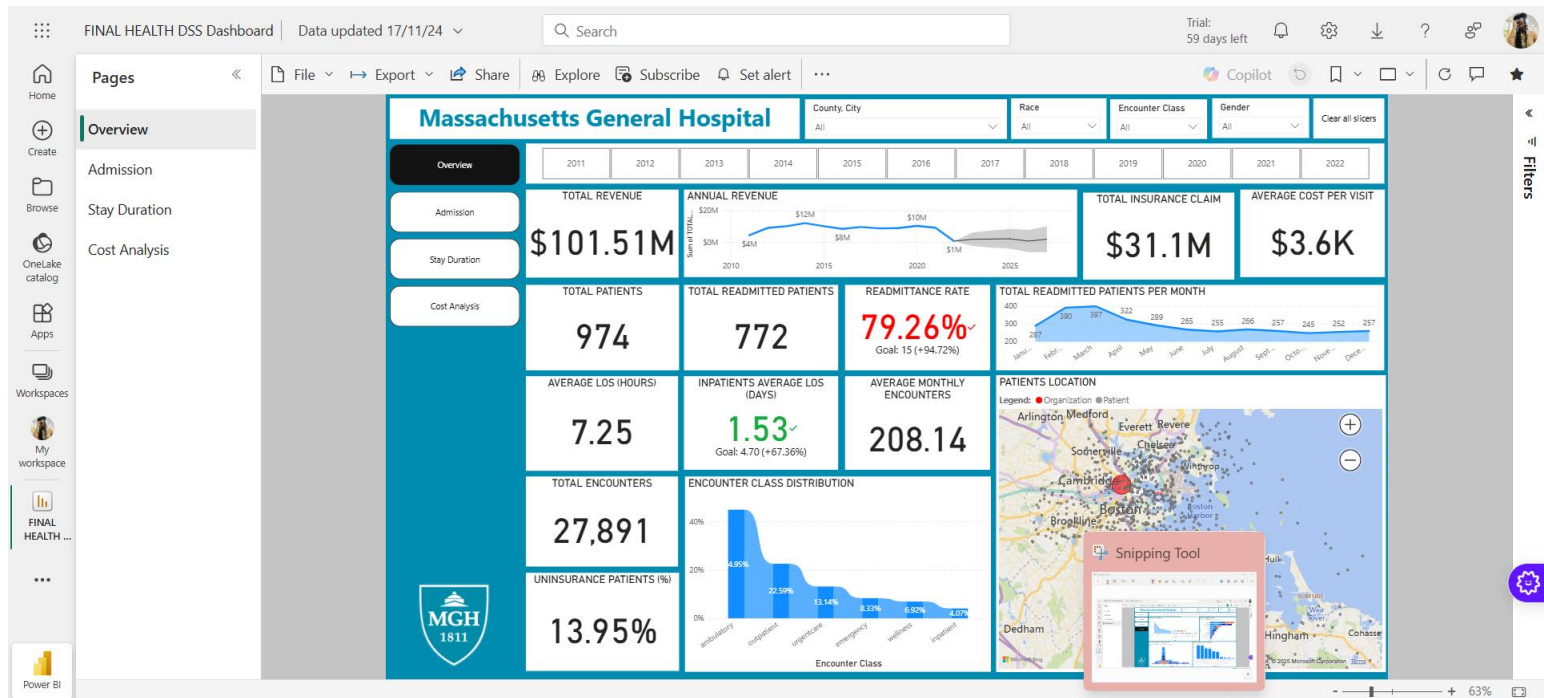# From Raw Data to Real Impact: The ETSU Public Health Dashboard

