**Mohammad Nayeem Hasan**

My strong foundation in statistics, combined with over four years of professional experience in health interventions, has sharpened my analytical skills and fueled my passion for solving complex health-relevant phenomena through data-driven research. Pursuing a Ph.D. in Public Health: with a Concentration in Health Disparities is the next essential step in expanding my expertise and preparing for an independent researcher as a faculty member. This program at Florida International University aligns perfectly with my goals of deepening my Public Health knowledge, contributing to innovative health research, and enhancing Public Health services and systems through effective policy-making. In the short term, I aim to master in Public Health to address vital health-related issues, while in the long term, I aspire to lead a research lab that advances in Statistics/Machine learning/Deep learning/Artificial intelligence through different applications related to Public Health, trains future researchers, and fosters a collaborative research environment. This ambition is driven by the mentorship I have received and my commitment to continual learning in Public Health studies.

During my undergraduate studies, I became fascinated by various subfields of statistics, including Data Mining, Time Series Analysis, Statistical Inference, Biostatistics, and Epidemiology. In particular, I found the Biostatistics and Epidemiology course particularly engaging due to its insightful applications and course projects, which sparked my strong interest in Public Health. This sparked the beginning of my health research journey, which included various projects and fieldwork, and progressing through multiple publications. These fields have equipped me with the tools to analyze complex health-related data and derive actionable conclusions to improve health outcomes. To strengthen my skills, I pursued a double major in Computer Science and Engineering, which is quite uncommon for Bangladeshis to undertake simultaneously. Through my double major, I gained proficiency in statistical programming languages and data analysis such as SAS, Stata, R, and Python. This interdisciplinary training has enhanced my ability to address pressing health issues through rigorous, data-driven approaches, and prepared me to utilize various applications related to health tools and programming languages for conducting experimental health research, incorporating advanced statistical applications, and resolving emerging health-related issues.

To gain real-world experience, I began working with the Joint Rohingya Response Program in 2021, focusing on health projects as a Data Management and Reporting Officer. A recent initiative I led, 'Community Health, WASH, Health System Support & Health Post for Forcibly Displaced Myanmar Nationals and Host Community Population,' aims to improve healthcare access, emphasize surveillance methodologies in data collection, and reporting processes, and suggest policies to different stakeholders in Cox’s Bazar, Bangladesh. This role has expanded my understanding of the complex health challenges faced by marginalized populations during humanitarian crises and sharpened my skills in research, data analysis, and program implementation.

My research career has been distinguished by publications in prestigious journals and successful projects funded by the Government of Bangladesh and University Grants. As a research assistant, I contributed to these projects at every stage, from developing research proposals to submitting reports, including supervising data collection, analyzing data, and writing the final reports. Most of those projects focused on socio-economic issues, such as the Vicious Cycle of Poverty, Social Safety Nets Program, and Food Security. My voluntary research work primarily focuses on community health, maternal and child health, and environmental health. From several publications, research on early childhood development (ECD) status using the ECD Index in Bangladesh employed bivariable analysis and logistic regression models. Our study determined that ECD status is improving through factors such as early childhood education programme, accessibility to children’s books, household mothers’ education level, and family income. Furthermore, I researched about married women’s knowledge and attitudes towards HIV/AIDs in Bangladesh. The study showed that age, division, mass media access, and economic status have a significant effect on the knowledge level of the respondents when analyzed using logistic regression. I have presented my research at several conferences, including the 2020 World One Health Congress, serving as an editorial board member and reviewer for multiple journals. Moreover, I am mentoring students in data analysis and research methodologies, particularly using SPSS, Stata, and R. Reviewing other papers has inspired me with the innovative thinking of various authors and motivated me to explore new methods in health research and mentoring others on various research projects solidified my desire to pursue an academic career.

Given my academic and professional goals, I believe the Ph.D. in Public Health: Concentration in Health Disparities at Robert Stempel College of Public Health & Social Work, is my best choice. Studying here will allow me to learn from top faculty involved in cutting-edge research. I like the opportunity of flexible class schedules for full-time students, the chance to work on interdisciplinary teams on global health issues like maternal and child health, and the community partnerships that will provide great experiential learning opportunities. The Health Promotion and Disease Prevention Department focuses on the behavioral, social, and cultural factors that influence health across the life course. I believe, the Health Disparities Doctoral program from this department will teach me research techniques and provide practical training on health disparities in areas like HIV, substance abuse, and obesity among underserved populations, so I can be successful in academia or healthcare. In addition, the program will train me to develop solutions and improve public health policies for better health outcomes. This aligns with my interests/experience and will deepen my knowledge by being a part of this department.

I am excited about the opportunity to collaborate with esteemed faculty like Professor Dr. Mariana Sanchez, whose research on HIV-related stigma and health disparities reinforces my belief that Florida International University is the ideal place for my PhD. Her focus on sociocultural factors affecting substance use and mental health among Latino/populations aligns with my interests. I am eager to explore topics such as alcohol, mental health, and health disparities under her supervision. Dr. Sanchez's research also aligns perfectly with my background, and I look forward to taking on greater challenges in this field under her supervision. Recently, I initiated a study on the association between maternal mental health and children's feeding practices, which is ready for submission. Additionally, we investigated urban-rural disparities in maternal healthcare, set to be published in *Heliyon*, and continent-wide vaccination disparities during COVID-19, published in *IJID Regions*.

With a strong background in statistics, hands-on experience in research, data analysis, program implementation, and a dedication to advancing public health research, I am confident that I will be able to make meaningful contributions to both the academic and public health communities. After earning my PhD, I aim to work in academia, leading a research lab focused on advancing public health research to address global health challenges. I look forward to engaging with the vibrant academic community at Florida International University and contributing to research that addresses pressing health issues worldwide.