholism	2010	PD1
Sample Write Up of a Patient Interview				PD1
Scream	Elizabeth Broderick	Ann Intern Med	2007	PD1
Searching for Margaret	Anne M. Murphy	JAMA	2001	PD1
Session 15 Handout				PD1
Session 14 Handout				PD1
Session 16 Handout				PD1
Session 17 Handout				PD1
Sessions 18 & 19 Handout				PD1
Session 20 Handout				PD1
Session 21 Handout				PD1
Session 22 Handout				PD1
Session 23 Handout				PD1
Session 24 Handout				PD1
Session 25 Handout				PD1
Session 26 Handout				PD1
Sessions 27 & 28 Handout				PD1
Session 29 Handout				PD1
Session 30 Handout				PD1
Staring at the Sun: Overcoming the Terror of death	Irvin D. Yalom	The Humanistic Psychologist	2008	PD1
"Tell Me about Yourself": The Patient-Centered Interview	Coulehan et al	Ann Intern Med	2001	PD1
Testing for Huntington Disease: Making an Informed Choice	Robin L. Bennett			PD1
The Changing Face of Teenage Drug Abuse – The Trend toward Prescription Drugs	Richard A. Friedman	NEJM	2006	PD1

Chapter 18: Oral Case Presentations from *The Clinical Encounter*	Billings & Stoeckle		1998	PD1
The Proactive Sexual Health History	Margaret R.H. Nusaum	Am Fam Physician	2002	PD1
The Teachable Moment	Kathy Cole-Kelly	Academic Medicine	2006	PD1
The third thing in medical education	Gaufberg, E. & M. Batalden	The Clinical Teacher	2007	PD1
To Change or Not to Change: "Sounds Like You Have a Dilemma"	Levinson et al	Ann Intern Med	2001	PD1
Violence against women: global scope and magnitude	Watts, C. & C. Zimmerman	Lancet	2002	PD1
Letting Go: What should medicine do when it can't save your life?	Atul Gawande	The New Yorker	2010	PD1
Why do we smoke cigarettes?	Ernest Dichter	The Psychology of Everyday Living	1947	PD1
Words	Frank Brennan	Ann Intern Med	2007	PD1
Neuro I Small Group Assignments				PD2
Presentation: Eye Exam Lecture Slides				PD2
Presentation: Lymphadenopathy and Lymph Node examination	Jeremy Abramson			PD2
Presentation: Neuro I Cranial Nerves				PD2
Presentation: Introduction to the Neurological Evaluation for future Neurologists and Neuroscientists (aka PDII Neuro)	Alireza Atri			PD2
Presentation: The Screening Physical Exam	Diane R. Fingold		2014	PD2
Presentation: Thyroid				PD2
5 minute Neurologic Screening Exam Checklist				PD2
Complete Neurologic Exam (MGH Format)				PD2
Deep Tendon Reflexes – A Labeling Technique	Tracey A. Milligan			PD2
MGH Patient-Doctor II January 2014 Syllabus			2014	PD2
PDII Neurologic Exam Check List #1				PD2
PDII Physical Exam Practice Session	Diane R. Fingold		2012	PD2
Introduction to Assessment & Plan: Chest Pain			2014	PD2
Patient Doctor II Assessment and Plan: Cough	Diane R. Fingold		2014	PD2
Approach to the Patient with Dyspnea	Kate Treadway		2014	PD2
Approach to the Patient with GI Bleed	Diane R. Fingold		2014	PD2
Approach to the Patient with Hyperthyroidism	Kate Treadway		2014	PD2
Approach to the Patient with Monoarthritis	Cynthia Cooper		2014	PD2
Sample Assessment	Diane R. Fingold		2012	PD2
MGH PDII Course Guide			2013	PD2
Preceptor Assignments				PD2
MGH PDII Fall Syllabus			2013	PD2
History Taking and Physical Examination, Chapter 5: The Abdomen	Greenberger, N.J. & D.R. Hinthorn		1992	PD2
Introduction to the Abdominal Examination: Schedule	Shields, Horst, Flier, Clarke		2013	PD2
Abdominal Exam Small Group Assignments				PD2
Addenbrooke's Cognitive Examination (ACE-R) Final Revised Version A	John R. Hodges		2005	PD2
Presentation: Preventive Health Care for the Adolescent	Sara F. Forman			PD2
Human blood pressure determinantion by sphygmomanometry	Perloff et al	Circulation	1993	PD2
APGO Curriculum Complete Check List				PD2
Appendix I: Growth Charts: Boys & Girls				PD2
University of Massachusetts Standardized Patient Program Breast and Pelvic Examination of the Asymptomatic Female Adult	University of Massachusetts Medical Center		1991	PD2
PDII Central Session Skills Checkout Exam: Cardiovascular Examination			2013	PD2
Presentation: PDII MSK Centralized Session: Knee & Low Back Examination Case Review	Charles S. Day			PD2
Presentation: PDII MSK Centralized Session: Shoulder & Hand Examination Case Review	Charles S. Day			PD2
Course Guide: Standard Precautions				PD2

Course Guide Appendix 9: Contact Information				PD2
Course Guide Appendix 2: Contact Information				PD2
Course Guide Appendix 3: Medical Abbreviations				PD2
Course Guide Appendix 4: Skills Assessment Checklist				PD2
Course Guide Appendix 4a: End of the Year Evaluation Form				PD2
Course Guide Appendix 5 Central Session Schedule				PD2
Course Guide Appendix 6: Specific Learning Objectives				PD2
Course Guide Appendix 7: Sample Case Write-up				PD2
Presentation: Physical Examination of the Abdomen	Douglas Horst			PD2
Hemodialysis for the Non-nephrologist	Mitchell H. Rosner	Southern Medical Journal	2005	PD2
General Orthopedic Exam of Non-Orthopedic Patients				PD2
PDII Ophthalmology Examination Checklist			2013	PD2
Patient Doctor II First Semester Centralized Sessions			2013	PD2
MGH Patient Doctor II Phase III Feb March Syllabus			2014	PD2
5-Minute Neurologic Screening Exam Checklist				PD2
University of Massachusetts Standardized Patient Program Genito-rectal Examination of the Asymptomatic Male Adult	University of Massachusetts Medical Center		1991	PD2
Presentation: GU Physical Exam				PD2
GYN/GU Student-Instructor Schedule for AY 2013/2014			2013	PD2
PDII Central Session Skills Checkout Exam: GU Examination			2013	PD2
GU/GYN Small Groups				PD2
Guide to Patient Interview and Exam: Little Red Book			2010	PD2
Presentation: Surface Anatomy and Physical Examination of the Hand & Wrist	Tamara D. Rozental			PD2
PDII Centralized Musculoskeletal Sessions: Hand and Wrist Examinations Skills Checklist	Charles Day			PD2
Presentation: Welcome to the wonderful world of the Head and Neck				PD2
Head/Neck Small Group Assignments				PD2
Otorhinolaryngology Hea and Neck Session Checklist	Shapiro, J. & V Pronio-Stelluto		2010	PD2
Presentation: Harvard Medical School Introduction to Otolaryngology/Head and Neck Surgery	Arthur Lauretano			PD2
Head and Neck Outline	Jo Shapiro			PD2
Head and Neck Outline Adapted from Bates	Valerie Pronio-Stelluto		2010	PD2
Presentation: How to Perform a Total Skin Examination	Susan Burgin		2013	PD2
Presentation: Why is it often difficult to diagnosethe origin of abdominal pain?	Helen M. Shields			PD2
Illustrative Case of Acute Abdominal Pain	S. Flier			PD2
Information for the Wards – Finding Evidence-based Answers to Clinical Questions – Quickly and Effectively			2013	PD2
Introduction to Clinical Neurology: A Manual for Students in Patient-Doctor II	Thomas Glick		2007	PD2
Presentation: Introduction to gallops and murmurs	Shawn A. Gregory			PD2
Presentation: Introduction to the Cardiovascular Examination	Shawn A. Gregory			PD2
Patient-Doctor II Pediatrics Syllabus 2013-			2013	PD2

