

Mohammad Nayeem Hasan  
Statement of Purpose

As a seasoned humanitarian professional with over three years of expertise in health-related data management gathered from reputable national and international organizations such as Green Hill-Community Partners International, Food for the Hungry-UNHCR, and Partners in Health & Development-Save the Children. I acknowledge the paramount importance of advancing my academic pursuits. Doing so would help bridge the gap between my extensive professional background and research involvement, creating a comprehensive knowledge base essential for addressing evolving health challenges.

Pursuing a doctoral program in **Biostatistics and Epidemiology** at **Case Western Reserve University** aligns seamlessly with my educational and professional aspirations, both in the short and long term. In the immediate future, my goal is to refine my **Biostatistics and Epidemiology** skills to conduct original, impactful research. Looking ahead, my long-term vision involves leading a research laboratory dedicated to advancing statistical design and methodology, mentoring future generations of scientists, and fostering a team committed to applied and collaborative work. My determination to excel in **Biostatistics and Epidemiology** is fueled by academic influences and esteemed professionals who have generously guided me and inspired my dedication to continuous learning.

My passion for health science ignited during my undergraduate studies, marking the beginning of my research journey. I initiated this journey by investigating the correlation between delivery methods (C-section versus normal) for newborns and their vulnerability to diseases (such as diarrhea, short or rapid breaths, cough, fever, etc.) in Bangladesh. This project marked my initial application of the statistical knowledge acquired during my undergraduate education. Furthermore, my Second Major in Computer Science and Engineering greatly enhanced my proficiency in utilizing various statistical programming languages such as SAS, Stata, and R. This background made data analysis a seamless and efficient process for me. In my role within public health, engaging with various disease studies has nurtured a compassionate disposition toward humanity. Consequently, my primary research interests orbit around infectious diseases, non-communicable diseases, and maternal and child health.

I have effectively applied my academic aspirations to professional achievements following the completion of my Bachelor of Science in Statistics from Shahjalal University of Science and Technology, Sylhet. My educational journey enriched my practical knowledge through engagement in research endeavors, commencing with foundational courses such as Principles of Statistics, Theory of Statistics, Sampling Techniques, Design and Analysis of Experiments, and Statistical Inference course during my undergraduate years. However, it was during the advanced stages of my education, specifically in the third year, that I was formally introduced to Regression Analysis and Statistical Computing. This marked the point where I could apply the theoretical foundation acquired in the initial two years of study to practical applications. In these courses, I came to realize the power of statistical data analysis in identifying trends, patterns, and valuable insights. As I progressed into my fourth year and pursued my MS program, I delved deeper into the application of statistical tools, particularly within the realms of **Biostatistics and Epidemiology**. During my MS program, I initiated work on various projects under the SUST Research Center and Department of Statistics. While these studies initially aimed to tackle specific

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community issues, my aspirations evolved to encompass a broader spectrum of health concerns, particularly focusing on Public Health. This shift in focus is driven by my desire to contribute to the prevention and resolution of emerging health issues.

In my current role as a Monitoring and Evaluation Officer (Health) within Humanitarian Response, I have been fortunate to engage in various projects aimed at achieving the best health outcomes for affected populations. As a humanitarian worker, I actively contributed to the Rohingya Refugee/Forcibly Displaced Myanmar Nationals (FDMN) Response Program by assisting in research recruitment and collaborating on data analysis. The project I am currently involved in is titled “Enhancing Community Health, Water Sanitation & Hygiene, Health Systems Support & Health Post for FDMN and Host Community Population”. However, the journey through this program was not always without challenges, and I played a pivotal role in propelling it forward through the implementation of strategies like advocacy, communication, and social mobilization, providing crucial technical support to the program team, enhancing service quality through capacity building, and effectively managing data collection and generating insightful reports. My experience in Humanitarian Response has instilled in me the confidence and belief that I possess the ability to devise solutions independently.

While my professional experience has primarily focused on the Rohingya Response, I recognize the potential for furthering my knowledge to enhance personal satisfaction and professional growth. Throughout this period, I actively engaged in voluntary work and authored over 30 publications in reputable journals related to public health. My research during the COVID-19 pandemic resulted in the publication of impactful journals. In addition to the above, I have been deeply involved in addressing the ongoing Dengue outbreak in Bangladesh (2022-2023), resulting in ongoing work also published in several impactful journals. Furthermore, I have also contributed to research covering a range of topics, including non-communicable diseases, childhood diseases, early childhood development, maternal health, indoor environment, groundwater quality, and meteorological factors.

Pursuing the Ph.D. program at **Case Western Reserve University** represents a significant stride toward my goal of becoming an independent scientist in my home country, focusing on public health applications through **Biostatistics and Epidemiology**. I am eagerly anticipating the opportunity to collaborate with **Dr. Mireya Diaz-Insua**, whose research aligns closely with my interests. Their unique approach, to integrating public health, promises a comprehensive understanding of multifaceted associations. Interacting with esteemed faculty members such as **Dr. Ming Wang** is another exciting aspect of this journey, particularly in delving into **Biostatistics and Epidemiology**, given my foundation in those field experiences gained from my BSc, MS, and prior research work. With their guidance, I believe I will obtain the robust knowledge base necessary to achieve my research leadership aspirations. Combined with my sharpened critical thinking skills stemming from my expertise and experience, I am fully prepared to embrace the academic challenges and opportunities presented by **Case Western Reserve University**.

Thank you for considering my application.