Introduction

Public health leaders need reliable data to make quick, informed decisions. At ETSU, a gap existed between complex raw datasets and decision-ready insights. The goal was to design a dashboard that simplifies health trends, supports policymakers, and improves accessibility for non-technical stakeholders.
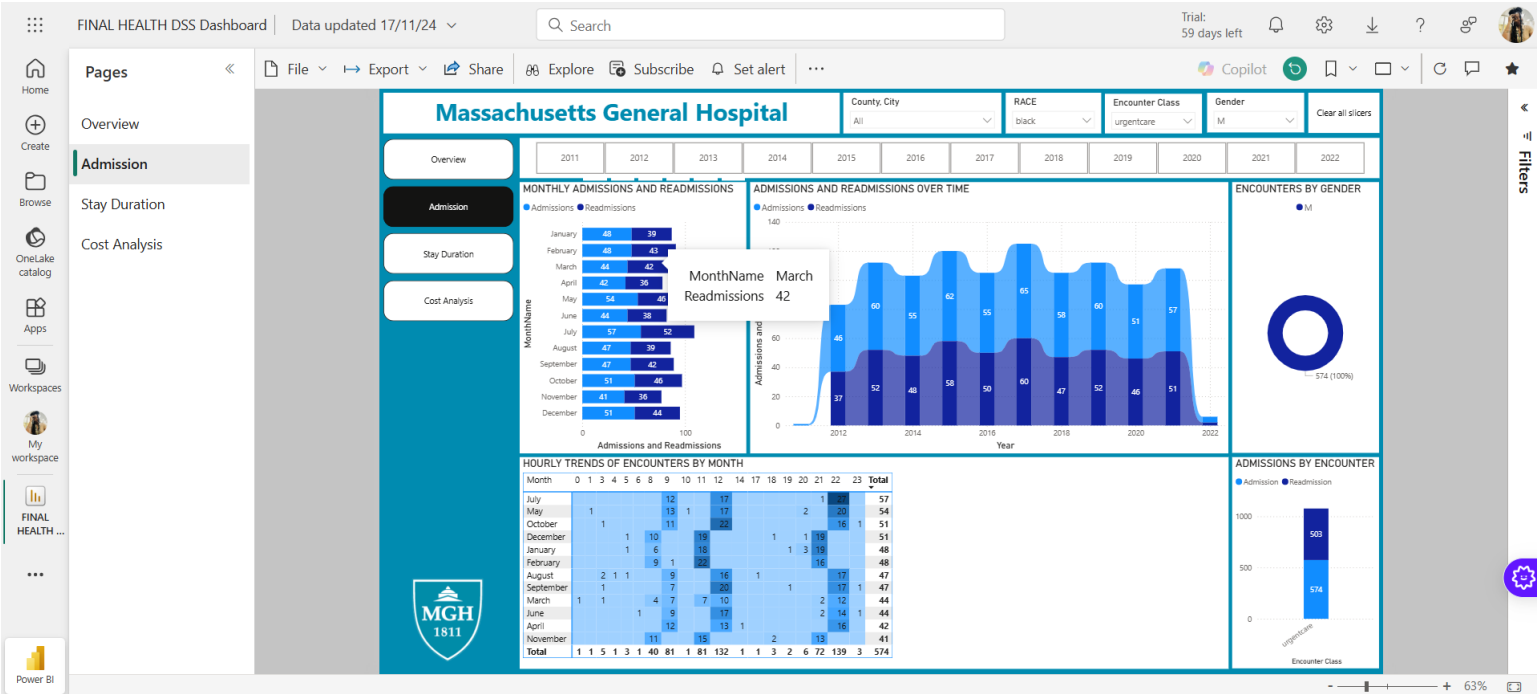
The Challenge

• Data scattered across multiple sources.

• Stakeholders struggled to visualize trends in admission, cost analysis, and stay duration.