2014				
Introduction to the Abdominal Examination	Shields, Horst, Kelsey			PD2
Introduction to the Abdominal Examination				PD2
Introduction to the Eye Examination			2013	PD2
Knee and Lower Leg Examinations Check Out Sheet	Charles Day			PD2
Presentation: Physical Examination of the Knee	Kevin A. Raskin			PD2
Presentation: Musculoskeletal Exam "Lower Back Examination:	Kevin J. McGuire			PD2
Presentation: Beyond Dr. Google: Evidence-based Resources for Clinical Problem Solving	Julia Whelan & Emma Eggleston		2013	PD2
MGH Infection Control				PD2
Montreal Cognitive Assessment (MOCA)				PD2
MSK I Small Group Assignments			2013	PD2
MSK II Small Group Assignments			2013	PD2
Dialysis Therapy	Pastan, S. & J. Bailey	NEJM	1998	PD2
Neuro II Small Group Assignments				PD2
Neurology Practice Session II	Ali Atri & Tracey Milligan		2013	PD2
Introduction to the Abdominal Exam				PD2
Presentation: Otorhinolaryngology symposium- Head and Neck exam				PD2
Patient Doctor II Course Guide Full Version	Fingold et al		2013	PD2
Presentation: Abdominal Imaging from Lecture	P. Clarke			PD2
PDII Cardiovascular exam tutorial groups				PD2
PDII Eye exam small group assignments			2013	PD2
PDII Fall 2013 Contact Information			2013	PD2
PDII Neurologic Exam Checklist #2			2013	PD2
PDII Pulmonary exam tutorial groups			2013	PD2
PDII Skin exam tutorial groups			2013	PD2
Presentation: Neurologic Exam II	Tracey A. Milligan		2013	PD2
Presentation: Pediatric Patient-Doctor 2				PD2
Presentation: The Pelvic Exam	Katharyn Meredith Atkins			PD2
Presentation: Practical Patient Doctor II Sessions on Physical Examination	Shawn A. Gregory			PD2
Pulmonary Exam Guidelines	Ronald C. Silvestri		2013	PD2
The Pulmonary Exam – small group practice session			2013	PD2
Pulmonary exam self-assessment				PD2
Pulmonary exam skills checklist			2013	PD2
Demonstration of the 5 Minute Pulmonary Exam	Ronald C. Silvestri			PD2
Presentation: Pulmonary Exam	Eric Garshick			PD2
Presentation: The Pulmonary History	Ronald C. Silvestri			PD2
Presentation: Pulmonary Skills Integration Lecture Slides				PD2
Abdomen Slide	S. Flier			PD2
Presentation: Physical Examination of the Shoulder	Arun J. Ramappa			PD2
Shoulder Examination Skills Checklist	Charles Day			PD2
Skills Assessment Checklist			2013	PD2
Low Back Examinations Check Out Sheet	Charles Day			PD2
GI/Abdominal Examination			2013	PD2
The Clinical Practice Screening Mental Status Examination	Meghan B. Mitchell and Alireza Atri			PD2
The Total Skin Examination	Susan Burgin		2013	PD2
Study Guide: Global Health Strategy			2012	ISM
Presentation: Noncommunicable Disease and Global Health: Cancer Care in the Developing World	Paul Farmer		2012	ISM
Presentation: Tackling US Health Disparities	Heidi Behforouz		2012	ISM
Course Introduction and Overview	Paul Farmer & David Jones		2012	ISM
Study Guide: The Burden of Disease			2012	ISM
Study Guide: The Social Determinants of Disease			2012	ISM

Study Guide: Value in Health Care			2012	ISM
Study Guide: Advocacy and Medicine Beyond the Clinic			2012	ISM
Study Guide: Non-Compliance			2012	ISM
Study Guide: Efficacy			2012	ISM
Study Guide: Knowledge Production			2012	ISM
Study Guide: Global Health Strategy, Part 2: NCDs and Mental Health			2012	ISM
Study Guide: The Problem of Pain			2012	ISM
Study Guide: Structural Competence			2012	ISM
Study Guide: Disparities in Treatment Access and Outcome			2012	ISM
Study Guide: Teamwork and Community-Based Care			2012	ISM
Study Guide: What is Social Medicine:			2012	ISM
Two Centuries of Assessing Drug Risks	Jerry Avorn	NEJM	2012	ISM
Lessons from the Trenches – A High-Functioning Primary Care Clinic	Thomas Bodenheimer	NEJM	2011	ISM
The Cigarette, Risk and American Culture	Allan M. Brandt	Daedalus	1990	ISM
Expansion of cancer care and control in countries of low and middle income: a call to action	Farmer et al	Lancet	2010	ISM
Reinventing primary health care: the need for systems integration	Julio Frenk	Lancet	2009	ISM
Therapeutic evolution and the challenge of rational medicine	Greene et al	NEJM	2012	ISM
The burden of disease and the changing task of medicine	Jones et al	NEJM	2012	ISM
The art of medicine: Four social theories for global health	Arthur Kleinman	Lancet	2010	ISM
Opioid inaccessibility and its human consequences: reports from the field	Krakauer et al	Journal of Pain & Palliative Care Pharmacotherapy	2010	ISM
Health in an unequal world	Michael marmot	Lancet	2006	ISM
How did social medicine evolve, and where is it heading?	Dorothy Porter	PLoS Med	2006	ISM
Value-Based Health Care Delivery	Michael Porter	Annals of Surgery	2008	ISM
We can do better – improving the health of the American people	Steven A. Schroeder	NEJM	2007	ISM
Unwarranted variations in healthcare delivery: implications for academic medical centres	John E. Wennberg	BMJ	2002	ISM
Leaving the Dark Ages Behind, Mostly – from *Powerful Medicines – The Benefits, Risks, and Costs of Prescription Drugs*	Jerry Avorn		2004	ISM
The 2011 UN General Assembly on noncommunicable diseases: How neurologic disorders got left out	Gretchen L. Birbeck	Neurology	2011	ISM
The McKeown Thesis: A Historical Controversy and Its Enduring Influence	James Colgrove	American Journal of Public Health	2002	ISM
The Hot Spotters	Atul Gawande	The New Yorker	2011	ISM
HALYs and QALYs and DALYs, Oh My	Gold et al	Annu Rev Public Health	2002	ISM
2002 Roy Porter Memorial Prize Essay Therapeutic Infidelities: ‘Noncompliance’ Enters the Medical Literature, 1955-1975	Jeremy A. Greene	Social History of Medicine	2004	ISM
Revisiting the Social History for Child Health	Kenyon et al	Pediatrics	2007	ISM
Tuberculosis, Drug Resistance, and the History of Modern Medicine	Keshavjee, S. & P.E. Farmer	NEJM	2012	ISM
Care Redesign – A path forward for providers	Thomas H. Lee	NEJM	2012	ISM
Social Conditions As Fundamental Causes of Disease	Link, B.G. & J. Phelan	Journal of Health and Social Behavior	1995	ISM
“We Don’t Carry That” — Failure Of Pharmacies In Predominantly Nonwhite Neighborhoods To Stock Opioid Analgesics	Morrison et al	NEJM	2000	ISM
Calculating the return on investment of mobile healthcare	Oriol et al	BMC Medicine	2009	ISM
No health without mental health	Prince et al	Lancet	2007	ISM
Unequal treatment: Confronting racial and ethnic disparities in health care	Smedley et al	National Academy of Sciences	2003	ISM
From Directly Observed Therapy to	Behforouz et al	Clinical Infectious Diseases	2004	ISM

