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I sincerely appreciate the generous support from Sasakawa health foundation, without which I would not be able to pursue my MPH with such dedication. Their assistance has been essential in allowing me to focus on my studies and daily living while maintaining my strong motivation to contribute to ending the HIV epidemic. I feel a deep sense of responsibility to give back through my research efforts, striving to improve public health and make a meaningful impact in the field.

My research interest

My research focuses on HIV prevention through the uptake of pre-exposure prophylaxis (PrEP) in Sub-Saharan Africa, where the risk of newly diagnosed HIV infections is highest, and many people continue to die from AIDS. Despite its proven effectiveness, access to HIV PrEP remains severely limited in the region. To address this gap, I am particularly interested in implementation science, which focuses on translating evidence-based practices into real-world settings to enhance PrEP accessibility and uptake. By integrating implementation science principles, I aim to bridge the gap between research and practice, ensuring that effective HIV prevention strategies reach the populations most in need.

MPH core curriculum

The MPH core curriculum equips students with essential public health competencies across key disciplines. All graduates develop proficiency in biostatistics, epidemiology, social and behavioral determinants of health, management sciences, public health problem-solving, and computer applications. They also gain knowledge in demography, environmental health, biological sciences, public health policy, and emerging public health issues. Through the MPH practicum experience and capstone project, students apply these skills to real-world public health challenges, ensuring they are well-prepared to address complex health issues in diverse settings.

Many students aim to complete the core curriculum in the first term because, afterward, they must focus on their practicum, capstone projects, and post-graduation plans. For international students, the summer term and first term can be particularly challenging, as we must also adjust to a completely new environment. With a maximum course load of 22 credits per term, my summer and first-term schedules were fully packed, making it academically intense. However, this rigorous schedule helped me enhance my efficiency, critical thinking, multitasking abilities, and analytical skills using the latest technology.

Because I managed the demanding early schedule, I was later able to dedicate more time to working as a Research Assistant (RA) in my ideal research team for my practicum and capstone project. While most students choose the same research area for both practicum and capstone under the guidance of the same faculty member, I opted for different projects for each. This decision allowed me to broaden my research network and perspectives.

Infectious disease concentration

The MPH concentration in Infectious Diseases equips students with skills in epidemiology, immunology, microbiology, parasitology, and infectious disease prevention and control in both domestic and global contexts. Students apply their knowledge through practical experiences and research, with a related practicum recommended but not required. Graduates are prepared for careers in public health agencies, biotechnology, and the pharmaceutical industry.

Because I wanted to gain a deeper understanding of HIV, I chose to affiliate with this concentration. In particular, the advanced HIV course provided me with the latest epidemiological data and insights into ongoing research aimed at ending the HIV epidemic in high-incidence regions. One of the most valuable aspects of this course was the professor's support, allowing all students to participate in international conferences. These events provided exposure to the latest global consensus on HIV, as well as funding landscapes, including PEPFAR, USAID, and NIH.

It is also crucial to acknowledge the impact of the recent U.S. administration's policies on HIV research. Many faculty members have experienced funding cuts, which could contribute to an HIV surge in vulnerable regions. This highlights the urgent need for sustained investment in global HIV prevention efforts.

Implementation science certification program

I am pursuing this certificate to gain the ability to conduct implementation research independently whenever needed. In the HIV prevention field, the focus is shifting from clinical research to implementation research, which is why I am eager to develop these skills. Earning this certificate is one of my core objectives at Johns Hopkins, as many faculty members have extensive experience in large-scale implementation science for HIV prevention.

Dr. Stefan Baral, who leads this certificate program, is also my practicum advisor. Under his supervision, I am developing rigorous and strong skills in implementation research. Additionally, I have had the valuable opportunity to build a strong professional network with Dr. Chris Kemp, an expert in HIV-related implementation research. This connection will remain significant even after my graduation, further supporting my career in the field.

Practicum project

My practicum project focuses on addressing HIV-related stigma, a key barrier to prevention, care, and treatment. By integrating stigma data with public health indicators, the project models its impact on HIV outcomes and develops scalable mitigation strategies in collaboration with health departments and community partners. My specific role involves using qualitative methods to optimize the Stigma Dashboard, enhancing its usability, presentation, and information to better inform stigma-related policies and local mitigation strategies.

For this project, I fully utilize my coding skills in R to extract and analyze HIV-related data from CDC open-source datasets. This experience has significantly enhanced both my technical abilities and my presentation skills, as I must effectively communicate dataset insights to professionals from various backgrounds.

Living in Japan, I had a general understanding of race/ethnicity classification, but it was not something I had deeply considered. However, through this project, I have come to appreciate the historical and social complexities behind these classifications, especially in the U.S., where they are highly sensitive. This experience has given me a greater awareness of the need for careful and precise classification when working with demographic data in public health, ensuring that data representation is both accurate and respectful of its broader implications.

Capstone project

Tuberculosis (TB) remains the leading cause of death among people living with HIV (PLHIV), particularly in high-burden regions like Sub-Saharan Africa. The weakened immune systems of PLHIV accelerate latent TB progression, while TB worsens HIV outcomes through chronic inflammation. Beyond its high mortality rate, PLHIV face an increased risk of TB treatment-related adverse events, including hepatotoxicity, peripheral neuropathy (PN), and severe drug interactions with antiretroviral therapy (ART). Managing both TB and HIV treatments further complicates care by increasing pill burden, the risk of non-adherence, and complications such as Immune Reconstitution Inflammatory Syndrome (IRIS).

Given these challenges, my capstone project explores peripheral neuropathy as a treatment-related adverse event in TB patients, with a particular focus on those living with HIV, who are at heightened risk due to drug interactions and immune suppression. To assess the burden of peripheral neuropathy (PN) among TB patients, I will first examine its incidence, prevalence, and associated risk factors, providing a clearer understanding of who is most vulnerable. Beyond measuring prevalence, it is also crucial to determine when PN develops during TB treatment. By visualizing the time to onset, my research will identify patterns that can inform early detection and intervention, ultimately improving patient management.

Additionally, my study will track long-term trends in PN cases to evaluate whether its occurrence has changed over time. This will provide insights into the effects of treatment modifications and policy changes, shaping more effective TB treatment protocols. By integrating these findings, my research aims to enhance TB treatment safety and guide strategies to reduce the burden of PN among high-risk populations.