Supplemental Digital Appendix 1

Educational Objectives for the Patients, Populations, & Policy Course at Georgetown University School of Medicine, 2014-2015

1. Describe the organization and financing of the US health care system and their effects on access, utilization and quality of care for individuals and populations.
2. Value the importance of patient-centered care and improving satisfaction and outcomes.
3. Examine various aspects of quality improvement in health care and the factors that influence health care quality, including medical errors and patient safety.
4. Analyze motivations, such as poor outcomes, access and cost for health care reform and how they shape current health care reform priorities.
5. Explain implementation of major components of the Affordable Care Act coverage expansion, including changes in Medicaid eligibility, health insurance exchanges, and employer mandates.
6. Articulate the role of socioeconomic, environmental, cultural, and other determinants of health on the health status and health care of individuals and populations both nationally and globally.
7. Using the framework of the health impact pyramid, explain the complementary approaches of clinical medicine, community medicine, public health and population health in developing health interventions and apply this approach when caring for patients nationally and globally.
8. Develop skills for participating in the policy process to impact change at the local, state, or national levels now and in the future.
9. Personalize the effects of the concepts covered in this course on my health and the health of others.
10. Develop skills to communicate and collaborate effectively with peers.

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Supplemental Digital Appendix 2

Reflective Writing Prompt in the Patients, Populations, & Policy Course at Georgetown University School of Medicine, 2014-2015

"Reflective writing-enhanced reflection can help foster awareness of self, other and situation and promote meaning-making, supporting the process of professional identity formation." (Wald, 2014)

Engaging your head and your heart…

Critically reflect on Frank Huyler, MD's story of the homeless patient (or on something else you have read that has influenced your thinking on a related subject) **and if possible** draw on your own personal (or professional) story involving care of or caring for persons representing a vulnerable population.*

Please consider any or all of the following: What conflict or dilemma was raised/encountered? What attitudes, beliefs, values, and/or assumptions do you bring to such patient care and caring and if relevant, how have they been they challenged? What was your emotional experience of Huyler's story or your own story and what helps you stay emotionally engaged? How might transformative or confirmatory learning****** (resulting from Huyler's story or your own story) impact your **being** and **doing** the work of a physician?

*Vulnerable populations are groups that are **not well integrated into the health care system because of ethnic, cultural, economic, geographic, or health characteristics.** This isolation puts members of these groups at risk for not obtaining necessary medical care, and thus constitutes a potential threat to their health. Commonly cited examples of vulnerable populations include racial and ethnic minorities, the rural and urban poor, undocumented immigrants, LGBT, and people with disabilities or multiple chronic conditions. http://www.urban.org/health_policy/vulnerable_populations/

******Possible outcomes of critical reflection (Mezirow, 1991) include transformative learning (new understanding achieved) and/or confirmatory learning (validating your own frame of reference, values/beliefs).

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Supplemental Digital Appendix 3

Raw Cumulative and Mean Scores for First-Year Medical Students' Pre- and Posttest Survey Responses to the Social Empathy Index, Georgetown University School of Medicine, 2014-2015

Cumulative Score: Categories

Category	Pre-Test (N) Mean (SD))	Post-Test (N) Mean (SD))	P-Value
AR	(N=118) 23.62 (3.40)	(N=114) 23.55 (3.54)	0.8420
AM	(N=118) 18.34 (2.45)	(N=117) 18.32 (2.72)	0.8642
SOA	(N=118) 17.66 (2.36)	(N=115) 17.34 (2.60)	0.1423
PT	(N=118) 23.14 (2.69)	(N=115) 23.07 (3.00)	0.6563
ER	(N=118) 17.87 (2.61)	(N=117) 17.55 (2.79)	0.0784
CU	(N=118) 42.56 (7.14)	(N=114) 43.82 (7.29)	0.0188
MSP	(N=118) 41.47 (4.71)	(N=115) 41.79 (5.63)	0.5852

Cumulative Score: 2 Scores

Category	Pre-Test (N) Mean (SD))	Post-Test (N) Mean (SD))	P-Value
IE	(N=118) 100.64 (9.64)	(N=108) 99.83 (11.02)	0.1743
SE	(N=118) 84.03 (10.62)	(N=112) 85.85(11.76)	0.1174