Accompagnateurs: Enhancing AIDS Treatment Outcomes in Haiti and in Boston				
The syphilis epidemic and its relation to AIDS	Allan M. Brandt	Science	1988	ISM
Race, medicine, and health care in the United States: A historical survey	Byrd, W.M. & L.A. Clayton	Journal of the National Medical Association	2001	ISM
Social scientists and the new tuberculosis	Paul Farmer	Soc Sci Med	1997	ISM
The Bell Curve	Atul Gawande	The New Yorker	2004	ISM
The relation between funding by the National Institutes of Health and the burden of disease	Gross et al	NEJM	1999	ISM
The “first” case of Cholera in Haiti: Lessons for global health	Ivers, L.C & D.A. Walton	Am J Trop Med Hyg	2012	ISM
Genders, sexes, and health: what are the connections – and why does it matter?	Nancy Krieger	International Journal of Epidemiology	2003	ISM
Health care for homeless persons	Levy, B.D. & J.J. O’Connel	NEJM	2004	ISM
Who needs psychiatrists?	Greg Miller	Science Magazine	2012	ISM
Doctors without orders	Josh Ruxin	DemocracyJournal.org	2008	ISM
The promises and pitfalls of evidence-based medicine	Timmermans, S. & A. Mauck	Health Affairs	2005	ISM
Ethnicity as a risk factor for inadequate emergency department analgesia	Todd et al	JAMA	1993	ISM
The poverty clinic	Paul Tough	The New Yorker	2011	ISM
To Isaiah	Donald M. Berwick	JAMA	2012	ISM
Making medicines essential: The emergent centrality of pharmaceuticals in global health	Jeremy A. Greene	BioSocieties	2011	ISM
Brain drain in sub-Saharan Africa: contributing factors, potential remedies and the role of academic medical centres	Kasper, J. & F. Bajunirwe	Arch Dis Child	2012	ISM
Housing the chronically homeless	Kertesz, S.G. & S.J. Weiner	JAMA	2009	ISM
Comparative effectiveness of what?: Evaluating strategies to improve population health	Kindig, D. & J. Mullahy	JAMA	2010	ISM
Epigenetics and the embodiment of race: Developmental origins of US racial disparities in cardiovascular health	Kuzawa, C.W. & E. Sweet	American Journal of Human Biology	2009	ISM
Presentation: Different Measures of the Burden of Disease				ISM
Realigning Health with Care	Onie et al	Stanford Social Innovation Review	2012	ISM
Not safe at home: How America’s housing crisis threatens the health of its children	The Doc4Kids Project		1998	ISM
The effect of race and sex on physicians’ recommendations for cardiac catheterization	Schulman et al	NEJM	1999	ISM
The Americanization of Mental Illness	Ethan Watters	The New York Times	2010	ISM
Health of Boston 2011	Boston Public Health Commission Research and Evaluation Office		2011	ISM
Introduction to Social Medicine, Fall 2012 More Maps			2012	ISM
Withdrawal of albuterol inhalers containing chlorofluorocarbon propellants	Hendeles et al	NEJM	2007	ISM
Work that City	Harvard First Year Urban Program		2011	ISM
Global State of Pain Treatment	Human Rights Watch		2011	ISM
Knowledgeable neighbors: A mobile clinic model for disease prevention and screening in underserved communities	Hill et al	American Journal of Public Health	2012	ISM
Presentation: Introduction to Social Medicine and Global Health			2012	ISM
Tutorial Assignments			2012	ISM
Presentation: How do we know what we know about drugs (and most other things in medicine)?	Jerry Avorn			ISM
Presentation: The many meanings of non-compliance	David S. Jones			ISM
Presentation: The Social Determinants of Disease	David S. Jones		2012	ISM
International NGOs and primary health care in Mozambique: the need for a new model of	James Pfeffer	Social Science & Medicin2	2003	ISM

collaboration				
Opening a Channel	Samuel Slavin		2012	ISM
Presentation: What is an effective treatment?	David S. Jones			ISM
SM750: Faculty Bios			2012	ISM
Survey Results			2012	ISM
Presentation: The burden of disease	David S. Jones		2012	ISM
Government of Mozambiqe: UNGASS Declaration of Commitment on HIV/AIDS: Progress Report Reporting Period 2003-2005			2006	ISM
What can Mississippi learn from Iran?	Suzy Hansen	The New York Times Magazine	2012	ISM
Using Newly Deceased Patients to Teach Resuscitation Procedures	Burns et al	NEJM	1994	Ethics
Presentation: Medical Futility: Deciding When Enough is Enough	Robert Truog			Ethics
Avastin				Ethics
Pelvic exams performed without permission	Judy Foreman	Boston Globe	2004	Ethics
Case: A Korean child with osteosarcoma of the femur				Ethics
Case: Blood transfusion and the Jehovah's witness patient				Ethics
Case 1				Ethics
Case 2				Ethics
Case 3				Ethics
Case: Fifty pills				Ethics
The Duel Between Body and Soul	Paul Blom	The New York Times	2004	Ethics
Introduction to session: Conflicts of Interest			2013	Ethics
Introduction to session: Ethical issues of doctors in training			2013	Ethics
Introduction to session: Deciding for others			2013	Ethics
Introduction to session: Genetic Testing			2013	Ethics
Introduction to session: Disclosure and apology after adverse events and errors			2013	Ethics
Introduction to session: Research ethics			2013	Ethics
Introduction to session: Rationing			2013	Ethics
Introduction to session: Futility			2013	Ethics
Introduction to session: Ethics in end-of-life care #2			2013	Ethics
Introduction to session: Ethics in end-of-life care #1			2013	Ethics
Introduction to session: informed consent			2013	Ethics
Introduction to session: issues in reproduction			2013	Ethics
Introduction to session: confidentiality and truth telling			2013	Ethics
Introduction to session: Professional boundaries			2013	Ethics
Cases: Research ethics			2013	Ethics
Cases: Confidentiality and truth telling			2013	Ethics
Cases: Conflicts of interest			2013	Ethics
Cases: Deciding for others			2013	Ethics
Cases: Disclosure and apology after adverse events and errors			2013	Ethics
Cases: Futility			2013	Ethics
Cases: Genetic testing			2013	Ethics
Cases: Informed consent			2013	Ethics
Cases: Issues in reproduction			2013	Ethics
Cases: Professional boundaries			2013	Ethics
Cases: Rationing			2013	Ethics
Cases: Ethical dilemmas of doctors in training			2013	Ethics
Cases: End of life 1			2013	Ethics
Cases: End of life 2			2013	Ethics
Ethical issues in population health: mapping a new agenda	Wikler, D. & D.W. Brock			Ethics
The President's Proposal			2010	Ethics
Calling it quits: when patients or proxies	Kristi L. Kirschner	Top Spinal Cord Inj Rehabil	2008	Ethics

