

Sasakawa Nursing Fellow 2025 Final Report  
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## 1. Overview

This report offers a comprehensive reflection on my experiences and professional growth throughout my master's program. I am a master's student in Health Informatics at the Yale School of Public Health. Before beginning graduate study, I worked for four years as a registered nurse at a university hospital in Tokyo. I chose to pursue this degree to better understand how healthcare data can be used to make clinical realities visible, improve patient care, and support clinicians' work. I am also interested in how health technologies can be designed and implemented to achieve these goals.

## 2. Achievement during First Year

During my first year, I took a range of technical courses that challenged me to step outside of my comfort zone. As someone without prior experience in data analysis, I initially found it difficult to keep up with the course material. However, I was determined to overcome this challenge and worked diligently to develop new skills. Throughout the year, I gained proficiency in data analysis tools, learned various analytical methods, and strengthened my ability to interpret data effectively. In addition, I took advanced machine learning courses to deepen my understanding of underlying technical concepts. Since these courses were primarily focused on healthcare data, I found them particularly engaging, as they allowed me to explore how data-driven approaches can be applied to improve patient care and enhance clinicians' workflows.

## 3. Achievement during Second Year

In my second year, I focused on applying the skills I had developed to real-world research. I had the opportunity to work with a large-scale, de-identified electronic health record dataset, Cosmos, provided by Epic. This dataset, which includes records from over 300 million patients, offers insights into patient outcomes and healthcare utilization. Working with such a comprehensive dataset enabled me to apply my technical knowledge in practice and systematically address clinical questions I had encountered during my clinical training.

My first project was analyzing trends in patients' length of stay during emergency department visits. Through this analysis, I evaluated both overall length-of-stay trends and specific phases of the patient stay, including arrival-to-treatment, treatment-to-departure, and boarding, to determine areas that need improvement. My second project is evaluating the association between transitional care management and patient outcomes. In this analysis, I applied advanced statistical methods to investigate causal relationships and strengthen the rigor of my findings. Although this project is still ongoing, I have the opportunity to present my work at a national conference in May.

For my group capstone project, I worked on developing an AI agent to support clinical morbidity and mortality (M&M) conferences. Built on large language models, this agent is designed to facilitate discussion during meetings and promote learning among early-

career clinicians. In this project, I contributed to the design and development of the system, focusing on ensuring that the agent could generate clinically relevant prompts and support meaningful, case-based discussions.

#### **4. Living Aspect and School Life**

Beyond academics, my living experience during this program has been incredibly fulfilling. The university offers a vibrant campus environment with many opportunities to explore. I especially enjoyed attending performances at the drama and music schools, which became some of my favorite activities. In addition, the department organized a variety of events and activities across campus. Participating in exercise classes helped me relieve stress and maintain a healthy balance between academic and personal life. With numerous events and talks taking place regularly, I was also encouraged to broaden my perspective and learn about fields beyond my primary area of study. New Haven, CT is well connected to surrounding cities, including New York and Boston. Traveling to these places was also a refreshing break and became some of my most memorable moments with friends.

#### **5. Future Plans**

After graduation, I will be starting a PhD program in Nursing. Building on the healthcare data analysis skills and knowledge of healthcare technology implementation that I gained during my master's program, I aim to apply these skills to the field of nursing. My goal is to improve nurses' workflows and work environments, and ultimately enhance patient experience and outcomes. The need to improve nurses' workflows and work environments has been increasingly recognized in healthcare systems; however, workforce-focused analysis remains underexplored. I aim to address this gap by conducting research and generating actionable insights to support the development of sustainable nursing workforces.

#### **6. Acknowledgement**

I would like to express my sincere gratitude for the comprehensive support from the Sasakawa Health Foundation. Being a part of the Sasakawa nursing fellow and scholarship has been an incredibly valuable and enriching experience throughout my master's journey. The program not only offered financial support, but also provided opportunities for professional development, mentorship, and meaningful connections with peers and leaders in the field. These experiences have greatly contributed to both my academic growth and personal development.