• Need for a single, interactive platform to provide clarity and usability.
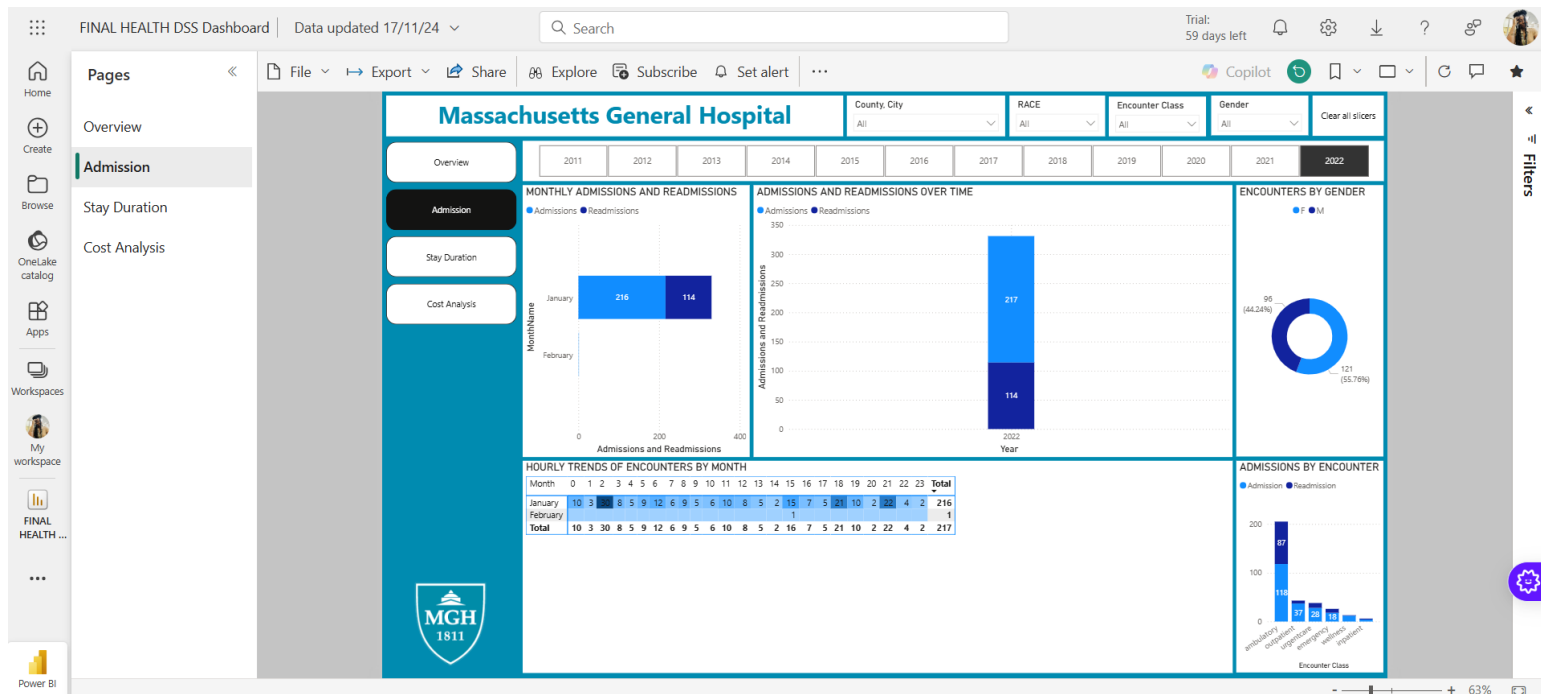
Discovery

• Conducted stakeholder interviews with faculty and public health professionals to identify KPIs (Operational Efficiency, Fin ancial Management, Geographical Access, Care Quality).

• Mapped user personas: researchers, students, policymakers.