request to withdraw or withhold life-sustaining treatment after spinal cord injury				
Patient Competence and Surrogate Decision-Making	Dan W. Brock			Ethics
“Genetic exceptionalism” in medicine: clarifying the differences between genetic and nongenetic tests	Green, M.J. & J.R. Botkin	Ann Intern Med	2003	Ethics
Excerpts from *Principles of Biomedical Ethics*	Beauchamp & Childress		1979	Ethics
Excerpts from *Benchmarks of Fairness for Health Reform*	Daniels, Light, & Caplan		1996	Ethics
Reproduction and birth				Ethics
Ethics in a short white coat: The ethical dilemmas that medical students confront	Christakis, D.A. & C. Feudtner	Academic Medicine	1993	Ethics
Futility: A concept in evolution	Burns, J.P. & R.D. Truog	Chest	2007	Ethics
Professional boundaries in the physician-patient relationship	Gabbard, G.O. & C. Nadelson	JAMA	1995	Ethics
Guidelines for disclosure after an adverse event	Ethical Institute for Professionalism and Ethical Practice			Ethics
Health care resource prioritization and rationing: why is it so difficult?	Dan W. Brock	Social Research	2007	Ethics
Deciding to forego life-sustaining treatment	President’s Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research		2983	Ethics
Surrogate Decision-Making – from *Encyclopedia of Bioethics, 3rd Edition*	Dan W. Brock	Encyclopedia of Bioethics, 3rd Edition		Ethics
Understanding Financial Conflicts of Interest	Dennis F. Thompson	NEJM	1993	Ethics
What makes clinical research ethical?	Emanuel et al	JAMA	2000	Ethics
Imposing personal responsibility for health	Robert Steinbrook	NEJM	2006	Ethics
A controlled trial of arthroscopic surgery for osteoarthritis of the knee	Moseley et al	NEJM	2002	Ethics
Assessment of patients’ competence to consent to treatment	Paul S. Appelbaum	NEJM	2007	Ethics
Characteristics of the informal curriculum and trainees’ ethical choices	Edward M. Hundert	Academic Medicine	1996	Ethics
Depression, competence, and the right to refuse lifesaving medical treatment	Sullivan, M.D. & S.J. Youngner	Am J Psychiatry	1994	Ethics
Dr. Deceit	Randy Cohen	The New York Times	2006	Ethics
Facing our mistakes	David Hilfiker	NEJM	1984	Ethics
Boundaries in psychotherapy: Model guidelines	Hundert, E.M. & P.S. Appelbaum	Psychiatry	1995	Ethics
Palliative options of last resort	Quill et al	JAMA	1997	Ethics
Paternalistic deception, lies, and nondisclosure of information - from *Who Should Decide?*				Ethics
Practical and ethical considerations of noninvasive prenatal diagnosis	Benn, P.A. & A.R. Chapman	JAMA	2009	Ethics
Preventing prenatal harm: should the state intervene?	Deborah Mathieu		1996	Ethics
Principles for allocation of scarce medical interventions	Persad et al	Lancet	2009	Ethics
Treatment decisions for incapacitated patients	Rebecca S. Dresser	Principles of Health Care Ethics	2007	Ethics
When patients request specific interventions	Brett, A.S. & L.B. McCullough	NEJM	1986	Ethics
Addressing requests by patients for nonbeneficial interventions	Brett, A.S. & L.B. McCullough	JAMA	2012	Ethics
Should alcoholics compete equally for liver transplantation?	Moss, A.H. & M. Siegler	JAMA	1991	Ethics
The costly case of the purple pill	Neil Swidey	Boston Globe	2002	Ethics
A Defense of Abortion	Judith Jarvis Thomson	Philosophy & Public Affairs	1971	Ethics
Collusion in doctor-patient communication about imminent death: an ethnographic study	The et al	BMJ	2000	Ethics
Disclosing harmful medical errors to patients	Gallagher et al	NEJM	2007	Ethics
Effect of exposure to small pharmaceutical promotional items on treatment preferences	Grande et al	Arch Intern Med	2009	Ethics
Five Wishes	Aging with Dignity		2009	Ethics
Four models of the physician-patient relationship	Emanuel, E.J. & L.L. Emanuel	JAMA	1992	Ethics

Is placebo surgery unethical	Sam Horng	NEJM	2002	Ethics
Excerpts from *A Companion to Bioethics*	Kushse & Singer		1998	Ethics
Screening mammography and the "R" word	Robert D. Truog	NEJM	2009	Ethics
The $1000 Genome: Ethical and legal issues in whole genome sequencing of individuals	John A. Robertson	The American Journal of Bioethics	2010	Ethics
The "Medical Encounter 2.0": Practicing medicine in the age of googling, friending and tweeting	Benjamin C. Silverman	Lahey Clinic Journal of Medical Ethics	2012	Ethics
The Medical Futility Debate: Patient Choice, Physician Obligation, and End-of-Life Care	Robert A. Burt	Journal of Palliative Medicine	2002	Ethics
When life support is questioned early in the care of patients with cervical-level quadriplegia	Patterson et al	NEJM	1993	Ethics
Excerpts from *New Ethics for the Public's Health*	Beauchamp & Steinbock		1999	Ethics
Brief Summary of the "Tarasoff" Exception to Patient Confidentiality			2013	Ethics
A planned death in the family	Franklin G. Miller	Hastings Center Report	2009	Ethics
An Almost Absolute Value in History – from *The Morality of Abortion: Legal and Historical Perspectives*	John T. Noonan, Jr.		1970	Ethics
The learning curve	Atul Gawande	The New Yorker	2002	Ethics
Disclosing harmful medical errors to patients	Gallagher et al	Chest	2009	Ethics
Is it always wrong to perform futile CPR?	Robert D. Truog	NEJM	2010	Ethics
Landmark legal cases				Ethics
Medical decision making by "mature minors" and "emancipated minors" – legal concepts			2013	Ethics
Payment of clinical research subjects	Christine Grady	The Journal of clinical Investigation	2005	Ethics
Regulating Academic-Industrial Research Relationships – Solving Problems or Stifling Progress?	Thomas P. Stossel	NEJM	2005	Ethics
The doctor's dilemma – what is "appropriate" care?	Victor R. Fuchs	NEJM	2011	Ethics
The Limits of Conscientious Refusal in Reproductive Medicine	ACOD Committee on Ethics		2007	Ethics
"Why I Had Amniocentesis" from *Prenatal Testing and Disability Rights*	Mary Ann Baily		2000	Ethics
"Abortion" from *Bioethics Briefing Book*	Bonnie Steinbock	The Hastings Center	2008	Ethics
"Why members of the disability community oppose prenatal diagnosis and selective abortion" from *Prenatal Testing and Disability Rights*	Marsha Saxton		2000	Ethics
Summary of the Genetic Information Nondiscrimination Act of 2008				Ethics
A defense of the whole-brain concept of death	James L. Bernat	Hastings Center Report	1998	Ethics
A few words from a "wise" woman	Kimberly A. Quaid			Ethics
A model for boundary dilemmas: ethical decision-making in the patient-professional relationship	Richard Martinez	Ethical Human Sciences and Services	2000	Ethics
Case Study: A request for ICSI	Erika Blacksher, John Yeast, David J. Waxse	Hastings Center Report	2000	Ethics
Ain't Nobody Gonna Cut on my Head!	James M. Gustafson	Cases in Bioethics		Ethics
Education for Physicians on End-of-Life Care: Participant's Handbook	EPEC Project		1999	Ethics
Index to Journals				Ethics
When competent patients make irrational choices	Brock, D.W. & S.A. Wartman	NEJM	1990	Ethics
Case Study: Cancer and Maybe a Baby?	Ezekiel J. Emanuel, Kathleen Powderly	Hastings Center Report	1994	Ethics
Case 6: Informed Consent				Ethics
Consent for Routine Laboratory Tests				Ethics
Course summary & learning objectives			2013	Ethics
The rule of double effect – a critique of its role in end-of-life decision making	Quill et al	NEJM	1997	Ethics
Case Study: Eavesdropping on a medical assault	James Smith, Michael D. Bayles	Cases in Bioethics		Ethics
Ethical issues in the use of cost-effectiveness	Dan W. Brock	WHO Guide to Cost		Ethics

