

Appendix Table A. Quotations From Medical Students Regarding Their Main Takeaways From Patient Outreach Activity

	Takeaways	Frequency	Representative quotation		
I. Popu	I. Population health is important to improve patient outcomes on a larger scale.				
A.	Use data to decrease costs/improve resource utilization.	12	"With a strong focus on population health and patient outreach, we can screen for diseases and improve patient outcomes and overall health. Primary prevention of disease not only benefits the patient, but it also saves the health system a lot of time and resources." "Population health is the most effective way to promote better patient outcomes."		
В.	Address preventive care/screening tools and chronic disease.	37	"The very fact that medical students are doing this type of outreach to get more people into their preventative health care appointments highlights an important strength of the American health care system." "The value of learning about population health management lies in primary, secondary, and tertiary prevention. Being familiar with screening guidelines for		
			preventable diseases and complications is imperative to providing quality care to a patient." "I think it's valuable to have a different		
			perspective on the difficulty with closing care gaps so that we can better help our patients."		
C.	Help coordination of care/teamwork.	11	"Population health includes improving the health of the population overall by implementing policies and working with patient engagement, care coordination and management, population analytics, clinical		

		integration, and claims and insurance management."
D. Understand and address SDOH/health disparities.	27	"It's important for us as physicians to recognize those injustices, especially as they relate to patient care. Because these barriers to care are so complex, it means that we need to rely on other health care professionals. Social workers, community health workers, nonprofits, and governmental organizations can all help address those issues, working in partnership with physicians."
		"Population health is important for me as a future physician because there is so much more that affects the health of a patient beyond the medical care that I can provide. The ZIP code patients live in, their surrounding environments, and their respective socioeconomic statuses, among other factors, play a major role in patients' lives and their health outcomes."
		"Understanding the population or the community that comprises the patient's surroundings can aid in understanding what challenges are present when delivering care to patients These factors directly impact the health of patients, and physicians must understand these barriers when trying to implement appropriate health services for patients."
II. Patients identified several barriers to ca	are to address	sing their health.
A. SDOH 1. Transportation	26	"A few patients mentioned difficulty with transportation, taking time off of work, affording medications, and understanding their complex medical status. I think so many of these needs speak to broader systems and structures that impact people's lives. Poverty, wealth inequality, gentrification, and other social justice issues impact patients in innumerable ways. It's important for us as physicians to recognize those injustices, especially as they relate to patient care."

		"I spoke with an 88-year-old woman who said she had been wanting to reach her PCP's office but had not attempted to because she lacks a means of transportation to the office and lives alone. However, when I asked her about any family in the area, she said her daughter would be available to drive her if asked. I told her I could make sure the scheduling office coordinates with her daughter directly, and she was very grateful and willing to schedule the appointment. I was surprised she hadn't mentioned her daughter in the first place, but it shows that we can really push care forward simply by serving as a means of communication."
2. Financial concerns (lack of insurance, drug costs, phone/computer access, time off work)	25	"I encountered a few patients with disconnected phone lines. This is obviously a barrier to care in that regularly scheduled appointments will be difficult to achieve as well as confirming that patients will be able to come to their scheduled appointments." "One of the patients I called hadn't been to the office in 2 years because he lost his job and therefore his insurance I think supporting free clinics like [student-run homeless clinics] and holding events where patients could come and get things like free blood pressure screenings, glucose checks, or basic wound care could be a good way to improve health care for patients without insurance in the short-term."
		"One of the most common challenges I found was patients who had recently lost their job/insurance and consequently were unable to schedule an essential annual wellness visit. One way this could be improved is allowing patients a grace period of a year or so to continue seeing their PCP without insurance while they find new employment."
3. Health literacy	44	"It was very surprising to realize how many patients were very willing to receive a colonoscopy but simply were not aware that