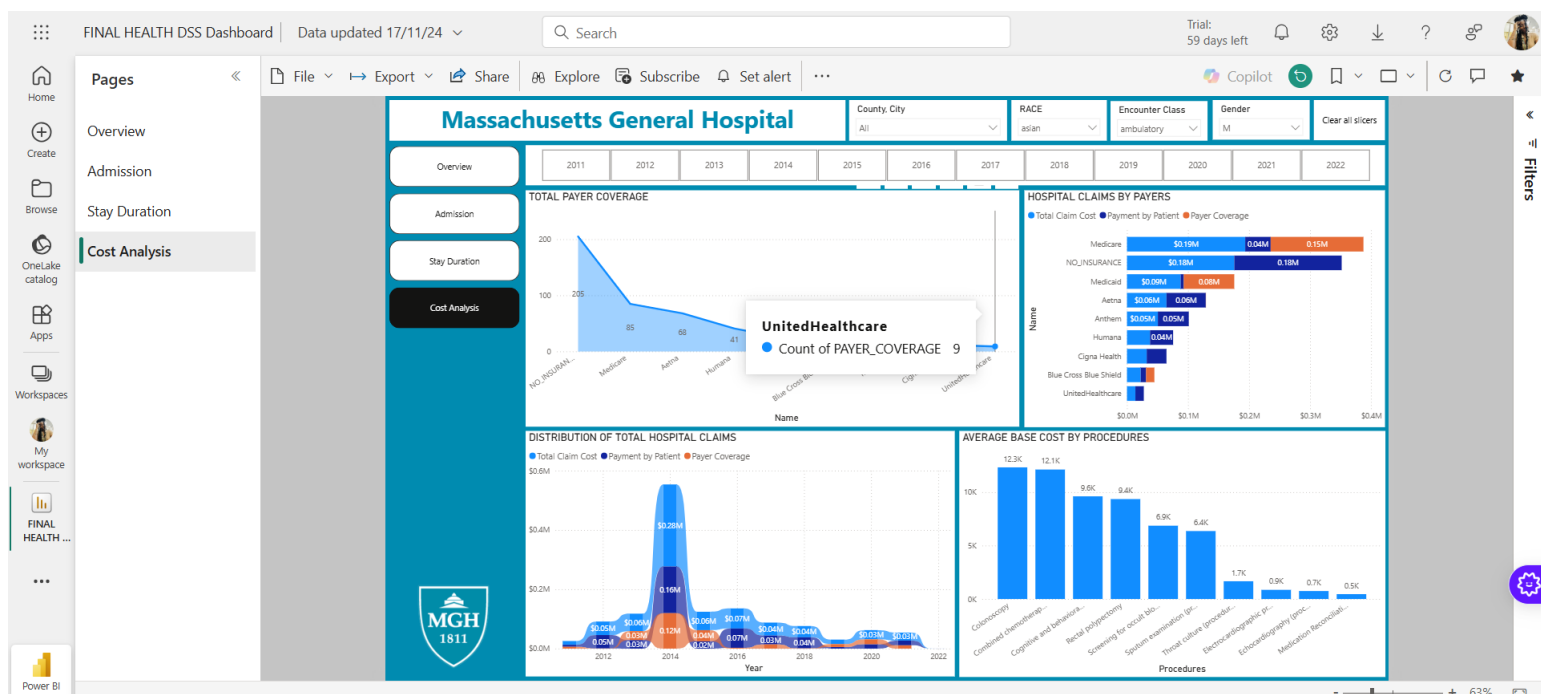• Identified need for mobile-friendly, quick-to-navigate visualizations.

Execution

• Tools: Python, Power BI, Streamlit, and Django.

• Designed intuitive dashboard views with interactive filters by region, year, demographic, and gender.

• Integrated backend pipelines to ensure data accuracy and real-time updates.