analysis for the prioritization of health care resources		Effectiveness Analysis		
Medical tourism: the view from ten thousand feet	I. Glenn Cohen	Hastings Center Report	2010	Ethics
“Abortion and maternal-fetal conflicts” from *Biomedical Ethics*	Mappes & DeGrazia			Ethics
Four Babies and Three Machines: Rationing at the Bedside	Robert D. Truog			Ethics
High Hopes	Abigail Zuger	JAMA	1989	Ethics
Informed Consent				Ethics
Introduction to session: Bedside rationing			2013	Ethics
Is it time to abandon brain death?	Robert D. Truog	Hastings Center Report	1997	Ethics
Legal interventions during pregnancy	Helene M. Cole	JAMA	1990	Ethics
Must Patients Always be Given Food and Water	Lynne & Childress			Ethics
“Moral reasoning in the medical context” from *Ethical Issues in Modern Medicine*	Arras, J.D. & B. Steinbock			Ethics
“Understanding Financial Conflicts of Interest” from *Ethical and Regulatory Aspects of Clinical Research*				Ethics
Offering Truth: One Ethical Approach to the Uninformed Cancer Patient	Jane Greenlaw	Arch Intern Med	1993	Ethics
Optional lecture on moral philosophy			2013	Ethics
Outsourced wombs	Judith Warner	The New York Times	2008	Ethics
Placebo-controlled trials and active-control trials in the evaluation of new treatments	Temple, R. & S.S. Ellenberg	Ann Intern Med	2000	Ethics
Preconception gender selection for nonmedical reasons	Ethics Committee of the American Society for Reproductive Medicine	Fertility and Sterility	2001	Ethics
Rationing by any other name	Asch, D.A. & P.A. Ubel	NEJM	1997	Ethics
Rationing health care: the choice before us	Aaron, H. & W.B. Schwartz	Science	1990	Ethics
Recommendations for nonheartbeating organ donation	Ethics Committee, American College of Critical Care Medicine, Society of Critical Care Medicine	Crit Care Med	2001	Ethics
Reduction of maternal-infant transmission of human immunodeficiency virus type 1 with zidovudine treatment	Conner et al	NJEM	1994	Ethics
Room Group Assignments Spring 2013			2013	Ethics
Surrogate Motherhood	Institute for Philosophy & Public Policy, University of Maryland		1989	Ethics
The Behavior of Clinical Investigators: Conflicts of Interest				Ethics
The continuing unethical use of placebo controls	Rothman, K.J. & K.B. Michels	NEJM	1994	Ethics
The diagnosis of brain death	Eelco F.M. Wijdicks	NEJM	2001	Ethics
The difference that culture can make in end-of-life decision making	Hern et al	Cambridge Quarterly of Healthcare Ethics	1998	Ethics
The Drug Pushers	Carl Elliott	The Atlantic Monthly	1006	Ethics
The Ethics of Prediction: Genetic Risk and the Physician-Patient Relationship	Eric T. Juengst			Ethics
Male or Female, We Will Create Them	David Heyd	Ethical Perspectives	2003	Ethics
Triage in the ICU	Robert D. Truog	Hastings Center Report	1992	Ethics
Odds and ends: trust and the debate over medical futility	Arthur L. Caplan	Ann Intern Med	1996	Ethics
Voluntary Active Euthanasia	Dan W. Brock	Hastings Center Report	1992	Ethics
Waiver of informed consent, cultural sensitivity, and the problem of unjust families and traditions	Insoo Hyun	Hastings Center Report	2002	Ethics
“When A Pregnant Woman Endangers Her Fetus” from *Reproductive Rights*				Ethics
When is patient care not costworthy?: The case of Gertrude Handel				Ethics
Whose Child is This?	Alexander Morgan Capron	Hastings Center Report	1991	Ethics
Presentation: Review Session Notes	Kirstin Scott		2013	HP
Presentation: Health Economics Review				HP

Presentation: HC 750 Review Session			2013	HP
Health Care Policy Additional Notes from Lecture			2013	HP
Sample final exam questions January 2013			2013	HP
Health Care Policy Tutorial Exercises & Questions 1			2013	HP
Health Care Policy Tutorial Exercises & Questions 2			2013	HP
Health Care Policy Tutorial Questions 3			2013	HP
Health Care Policy Tutorial Exercises & Questions 4			2013	HP
Health Care Policy Tutorial Questions 5			2013	HP
Health Care Policy Tutorial Questions 6			2013	HP
Health Care Policy Tutorial Questions 7			2013	HP
Health Care Policy Tutorial Exercises & Questions 8			2013	HP
Presentation: The Veterans Health Administration: Caring for America's Heroes	Ashish K. Jha		2013	HP
Presentation: Medical malpractice as a health care policy issue	Aaron S. Kesselheim		2013	HP
Perspective: A Framework for Career Paths in Health Systems Improvement	Ackerly et al	Academic Medicine	2013	HP
Primary care management of chronic kidney disease	Allen et al	J Gen Intern Med	2010	HP
Health Care Policy Notable Guest Speaker Series			2013	HP
Determinants of racial and ethnic disparities in surgical care	John Z. Ayanian	World J Surg	2008	HP
Presentation: Managed care and the practice of medicine	Bruce E. Landon		2013	HP
Presentation: Harvard Medical School Quality of Care	Barbara J. McNeil		2013	HP
The effects of Medicaid coverage – learning from the Oregon Experiment	Kaicker, K. & A. Finkelstein	NEJM	2011	HP
Making good on ACOs' promise – the final rule for the Medicare shared savings program	Donald M. Berwick	NEJM	2011	HP
Americans' views on health policy: A fifty-year historical perspective	Blendon, R.J. & J.M. Benson	Health Affairs	2001	HP
Implications of the 2012 election for health care – the voters' perspective	Blendon et al	NEJM	3023	HP
Employer-sponsored insurance – riding the health care tiger	David Blumenthal	NEJM	2006	HP
Effectiveness, efficiency, and NICE	Bernie O'Brien	BMJ	2001	HP
Coordinating care – A perilous journey through the health care system	Thomas Bodenheimer	NEJM	2008	HP
An Insulin Overdose	IHI Open School for Health Professionals			HP
Medical devices and health – creating a new regulatory framework for moderate-risk devices	Challoner, D.R & W.W. Vodra	NEJM	2011	HP
Increased spending on health care: long-term implications for the nation	Chernew et al	Health Affairs	2009	HP
The specter of financial Armageddon: health care and federal debt in the United States	Chernew et al	NEJM	2010	HP
Falling through the cracks: challenges and opportunities for improving transitional care for persons with continuous complex care needs	Eric A. Coleman	Am Geriatr Soc	2003	HP
Medical devices- balancing regulation and innovation	Curfman, G.D. & R.F. Redberg	NEJM	2011	HP
Equality, efficiency, and market fundamentals: the dynamics of international medical-care reform	David M. Cutler	Journal of Economic Literature	2002	HP
The (paper)work of medicine: understanding international medical costs	Cutler, D.M. & D.P. Ly	Journal of Economic Perspectives	2011	HP
Presentation: The Affordable Care Act: The Politics of Implementation	Donald M. Berwick		2013	HP
Presentation: International health systems: A	David M. Cutler			HP