		they should. Once they were made aware of the recommendations, they were happy to have someone call them to schedule I was surprised by how big a difference a simple call made." "Another barrier I witnessed was lack of health literacy. Sometimes patients did not fully understand why the test was needed and its importance. Taking time on the phone to educate led to more compliance and agreement to complete the FIT process."
4. Language/culture	5	"This interaction made me realize the extent of barriers people who don't speak English as their preferred language face, not only when seeking care, but also when being outreached for preventative care. This has a downstream effect, causing differences in the care people receive, and hence the outcomes."
		"A barrier that I identified is the use of an interpreter line with a voicemail box. Unfortunately, by the time I told the interpreter what needed to be said, the voicemail had timed out due to time constraints. Luckily this was only one call. However, it makes me consider the substandard care patients who do not speak English may receive due to language barriers. If possible, in the future, it might be best to have the interpreter write down the voicemail that needs to be left in case the patient does not pick up so that the patient is informed on the care gaps that need to be addressed."
 B. Patient's negative feelings/apathy toward screening 	6	"One patient wanted to talk to me about how she does not like to schedule cancer screenings because her husband was diagnosed with cancer a few years ago through a routine low-dose CT. She said she fears finding out something 'bad' is going on with her. We talked about the positive aspect of cancer screening, and the fact that doing

		them early, before symptoms are present, gives us a better chance to fight and eradicate the disease. She was very happy at the end of the call and said she would schedule her mammogram at her PCP appointment next week." "The most surprising aspect I learned about was how many patients will delay any screening until they are prompted by their physician or an outreach program. A lot of the screening protocols seem very nerve- wracking and burdensome, and several patients would rather delay the inevitable as long as they can. As a future physician, I think it's important to ensure that patients know the schedule, the exact procedures, and the reasons that we promote them."
C. Procedural/scheduling difficulty/lack of PCP continuity	21	"One of the patients I called had been seen in the clinic less than 6 months prior and had a number of lab orders that had yet to be drawn. When I called her to see if she could get them drawn (as they were still active, not expired), she had questions about where she should go and whether she needed to bring a copy of the order. It became clear to me that this confusion was surely preventing this patient from getting the care she needed, and it dawned on me that other patients may have similar questions."
		"I've recently discovered (and was somewhat surprised by) how time-consuming it can be for patients to schedule an appointment when calling the office Ultimately, this has made me wonder if there is a better way to have patients schedule an appointment."
		"Many patients knew that they needed to get a colonoscopy but didn't know or remember how to set it up. On my rotation I have watched my preceptor give detailed discharge instructions with how to make appointments on countless occasions. This reinforced that that conversation or printout AVS is not enough to ensure patients are

		supported enough to carry out all follow-up instructions. It leads me to wonder what else we can be doing to help support patients, and this type of outreach is one example." "The primary barrier to care was lack of responsiveness from the office staff with phone calls Another barrier to care was having patients understand the need for screening even when they are 'healthy.'"
D. Time	20	"One barrier that several patients endorsed was time constraints within their schedules. Patients have a lot of obligations in their daily lives, whether it be work, school, taking care of family, errands, etc. I tried to ask when a good day or a good week would be to schedule an appointment, but ultimately it was up to the patient to decide what their priorities were." "One barrier I identified was time. Often patients stated they lacked time to mail in FIT testing or time to come in again for another visit. An idea would be to hand out the FIT test in person to have them complete in the office prior to leaving."
III. Positive feelings were associated with o	connecting ov	ver a call for patient and student.
A. Students were surprised by how many patients were excited or grateful to receive a call/willing to get the screening.	31	"Something that inspired me during my session was the sheer extent of patients I called who were more than happy to come in and see their doctor again In most cases, the reason they hadn't set up a follow-up appointment was either due to miscommunication on our end or from some logistical issue. It just made me hopeful that, if we as a health care system put the effort to improve access to care and the way we communicate with patients, so many strides could be made to improving health care outcomes." "Some other patients said they did not have time to discuss their health maintenance needs and have not had time to make their appointments because of their jobs"

B. Students were happy about educating and empowering patients to improve their health.	12	"I learned from these conversations that I love talking to patients and helping them in any way possible. The patients I've been able to contact have been a delight to talk to. Many of the patients have been more than happy that I've reminded them to schedule a visit to discuss the management of their hypertension with their primary care provider. It's gratifying to know that my work enables people to live healthy and better lives."
		"I was really surprised by how much primary care providers have to juggle with screening guidelines and chronic disease management to provide the best care for patients. A lot goes into preventive medicine, but being able to catch things early and help patients be healthier makes it worth it."
C. Students described newfound interest in preventive medicine/primary care.	3	"There is something deeply satisfying about being able to help others prevent adverse medical events from happening rather than treating events after they have happened. I have always enjoyed the side of medicine that allows you to empower your patients to take charge of their own health care, and this fact has made me even more interested in family medicine now that I see how much of a crucial role primary care physicians play in educating their patients. Patients on these phone calls were so grateful that someone was helping them remember what appointments or screenings were due. This is the type of 'doctoring' I always pictured myself doing, and I want to make sure this becomes part of my practice in the future."
		interested in OB/GYN, another primary care service. I feel that a huge portion of what we do is preventative care, which is a core portion of population health management. Simple preventative calls early in a person's health care experience can be like stopping a domino from falling; a lot of the worst cases