• Applied trauma-informed principles in design (clear labels, color choices, and accessibility).
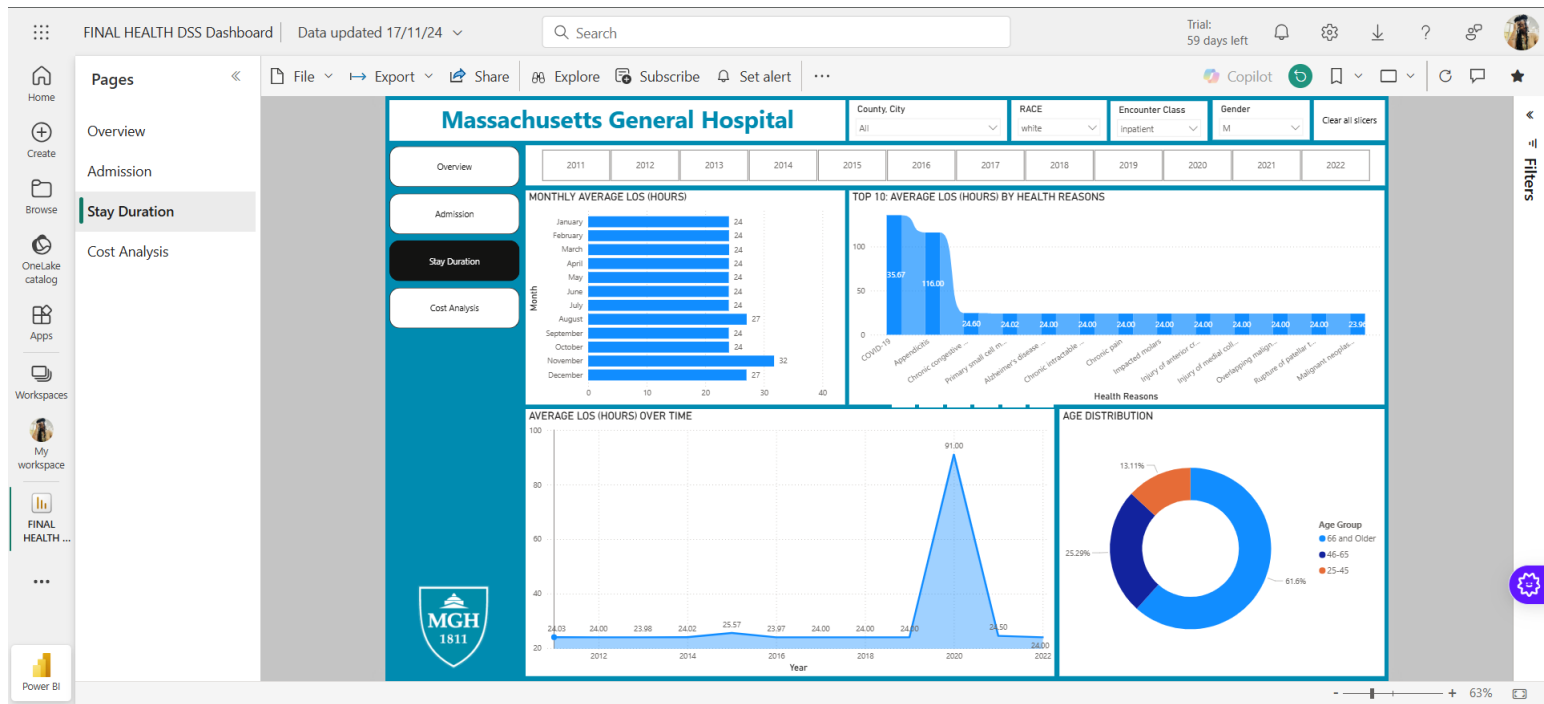

Admission Rate Analysis (Admissions & Readmissions)

Admission Dashboard Filter by Year

Cost Analysis Dashboard (Claim Cost Distribution)

Stay Duration Dashboard (Length of Stay)

Impact

• 60% reduction in time needed by faculty to gather insights.

• Improved student research experience with real-time, interactive dashboards.

• Supported community decision-makers in identifying trends for targeted interventions.

Lessons Learned

• Simplicity matters, visuals must guide, not overwhelm.

• Collaboration across public health + tech ensured the dashboard solved the right problem.

• Product thinking (problem → discovery → execution → impact) was key to adoption.

Deliverables

• Interactive Dashboard

• Case Study PDF with detailed visuals

• GitHub Repo with project