comparative perspective				
Presentation: Aging and long-term care	David Stevenson & Anne Fabiny		2013	HP
The FDA's Drug Review Process: Ensuring Drugs Are Safe and Effective		http://www.fda.gov		HP
Adverse Selection	Feldstein			HP
How Much Health Insurance Should Everyone Have	Feldstein			HP
Moral Hazard	Feldstein			HP
Public release of clinical outcomes data – online CABG report cards	Ferris, T.G. & D.F. Torchiana	NEJM	2010	HP
A framework for evaluating the formation, implementation, and performance of accountable care organizations	Fisher et al	Health Affairs	2012	HP
Variations in efficiency and the relationship to quality of care in the Veterans Health System	Gao et al	Health Affairs	2011	HP
The cost conundrum	Atul Gawande	The New Yorker	2009	HP
Piecework	Atul Gawande	The New Yorker	2005	HP
High and rising health care costs: Demystifying U.S. health care spending	The Robert Wood Johnson Foundation	Research Synthesis Report	2008	HP
Rapidly evolving physician-payment policy – more than the SGR	Paul B. Ginsburg	NEJM	2011	HP
Presentation: Frameworks for health policy	Haiden Huskamp		2013	HP
Presentation: Prescription drug policy	Haiden Huskamp		2013	HP
Presentation: History of the U.S. Health Insurance System and How Insurance Markets Work	Haiden Huskamp		2013	HP
Presentation: The impetus for health care reform and features of the Affordable Care Act of 2010	Haiden Huskamp		2013	HP
Medicare and Medicaid services, Berwick receives high marks for his tenure at agency	Harris Meyer	Health Affairs	2011	HP
Health Care Policy Course Syllabus			2013	HP
Glossary Links			2013	HP
Suggestions for background reading			2013	HP
Midterm Exam – Answer Key			2013	HP
Tutorial Assignments			2013	HP
Righteous anger: how the family of a medical-error victim is working to fix the system		Institute for Healthcare Improvement	2011	HP
America's Uninsured Crisis: Consequences for Health and Health Care	Institute of Medicine		2009	HP
Presentation: Disparities in health care	John Z. Ayanian & Thomas D. Sequist		2013	HP
Presentation: The Medicare program	John Z. Ayanian		2013	HP
Effect of the transformation of the Veterans Affairs health care system on the quality of care	Jha et al	NEJM	2003	HP
The persistence of American Indian health disparities	David S. Jones	Am J Public Health	2006	HP
The Supreme Court and the future of Medicaid	Timothy Stoltzfus Jost & Sara Rosenbaum	NEJM	2012	HP
Thirty-day readmissions – truth and consequences	Joynt, K.E. & A.K Jha	NEJM	2012	HP
Presentation: Implications of health care reform on safety net hospitals: A case study of Boston Medical Center	Kate Walsh			HP
Using market-exclusivity incentives to promote pharmaceutical innovation	Aaron S. Kesselheim	NEJM	2010	HP
Do doctors practice defensive medicine	Kessler & McClellan	The Quarterly Journal of Economics	1996	HP
Evaluating the medical malpractice system and options for reform	Daniel P. Kessler	Journal of Economic Perspectives	2011	HP
How private health coverage works: A Primer 2008 Updaet	The Henry J. Kaiser Family Foundation		2008	HP
National Health Insurance – A Brief History of Reform Efforts in the U.S.	The Henry J. Kaiser Family Foundation		2009	HP
Medicaid: A Primer 2010	The Henry J. Kaiser Family Foundation		2010	HP

Prescription Drug Trends	The Henry J. Kaiser Family Foundation		2010	HP
Summary of New Health Reform Law	The Henry J. Kaiser Family Foundation		2011	HP
Medicaid and the Uninsured	The Henry J. Kaiser Family Foundation		2011	HP
Massachusetts Health Care Reform: Six Years Later	The Henry J. Kaiser Family Foundation		2012	HP
Employer Health Benefits 2012 Summary Findings	The Henry J. Kaiser Family Foundation		2012	HP
A guide to the Supreme Court's Affordable Care Act decision	The Henry J. Kaiser Family Foundation		2012	HP
Health Care Costs: A Primer May 2012	The Henry J. Kaiser Family Foundation		2012	HP
Health care factored in 2012 election, but far from a starring role	The Henry J. Kaiser Family Foundation		2012	HP
The Medicaid program at a glance	The Henry J. Kaiser Family Foundation		2012	HP
Medicare Advantage	The Henry J. Kaiser Family Foundation		2012	HP
Medicare at a Glance	The Henry J. Kaiser Family Foundation		2012	HP
The uninsured: A primer October 2012	The Henry J. Kaiser Family Foundation		2012	HP
Administration scales back expansion of community health centers	Phil Galewitz	Kaiser Health News	2011	HP
Extreme Makeover: Transformation of the Veterans Health Care System	Kizer, K.W. & R.A. Dudley	Annu Rev Public Health	2009	HP
Key issues in understanding the economic and health security of current and future generations of seniors	Komisar et al	The Henry J. Kaiser Family Foundation	2012	HP
Colorectal cancer screening among ethnically diverse, low-income patients	Lasser et al	Arch Intern Med	2011	HP
Physician wages across specialties	Leigh et al	Arch intern Med	2010	HP
Lifetime earnings for physicians across specialties	Leigh et al	Medical Care	2012	HP
Relation between malpractice claims and adverse events due to negligence	Localio et al	NEJM	1991	HP
Presentation: Patient Safety: A new way to think about safety	Maureen Bisognano		2013	HP
Presentation: Controlling health care spending growth	Michael Chernew		2013	HP
Presentation: Medicaid & the Uninsured	Michael McWilliams		2013	HP
The quality of health care delivered to adults in the United States	McGlynn et al	NEJM	2003	HP
National costs of the medical liability system	Mello et al	Health Affairs	2010	HP
Presentation: HC 750 Review Session			2013	HP
From volume to value: better ways to pay for health care	Harold D. Miller	Health Affairs	2009	HP
Presentation: The organization and payment of physicians and hospitals	Nancy L. Keating		2013	HP
Medical care costs: How much welfare Loss?	Joseph P. Newhouse	The Journal of Economic Perspectives	1992	HP
National spending for long-term services and supports (LTSS)	The National Health Policy Forum		2011	HP
Health Care Reform and the Presidential Candidates	Barack Obama & Mitt Romney	NEJM	2012	HP
Long time coming: why health reform finally passed	Jonathan Oberlander	Health Affairs	2010	HP
Unfinished journey – a century of health care reform in the United States	Jonathan Oberlander	NEJM	2012	HP
Innovation in primary care – staying one step ahead of burnout	Susan Okie	NEJM	2008	HP
The overuse, underuse, and misuse of health care	Peter R. Orszag	Congressional Budget Office	2008	HP
The challenge of rising health care costs – a view from the congressional budget office	Orszag, P.R. & P. Ellis	NEJM	2007	HP
Reducing unnecessary hospitalizations of	Ouslander, J.G. & R.A.	NEJM	2011	HP