		and saddest experience we often see/have could have been prevented if there was intervention earlier on. Having this widespread intervention for as many people as possible drastically increases the health of a community and limits expenditures, stress, and resource use down the line."
IV. Students described negative feelings a	associated wit	h phone calls.
A. Decreased rapport over phone versus in person/limited to voicemail	9	"One thing I learned during these outreach sessions is that I much prefer to interact with patients in person than on the phone. Telephone calls are certainly useful in many scenarios, including these patient outreach sessions, but it is much easier to have a conversation with a patient in person because you can use their body and facial language for context as well."
		"Another barrier to care that I found was that I was not able to establish the same degree of rapport with the patient through a phone call. It was harder to make recommendations and get them to trust me quickly without being able to see them in person."
		"Health literacy seemed to be the biggest barrier to care I was able to identify over the phone. This is a discussion ill-suited for a phone conversation. However, from my time at JFMA, it is clear family physicians place great emphasis on addressing health maintenance and take the time to explain the importance of these measures. Despite being involved in their own health care, it seems life often gets in the way. That is why I think recurrent phone calls via the patient outreach program serve as a great reminder to address these issues."
B. Negative response to the call/feeling like a telemarketer	9	"To me, the most surprising thing I learned is that something as simple as a phone call can really alter patient adherence and care. I was concerned that calling would be a nuisance and would lead to more refusal to get a colonoscopy."

C. Shyness around patients	3	"I learned that I am still learning to be less shy around patients. It is sometimes uncomfortable to talk to people about their health via phone, but it seemed like most people are open to keeping up with health maintenance and appreciate someone checking in on them."
D. Nervousness about having to use the interpreter line	3	"During my patient outreach session this week, I learned about myself that I still have some nerves around using the patient interpreter over the phone. Though I actually didn't need to use it this session, I found myself anxious each time I checked preferred language before calling a patient. I will note this about myself and try and seek opportunities to get more comfortable using interpreter services at my next rotation in order to ensure I can provide responsible and thorough care to patients who speak languages I'm not able to converse in."
		"I had to utilize the language line this time, and I found myself feeling overwhelmed and put that encounter off until it was my last one. I felt uncomfortable about utilizing the 3-way call through Doximity, but I realize that this is the only way to contact the patient. I realized that I should not shy away from these encounters and should embrace things that make me feel uncomfortable so that I can get better at utilizing these resources. When I decided to do the call, I felt much better at the end and felt that I had been playing up the encounter in my mind. I will remember this encounter so that the next time I have to utilize the language line, I can do so confidently."
E. Frustration with not being able to schedule at time of call	1	"One big barrier to care about the calls was that we couldn't schedule the patients we called for appointments. Any of the patients that picked up seemed relatively disappointed when you said you were calling to schedule them for an appointment and then replied that you weren't actually going

		to schedule them for an appointment. I think an easy fix to this would be to be able to forward the call to the scheduler, especially because we have the patient on the phone. I think a huge barrier to care is actually having the patient on the phone. If the goal of outreach is to get the patient scheduled, I think the process should be streamlined to have the scheduling accomplished when the patient is actually on the phone, rather than adding a step."
V. Students identified opportunities for fu A. A need to be able to educate about cancer screenings in simple terms	10	 anal growth. "A lot of the patients I worked with were immigrants/refugees and didn't have a clear grasp on their health needs or maintenance and why some of these screenings were important for them. It was an opportunity for me to expand my understanding of these screening guidelines so I could better explain them to the patients I spoke to and highlight why taking care of these things is important even if you feel well at this time." "Through patient outreach calls I learned that at times it can be difficult to communicate with different groups of people and especially over the phone. I hope to reflect on my conversations with patients and continue to improve the way I communicate medical information with patients without using complex medical terminology. I also learned that I enjoyed speaking with patients, and I value the opportunity to educate patients, as a quick phone call conversation can lead to an important appointment that can be meaningful for patients' overall health outcomes."
B. Student concerns of not having enough expertise to provide information to patients/sense of imposter syndrome	1	"I sometimes feel a sense of imposter syndrome when discussing medicine with patients and can become concerned I don't have enough expertise to provide to them. However, through these conversations, I've learned that you don't need complex medical terminology or knowledge of detailed

