Mohammad Nayeem Hasan
Statement of Purpose

My strong foundation in statistics, combined with over four years of professional experience in health-related programs, has not only sharpened my analytical skills but also fueled my passion for solving complex public health challenges through data-driven research. Pursuing a PhD in Public Health with a concentration in Community and Family Health is the next essential step in expanding my expertise and preparing for an independent researcher as a faculty member. The Community and Family Health program at University of South Florida aligns perfectly with my goals of deepening my Public Health knowledge, contributing to innovative research, and advancing the field of public health. In the short term, I aim to master in Community and Family Health to address vital health concerns, while in the long term, I aspire to lead a research lab that advances in Statistics/Machine Learning/Deep Learning/Artificial Intelligent through Public Health issues, 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.

During my undergraduate studies, I became fascinated by various subfields of statistics, including data mining, biostatistics and epidemiology, time series analysis, and statistical inference. In particular, the Biostatistics and Epidemiology course was quite interesting because of Professor Dr. Jamal Uddin's insightful presentations and course projects. Biostatistics and epidemiology, in particular, captivated me due to their crucial role in addressing public health challenges. These fields have equipped me with the tools to analyze complex health data and derive actionable conclusions to improve health outcomes. To enhance my skills, I pursued a double major in Computer Science and Engineering, gaining 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 public health challenges through rigorous, data-driven approaches. It has prepared me to utilize Public Health tools and programming languages for conducting experimental research, incorporating advanced statistical applications as well as big data, deep learning, and machine learning techniques in public health.

To gain real-world experience, I began working with the Joint Rohingya Response Program in 2021, focusing on health-related 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 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 research work primarily focuses on community health, maternal and child health, and environmental health. I have done a research publication on an early childhood development (ECD) status in Bangladesh which 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, level of household mothers' education and family income. These findings can be used to improve public health approaches regarding ECD programs. 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 a logistic regression. We believe such public awareness enhancement should go hand in hand with education and counseling provision as well as enhancing media outlets access particularly in the rural setting. I have presented my research at several conferences, including the 2020 World One Health Congress, and serve as an editorial board member and reviewer for journals. Moreover, I teach and mentor students in data analysis and research methodologies, particularly using SPSS and R. Reviewing other papers has inspired me with the innovative thinking of various authors and motivated me to explore new methods in public health research. I also found great joy in mentoring students on their research projects, which solidified my desire to pursue a career in academia.

The PhD program in Community and Family Health at University of South Florida is the ideal platform for me to achieve my academic and professional aspirations. The programs' mission centers on enhancing health promotion and disease prevention for individuals, families, and communities through education, research, and service, which I also want to develop in my future career. In this program, all faculties focus on excellence in teaching and mentorship while fostering interdisciplinary collaboration, supported by various research centers and federally funded programs. I believe the PhD in Public Health with a concentration in Community and Family Health will prepare me public health professionals to tackle diverse health challenges, emphasizing population health analysis, health promotion, and community-based interventions. Here my aim to gain valuable research opportunities in both domestic and international settings, participating in innovative community programs and offering consultation and continuing education.

The chance to collaborate with esteemed faculty such as Professor Dr. Claudia Parvanta, whose work on "Lifestyle Related Cancer Risk and Protective Behaviors Vary among a Convenient Sample of Physically Active, Young-to-Middle-Aged Adults 18–49" has reinforced my belief that University of South Florida is the best place for my PhD degree. In addition, I became particularly drawn to Dr. Jennifer Marshall's work on "Assessing collaboration factors within Florida's early childhood comprehensive systems (ECCS) state-level leadership committee" also seems to offer exciting doctoral training opportunities that resonate with my prior experience and research interest in Public Health. Furthermore, Dr. Mahmooda Pasha, whose research on "Developing the evidence base to inform best practice: A scoping study of breast and cervical cancer review in low- and middle-income countries" aligns with my interests, motivates me further.

With a strong background in statistics, hands-on experience in research and data analysis, and a dedication to advancing public health, 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 health research to address global health challenges. I look forward to engaging with the vibrant academic community at University of South Florida and contributing to research that addresses pressing health issues worldwide.