nursing home residents	Berenson			
NICE work – providing guidance to the British National Health Service	Michael D. Rawlins	NEJM	2004	HP
Health reform without a public plan: The German model	Uwe E. Reinardt	The New York Times	2009	HP
Primary care and accountable care – two essential elements of delivery-system reform	Rittenhosue et al	NEJM	2009	HP
Presentation: Congress, politics, and health policy	Sheila P. Burke		2013	HP
Comparing health and health care use in Canada and the United States	Sanmartin et al	Health Affairs	2006	HP
Cultural competency training and performance reports to improve diabetes care for black patients	Sequist et al	Annals of Internal Medicine	2010	HP
Indian Health Service innovations have helped reduce health disparities affecting American Indian and Alaska Native people	Sequist et al	Health Affairs	2011	HP
Trends in quality of care and barriers to improvement in the Indian Health Service	Sequist et al	J Gen Intern Med	2010	HP
The 'Alternative Quality Contract,' Based on a Global Budget, Lowered Medical Spending and Improved Quality	Song et al	Health Affairs	2012	HP
Medical malpractice	Studdert et al	NEJM	2004	HP
Presentation: Health care quality & practice delivery innovation	Timothy Ferris		2013	HP
Presentation: Innovations in care delivery	Thomas Sequist		2012	HP
Presentation: Introduction to the Indian Health Service	Thomas Sequist			HP
Lecturer and Tutorial Leader Biographies			2013	HP
Is there a better way to pay doctors?	Jeffrey Kluger	TIME	2009	HP
Trends in the quality of care and racial disparities in Medicare Managed Care	Trivedi et al	NEJM	2005	HP
Understanding the SGR: Analyzing the "Doc Fix"	Deloitte Center for Health Solutions		2012	HP
Presentation: The Emergence of Accountable Care Organizations (ACOs) in the U.S. Health Care System			2013	HP
Health service access, use, and insurance coverage among American Indians/Alaska Natives and Whites: What role does the Indian Health Service play?	Zucerman et al	Am J Public Health	2004	HP
Undocumented immigrants, left out of health reform, likely to continue to grow as share of the uninsured	Zuckerman et al	Health Affairs	2011	HP
BMI Classification	World Health Organization			Epi
Breast MRI sensitivity and specificity for breast cancer				Epi
Clinical breast exam sensitivity and specificity for breast cancer				Epi
Digital mammography sensitivity and specificity for breast cancer				Epi
Standard film mammography sensitivity and specificity for breast cancer				Epi
Tutorial 3 Handout			2013	Epi
Tutorial 6 Student Version			2013	Epi
Tutorial 7 Student Version			2013	Epi
The epitaph of profession	Donald M. Berwick	British Journal of General Practice	2009	Epi
White, European, Western, Caucasian, or What? Inappropriate labeling in research on race, ethnicity, and health	Bhopal, R. & L. Donaldson	American Journal of Public Health	1998	Epi
Methods for developing evidence, based recommendations by the Advisory Committee on Immunuzation Practices (ACIP) of the U.S. Centers for Disease Control and Prevention (CDC)	Ahmed et al	Vaccine	2011	Epi
Standards of medical care in diabetes – 2013	American Diabetes Association	Diabetes Care	2013	Epi

In defense of pharmacoepidemiology – embracing the yin and yang of drug research	Jerry avorn	NEJM	2007	Epi
Smoking as a factor in causing lung cancer	Peter B. Bach	JAMA	2009	Epi
Communicable and other infectious diseases reportable in Massachusetts by healthcare providers	Commonwealth of Massachusetts Department of Public Health	Reportable Diseases, Surveillance, and Isolation and Quarantine Requirements	2009	Epi
Consensus statement on concussion in sport: the 3rd international conference on concussion in sport held in Zurich, November 2008	McCrory et al	Journal of Athletic Training	2009	Epi
Foodborne Outbreak Investigations	CDC	http://www.cdc.gov		Epi
Investigation Update: Multistate Outbreak of Human Salmonella Enteritidis Infection Associated With Shell Eggs	CDC	http://www.cdc.gov		Epi
Clin Epi Pop Health Quiz Domains			2013	Epi
Conference Group Assignments			2013	Epi
Course Grid			2013	Epi
Course Overview			2013	Epi
Tutorial Group Assignments			2013	Epi
Conference 1 Key Points			2013	Epi
Presentation: Conference 1				Epi
Conference 2 Key Points			2012	Epi
Presentation: Conference 2				Epi
Conference 3 Key Points			2012	Epi
Presentation: Conference 3				Epi
Conference 4 Key Points			2013	Epi
Presentation: Conference 4				Epi
Conference 5 Key Points			2012	Epi
Presentation: Conference 5				Epi
Conference 6 Key Points			2013	Epi
Presentation: Conference 6				Epi
Conference 7 Key Points			2013	Epi
Presentation: Conference 7				Epi
Conference 8 Key Points			2013	Epi
Presentation: Conference 8				Epi
Conference 9 Key Points			2013	Epi
Presentation: Conference 9				Epi
Conference 10 Key Points				Epi
Presentation: Conference 10				Epi
Assessing adiposity: A scientific statement from the American Heart Association	Cornier et al	Circulation	2011	Epi
Relevance of cost-effectiveness analysis to clinicians and policy makers	Detsky, A.S. & A. Laupacis	JAMA	2007	Epi
The mortality of doctors in relation to their smoking habits: a preliminary report	Doll, R. & A.B. Hill	BMJ	1954	Epi
Presentation: Benefits, harms, and shared decision-making	Emma M. Eggleston		2013	Epi
Presentation: Food, movement and the twin epidemics	Emma M. Eggleston		2013	Epi
Effect of calcium supplements on risk of myocardial infarction and cardiovascular events: meta-analysis	Bolland et al	BMJ	2010	Epi
Egg recall expanded after Salmonella outbreak	William Neuman	The New York Times	2010	Epi
Clinical economics: A guide to the economic analysis of clinical practices	John M. Eisenberg	JAMA	1989	Epi
Confounding bias and effect modification in epidemiologic research	John W. Ely	Family Medicine	1992	Epi
Emergency Preparedness and Response Workshop Guidelines for Students			2013	Epi
Emergency preparedness and response student assignments				Epi
Reboxetine for acute treatment of major depression: systematic review and meta-analysis of published and unpublished placebo and selective serotonin reuptake inhibitor controlled trials	Eyding et al	BMJ	2010	Epi
Pandemic influenza threat and preparedness	Anthony S. Fauci	Emerging Infectious Diseases	2006	Epi
Seasonal and pandemic influenza	Anthony S. Fauci	JID	2006	Epi