Mean Score: Categories

Category	Pre-Test (N=130) Mean (SD))	Post-Test (N=130) Mean (SD))	P-Value
AR	4.74 (0.68)	4.74 (0.72)	0.9195
AM	4.60 (0.61)	4.58 (0.69)	0.7190
SOA	4.41 (0.60)	4.33 (0.68)	0.1081
PT	4.64 (0.54)	4.61 (0.60)	0.5337
ER	4.45 (0.63)	4.37 (0.69)	0.0663
CU	4.75 (0.80)	4.87 (0.83)	0.0142
MSP	4.62 (0.52)	4.63 (0.66)	0.8053

Mean Score: 2 Scores

Category	Pre-Test (N) Mean (SD))	Post-Test (N) Mean (SD))	P-Value
IE	4.58 (0.44)	4.54 (0.50)	0.2437
SE	4.68 (0.59)	4.75 (0.70)	0.1227

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Affective Response [AR], Affective Mentalizing [AM], Self-Other Awareness [SOA], Perspective-Taking [PT], and Emotion Regulation [ER]. Contextual Understanding of Systemic Barriers [CU], Macro Self-Other Awareness/Perspective Taking [MSP]. Cumulative individual Empathy [IE], Cumulative Social Empathy [SE]

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Supplemental Digital Appendix 4

Excerpts from Reflective Writing Assignments on Empathy Completed by First-Year Medical Students, by Theme, Georgetown University School of Medicine, 2014-2015

Theme 1. Individual empathy can lay the foundation of empathy for vulnerable groups
Dr. Huyler's story of the homeless patient opened my eyes and touched my heart. In our medical education, although we have learned about health disparities and vulnerable populations as a whole, this example of a more critical investigation of health disparities focused around the story of one particular patient truly brought the issue closer to and emphasized the multifaceted realities of the problem. I have always been intimately involved in helping those in the community who need it most. Why? Because my family and I were nearly in that position. I could just as easily be in such a position. I, or my loved ones, could be the obese, homeless, alcoholic patient on the bed. I think about their hearts. All of the hearts beating on the bus. I feel close to everyone, that there is no separation from me because in the end we are all humans. That ability to feel close to strangers, to feel like we are all together, not just separate entities, I think this is humanity. That feeling I think is really important when it comes our patients, to not feel this sense of distance from them, but instead to feel like they are just like us. They have the same desire that we have and we all make decisions and come from different circumstances. In this way, I think I will see humanity in whatever I am doing. The more people that I get to meet and learn from, the more my frame of reference and values/beliefs evolve and change. After reading this article, I thought a lot about how I would react to a homeless man coming to my clinic or the emergency room. I truly hope that I would treat any patient like they were one of my family members. This idea hit home when I realized that the patient in this article could have been one of my family members.
Theme 2. Civic or moral obligation contributes to social empathy by transcending personal comforts and preferences
I also agreed with Huyler's statement that being a physician is not just about empathy; it is about serving others even when they mistreat you and you feel no empathy towards them. In Huyler's case, there was a woman who cursed at him and was uncooperative. I will remember

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this when I am a practicing physician. No matter who I am treating and how much they may bother me or mistreat me, they are a human being who needs help that I can provide

We also need to take time to do right by other people, to lend a helping hand whenever we can, and to think about the adversities that other people face each and every day. I think that we as medical students can really make a difference through ensuring that there truly is equality in health care.

My colleagues and I have entered the field of medicine with the mission of Cura Personalis, and we look to fulfill that goal by attaining the tools to care for the whole person while training in medical school and beyond. This transformative learning experience serves as the impetus for wanting to gain a deeper understanding of my authority as a future medical professional. As a physician, I plan to serve as an advocate for my patients and deliver justice to those members of my community who have gone overlooked.

While empathy is important in treating patients, there will be times I won't be able to connect with every patient, but that does not mean I cannot do my job. Even without an emotional connection or at times when I am frustrated by a patient I am caring for, I can still do my job as a physician in improving their health.

Theme 3. Complex practices that prevent the cultivation of social empathy

I do hear that medical students and doctors grow more cynical with time, I hope to always keep these stories in the back of my mind and work to treat and care for individuals that are considered vulnerable and contribute to a greater good. It does seem that all of this requires an ability to dehumanize others in just treating the disease.