		pathophysiology to truly help a patient learn more about their health."
C. The importance of being able to clearly communicate follow-up plans with patients to ensure they come back	4	"One thing I learned about myself during these conversations was how important it is in my future career to communicate with my patients. Many of the patients I reached out to were simply unaware they needed a follow-up appointment so soon after just having an annual wellness visit with their PCP. They had assumed they would return to the office in a year or so but did not realize they needed to come in for an updated blood pressure check or for their PCP to see how they were tolerating their new medication. It made me realize how essential the end of the visit management and plan are As I go further in my career, I really want to apply the teach-back method I have learned in order to make sure my patients truly comprehend, are comfortable with, and agree with the entirety of our discussion and plan."
		"Some barriers to care I encountered were mentioning the right things during these phone calls Some aspects of follow-up care patients did not completely agree with, and if I mentioned all of the follow-ups needed, the patients would at times get overwhelmed or refuse to schedule an appointment. Picking and choosing the most important was for me a solution I used when possible.
D. Difficult to end conversations/giving them too much time to speak/needing to learn to be more efficient with interactions	2	"I learned that I'm very patient and therefore not the best at discontinuing conversations sometimes. When patients follow up on the phone with multiple questions regarding their scripts, labs, etc, I will try my best to look through their charts for answers instead of deferring. I think this is a good quality but also prevents me from having more efficient conversations."

		"One thing I learned about myself during these conversations was how much space I give patients to speak. During both this experience and in the office, I've found that when I ask patients questions, I rarely interrupt them and just allow them to share whatever they want to. In the office, sometimes this means that patients will go off on short tangents or add extraneous information. And on the phone, patients may bring up topics not relevant to our particular call. Although I feel very strongly in letting patients speak without interrupting them, I do think I'd like to improve in guiding the conversation to be more productive My experience with calling patients these last couple sessions has made me aware of that."
VI. Students realized how our health care	system is frag	
A. Challenging when care is provided at different health systems/lack of centralized EMR	1	"A few of the patients had moved and were no longer seeing Jefferson physicians because they lived far away in different states (one patient lived in Texas and one in Florida). It looked like these patients weren't getting care, but in fact they were receiving adequate medical attention, just not by our health system. It would be nice if all of the EMRs could talk to each other more easily, so that offices can know when patients have gotten care elsewhere." "For as many patients that may not be UTD on their health maintenance, many patients are. Even if patients had things scheduled or were UTD (just not in Jefferson records) most were very appreciative of just having someone reach out about their health care."
B. Lack of communication between multiple specialists makes coordinating care difficult.	6	"One thing that has particularly surprised me about our health care system is the discontinuity of care Consequently, I can easily see how health maintenance slips through the cracks, especially when a patient is seeing a plethora of doctors While specialization in health care improves knowledge and the depth of our

understanding of certain diseases, it also creates a scattered system in which more basic but just as important wellness is overlooked." "Something I was surprised about during this session is noticing the minimal continuation of care after patients have an ED visit or hospital admission. Many patients I looked into had recent hospital visits, and the discharge summary noted, 'follow up with your JFMA PCP.' This means that it is on the patient to schedule an appointment. Given the often long wait times for appointments at Philadelphia care providers, I can imagine it is often difficult to get scheduled within the window that would be most beneficial for the patient. Also, for patients with limited ability to navigate the health care system or
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patient. Also, for patients with limited ability
to navigate the health care system or
patients with impaired capacity or difficulty
with activities of daily living, it is probably
often overwhelming to both be recovering
from a hospital visit and need to also
remember and figure out how to get in to see
a PCP. It would be beneficial if there was a
way to automatically schedule appointments
and have patients only have to opt
out/cancel, so one more thing could be set
up and dependable upon discharge after an
acute event."

Abbreviations: PCP, primary care physician; SDOH, social determinants of health; EMR, emergency medical record; FIT, fecal immunochemical test; CT, computerized tomography; FM, family medicine; OB/GYN, obstetrics/gynecology; JFMA, Jefferson Family Medicine Associates; UTD, up-to-date; ED, emergency department; AVS, after-visit summary