

Margolis Internship 2021 Reflection

By Natalie Wong

What is healthcare policy? Before this summer, I could not answer this question to half the extent that I am able to now. My interest in healthcare policy was piqued during the fall of my freshman year, when I enrolled in a course about the US healthcare system. I continued to take courses with a focus on non-clinical healthcare, such as Global Health Policy, Healthcare Data Science, Political Analysis of Public Policy, and Crowdsourcing Healthcare. I learned a great deal through these classes -- I sharpened policy analysis and evaluation skills, wrote memos for fictional clients, and created policy solutions for hypothetical policy issues. Yet, I still felt that I had yet to interact with the field on a deeper level.

Healthcare policy is an extremely expansive field, encompassing health inequities, improving value-based care, bridging the gap between clinical research and policymaking, identifying weaknesses in the drug pricing pipeline, and countless other topics. As an undergraduate hoping to pursue healthcare policy as a career, I felt lost, confused, and intimidated. How could I pursue a future in something that I felt I did not fully understand?

This feeling of uncertainty and inexperience has changed dramatically throughout my time as a 2021 Margolis Summer Intern. This summer, I've made lasting personal and professional connections, conducted hands-on research with professors and stakeholders that I likely would not have connected with otherwise, and identified impactful solutions to real problems. I'm certain that the relationships, experience, and knowledge that I've gained throughout this summer will continue to impact my future at and beyond Duke.

This summer, I was mentored by Dr. Herbert Kim Lyerly, Professor of Surgery at the Duke University School of Medicine. Dr. Lyerly is a renowned physician and scholar who is well known for his work in oncology and immunology. At the beginning of the summer, I was intimidated. As an inexperienced, unsure undergraduate, I didn't feel that I was ready to take on a research project with someone so distinguished. However, Dr. Lyerly has been incredibly generous with his mentorship, making my internship experience invaluable.

My work this summer has centered around improving and innovating cancer care. My first research project focused on using telemedicine to increase equity and access to pediatric brain cancer care. As someone interested in the intersection of technology and healthcare, this project was extremely interesting to me on both a personal and professional level.

I wrote a white paper discussing the applications, benefits, and potential drawbacks of using telemedicine in brain cancer care. Through this research, my eyes were opened to the current disparities in cancer care around the world. I was shocked to learn that lower-middle income countries (LMICs) hold most of the world's cancer burden, yet only have access to a very small portion of treatment resources. Telemedicine can address this mismatch between the burden and care capacity for pediatric brain tumors. Through telehealth, patients in developing countries can receive consultation, diagnosis, and care from international brain tumor specialists.

This topic aligned well with the internship's focus on healthcare equity. While I have learned of the many ways that telemedicine can increase equity and access to cancer care, I was surprised to learn that it can actually worsen current disparities if not implemented thoughtfully. Since patients in rural, less developed areas likely have less access to technology, the same initiative that was intended to increase healthcare equity could simultaneously decrease it. This made me realize that retroactive policy evaluation techniques are critical to ensuring that initiatives that aim to improve healthcare inequities actually lessen, rather than worsen, them.

I also enjoyed collaborating with another Margolis intern, Fateha Zannath, to study racial diversity in clinical trials for cancer drugs. Considering that the internship was virtual, it was especially rewarding to connect with fellow intern. On a personal level, I was able to meet and make friends with a Johns Hopkins student, which I likely wouldn't have otherwise. Together, we looked into the racial breakdown of drugs granted breakthrough designation, an FDA distinction that the drug has been proven to be more effective than other pharmaceuticals on the market. For this project, we aggregated racial data for over 70 clinical trials, providing information about which races and countries were represented in the trials. We created summary statistics to sum up our findings to share with relevant stakeholders and created a flow chart to summarize our research process.

This project was also fascinating and especially relevant to the internship's focus on racial equity. We found that almost 75% of participants in these clinical trials were White, and that Black and Hispanic patients were underrepresented. Interestingly, Asian patients were heavily overrepresented in clinical trial participation. This overrepresentation may be due to healthcare policies in Asian countries that require sufficient representation in clinical trials for pharmaceutical manufacturers to sell drugs in their countries. While the underrepresentation of minorities could be partially explained because of medical skepticism amongst Black and Hispanic communities, lack of access to cancer clinical trials also limits access to potentially life-saving oncology drugs.

Lastly, Fateha and I worked together to help Dr. Lyerly with his AAADV Conference which is set to take place this September. Through this project, I gained a "behind the scenes" of how a large conference is executed. I worked alongside various stakeholders who work in different sectors of healthcare policy, including executives at the Food and Drug Administration, Bayer, the American Cancer Organization, the American Association of Cancer Research. It has been very impactful to work alongside these high level stakeholders and learn how these different actors interact with one another.

The most challenging aspect of this summer was finding a way to delegate my time between all of the projects that I was interested in. Between the engaging internship programming that provided an in-depth discussion of racial inequity in healthcare, the telemedicine project, AAADV conference, and clinical trial data collection, I was unsure of how to prioritize each project at times. Through this experience, I've learned the importance of communication, collaboration, and delegation. For example, if I wanted to dedicate more time to the telemedicine initiative rather than clinical trial data during one week, I knew that I could

communicate with Fateha so that we could balance our workload accordingly. As such, I was able to gain experience working on different projects while sharpening my collaboration and project management skills as well.

Overall, the Margolis Internship has greatly impacted my perspective on healthcare policy. I've had the opportunity to gain hands-on research experience in a specific field, create personal and professional connections with my mentor, fellow interns, and other major stakeholders, all while furthering my understanding of what particular areas of the field pique my interest. I still have more to learn, but thanks to the Margolis Internship, I am much more sure of myself when asked the question, "what is healthcare policy?"