preparedness: Science and countermeasures				
Prevalence and Trends in Obesity Among US Adults, 1999-2008	Flegal et al	JAMA	2010	Epi
A framework for public health action: the health impact pyramid	Thomas R. Frieden	American Journal of Public Health	2010	Epi
Presentation: The role journals play in advancing medicine	Graham McMahon			Epi
Get Food Safety Widget		http://www.foodsafety.gov		Epi
Graphs 1a and 1b	Kalon Ho			Epi
Presentation: Aspirin in the prevention of coronary artery disease: a role for randomized clinical trials	Howard D. Sesso			Epi
StaR child health: developing evidence-based guidance for the design, conduct, and reporting of pediatric trials	Hartling et al	Pediatrics	2012	Epi
Does body mass index adequately convey a patient's mortality risk	Heymsfield, S.B. & W.T. Cefalu	JAMA	2013	Epi
Risk of myocardial infarction in patients taking cyclo-oxygenase-2 inhibitors or conventional non-steroidal anti-inflammatory drugs: population based nested case-control analysis	Hippisley-Cox, J. & C. Coupland	BMJ	2005	Epi
Hockey urged to ban all blows to head by concussions panel	Jeff Z. Klein	The New York Times	2010	Epi
Measuring secondhand smoke exposure in children: an ecological measurement approach	Matt et al	Journal of Pediatric Psychology	2008	Epi
Presentation: Pharmaco-epidemiology: balancing the risks and benefits of medications	Jerry Avorn			Epi
Presentation: Putting the pieces together			2013	Epi
Presentation: Statistics in context	Finkelstin, J. & K. Kleinman		2013	Epi
Presentation: Welcome to Clinical Epidemiology and Population Health, AC511.0	Jonathan Finkelstein & Emma Eggleston			Epi
Presentation: Structuring choices for clinical care and policy decisions	Jonathan Finkelstein			Epi
Presentation: Making a difference for individuals and populations	Jonathan Finkelstein		2013	Epi
Effect of screening mammography on breast-cancer mortality in Norway	Kalager et al	NEJM	2010	Epi
Use of race and ethnicity in biomedical publication	Kaplan, J.B. & T. Bennett	JAMA	2003	Epi
Multivariable analysis: a primer for readers of medical research	Mitchell H. Katz	Ann Intern Med	2003	Epi
Basic concepts in meta-analysis: a primer for clinicians	Khoshdel et al	Int J Clin Pract	2006	Epi
Cost effectiveness analysis of including boys in a human papillomavirus vaccination programme in the United States	Kim, J.J. & S.J. Goldie	BMJ	2009	Epi
A population health framework for setting national and state health goals	Kindig et al	JAMA	2008	Epi
Actual causes of death in the United States, 2000	Mokdad et al	JAMA	2004	Epi
Effect of mammographic screening from age 40 years on breast cancer mortality at 10 years' follow-up: a randomized controlled trial	Moss et al	Lancet	2006	Epi
Presentation: Tobacco and human health: the big picture	Nancy Rigotti			Epi
NHANES – National Health and Nutrition Examination Survey Homepage	CDC	http://www.cdc.gov		Epi
Nicotine/Cotinine		https://labtestsonline.org		Epi
Office of Management and Budget		Federal Register	1997	Epi
Presentation: Health sector emergency preparedness and response in the US	Paul D. Biddinger			Epi
Rosuvastatin to prevent vascular events in men and women with elevated C-reactive protein	Ridker et al	NEJM	2008	Epi
Phenylketonuria (PKU) Test	WebMD	http://www.webmd.com		Epi
Reporting of noninferiority and equivalence randomized trials	Piaggio et al	JAMA	2012	Epi
Primer on 95% Confidence Intervals		Effective Clinical Practice	2001	Epi
Primer on Probability and Odds and		Effective Clinical Practice	2000	Epi

Interpreting their Ratios				
Primer on Statistical Significance and P Values		Effective Clinical Practice	2001	Epi
Primer on Type I and Type II Errors		Effective Clinical Practice	2001	Epi
Economic evaluation alongside randomized controlled trials: design, conduct, analysis, and reporting	Petrou, S. & A. Gray	BMJ	2011	Epi
Recommendations on the Use of Quadrivalent Human Papillomavirus Vaccine in Males – Advisory Committee on Immunization Practices (ACIP), 2011	CDC	http://www.cdc.gov	2011	Epi
A randomized trial of los-dose aspirin in the primary prevention of cardiovascular disease in women	Ridker et al	NEJM	2005	Epi
Causation and causal inference in epidemiology	Rothman, K.J. & S. Greenland	American Journal of Public Health	2005	Epi
We can do better – improving the health of the American people	Steven A. Schroeder	NEJM	2007	Epi
CONSORT 2010 Statement: updated guidelines for reporting parallel group randomized trials	Schulz et al	BMC Medicine	2010	Epi
Screening for Breast Cancer: U.S. Preventive Services Task Force Recommendation Statement	USPSTF	Annals of Internal medicine	2009	Epi
Standard foodborne disease outbreak case questionnaire				Epi
Final report on the aspirin component of the ongoing physicians' health study	Steering Committee of the Physicians' Health Study Research Group	NEJM	1989	Epi
Excerpts from *Biostatistics: the bare essentials*	Norman, G. & D. Streiner		2000	Epi
The benefits and harms of breast cancer screening: an independent review	Independent UK Panel on Breast Cancer Screening	Lancet	2012	Epi
The health care response to pandemic influenza	American College of Physicians	Ann Intern Med	2006	Epi
Thought Exercise			2013	Epi
Screening mammography and the "R" word	Robert D. Truog	NEJM	2009	Epi
Tutorial 1 Answer Key			2013	Epi
Tutorial 1 Hot Topics			2013	Epi
Tutorial 2 Answer Key			2013	Epi
Tutorial 2: The obesity epidemic			2013	Epi
Tutorial 3 Answer Key			2013	Epi
Tutorial 4 Answer Key			2013	Epi
Tutorial 4: Does hormone replacement therapy prevent heart disease in women?			2013	Epi
Tutorial 5 Answer Key			2013	Epi
Tutorial 5: Toward better use of medicines			2013	Epi
Tutorial 6 Answer Key			2013	Epi
Tutorial 6 Editor Comments				Epi
Tutorial 7 Answer Key				Epi
Tutorial 7 Key Points				Epi
Update on Salmonella cases by state	CNN Wire Staff	http://www.cnn.com	2010	Epi
Values of the Chi-squared distribution		http://www.medcalc.org		Epi
Dietary reference intakes for calcium and vitamin D	Institute of Medicine		2011	Epi
Presentation: Mammography – to screen or not to screen?	Wendy Y. Chen			Epi
Passive smoking and risk of coronary heart disease and stroke: prospective study with cotinine measurement	Whincup et al	BMJ	2004	Epi
Solving the problem of childhood obesity within a generation: White House Task Force on Childhood Obesity Report to the President	White House Task Force on Childhood Obesity Report		2010	Epi
Race, socioeconomic status, and health: complexities, ongoing challenges, and research opportunities	Williams et al	Annals of the New York Academy of Sciences	2010	Epi
Contribution of major diseases to disparities in mortality	Wong et al	NEJM	2002	Epi
Risks and benefits of estrogen plus progestin in health postmenopausal women	Writing Group for the Women's Health Initiative	JAMA	2002	Epi

	Investigators			