It is unrealistic to burden the physician with completely healing every aspect of a person. I agree that doctors today, perhaps due to their training, seem to only address the medical questions that they can answer.

It could also have been a symptom of a medical field that is often out of touch with the reality their patients face every day.

I am not certain that my role as a health care provider is to tackle these enormous issues. With so much to learn about how the human body works it seems almost foolhardy that I, as an individual, should take on work that will require the effort and coordination of many both in and outside the health professions.

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Initially, when I do think about the responsibility that comes with looking at everybody with a fresh and humanistic way, sometimes it feels like it is all too overwhelming. It is too difficult because I feel the need to do something about it. Then when thinking about my career, addressing the lack of resources of a population on top of an already large burden of caring of patients seems impossible. I almost become angry because I feel there is too much pressure put on the physician to be the "savior." I am aware that what happens outside of the exam room will affect the patient much more usually than what happens inside of it, but I wonder how much responsibility physicians should have.

Working alongside physicians, I have noticed that some tend to diminish the importance of the quality of their interpersonal interactions with patients in favor of relying on scientific knowledge to attempt to quickly reach a diagnosis and develop treatments.

Because it was my first time shadowing the doctor, I refrained from speaking my mind and realized how much the superiors shape the actions of the trainees. Being the inferiors who need to impress and please our teachers, students are pressured to adapt to and participate in the ways that they joke about the patients outside their earshot, provide only within the boundaries of what has traditionally been clinically given to the patients,

One of our worst experiences was when my grandmother was diagnosed with diabetes. When she first met with her new physician, he simply brushed her aside and tried to send her home telling her to "eat less carbohydrates and exercise more." He didn't take her seriously or care to discuss her diagnosis with her because she was a woman who spoke broken English and wore traditional ethnic clothes.

I find myself asking how much should doctors have to deal with when it comes to working with uncooperative patients. Dr. Huyler's story is prime example of a patient who has no desire to take better care of herself and the efforts taken to care for her are useless. She continues to drink excessively without any thought to its repercussions or how the money used on alcohol should actually be spent. She completely disregards her own health and well-being so I believe that it is not the responsibility of the physician to waste their time and energy trying to care for this person. Their valuable time could be spent treating those who actually wish to be treated.

Why was this woman so upset with and resistant toward the people trying to help her? I wanted to shake her and tell her to take care of herself, to prevent the significant healthcare expenditures she was creating – costs that only seemed to allow her to fall into the same routine and do it all again. I became angry with her, and then angry with myself for getting angry with her. She's probably dealing with more than I can even imagine, on top of a health

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concern that may not seem as big an issue from her perspective. And now she has all these people investing in her, expecting things from her, telling her what to do and how to live.

Knowing so little about them, I have a higher degree of uncertainty and unpredictability in interacting with them. This sometimes leads me to experience more anxiety, which may impair my communication skills as a physician in the future and even develop such a blind spot.

It was demoralizing for me to see that I had not been able to make even a small impact with my efforts.
However, this article brings up some major problems with the way our system runs now. Does it make sense to spend thousands of dollars and hundreds of hours of labor on someone's medical care if they are unable to be compliant and to maintain their health? Could the money be better spent providing them with housing and money for the bus? The problems outlined in the Huyler's article are very complex and cannot be solved overnight.

It's too easy to throw your hands up and say, "Well, I'm just a medical student [or emergency room physician], I'm not a policy maker and I can't change the values or priorities of a society. All I can do is provide care for my patients and everyone who walks through those emergency room doors." This is a convenient defense mechanism, allowing us to focus only on that which we can "control." But while I see it as a defense mechanism to evade asking the "tough" questions and addressing the hard issues, I also am ashamed that I think it's a necessary defense mechanism, to a certain degree. Even as a medical student—the lowest peon on the healthcare team—I get jaded even thinking about treating this patient for weeks, only to discharge her back to the street and provide no real long-term solution to her cardiac problems and the lifestyle and environmental factors that have caused these problems. Ultimately, I went into medicine to help people. I don't want to think about the ways in which I cannot help people. Call it denial. Call it whatever you'd like.

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