A Data-Driven Strategy for Health Resource Management

An analysis of the surge of Covid and Influenza in Tennessee and its neighboring states

A Microsoft Community Project

Meet the Team

Eunice Ashalley
Business Analyst

• Graduate Student - MIS 2026
• Gain from this project: Hands on experience with Power BI and Copilot to analyze data and generate valuable insights

Aba Okyere
Data Strategy Lead

• Graduate Student - MIS 2025
• Gain from this project: Using Power BI in story telling, analyzing data and interpreting it for business decision making

Kristina Mwangeka
BI Developer

• Graduate Student - MIS 2025
• Gain from this project: Create visuals in Power BI that answer the questions management ask, Exchange of Ideas with my peers improved my data story telling skills

Dataset

- Sourced from Kaggle
- Number of rows used: 8191
- Number of features used: 19
- Our records were derived by filtering TN & neighboring states (KY, MS, AK, MO, GA, AL, NC)
- Key features used: Covid & Influenza admission rates, Age categories, Collection Date

Problem

When respiratory surges hit, health centers are overwhelmed and staff burnout is experienced.

Solution

Using Power BI analytics to:

- Determine peak seasons
- Allocate resources such as type of nurses, bed capacity, advanced technology & supplies.

From Reactive to Proactive:

A Data-Driven Strategy for Health Resource Management

Key Questions

1.What is the infection rate of our neighboring states ?

2.Which nursing department do we need?

3.What is the seasonal trend for Covid and Influenza?

4.What is the emergency plan in place to handle employee shortages?

Q1: What is the infection rate of our neighboring states

Q2: Which nursing department do we need?

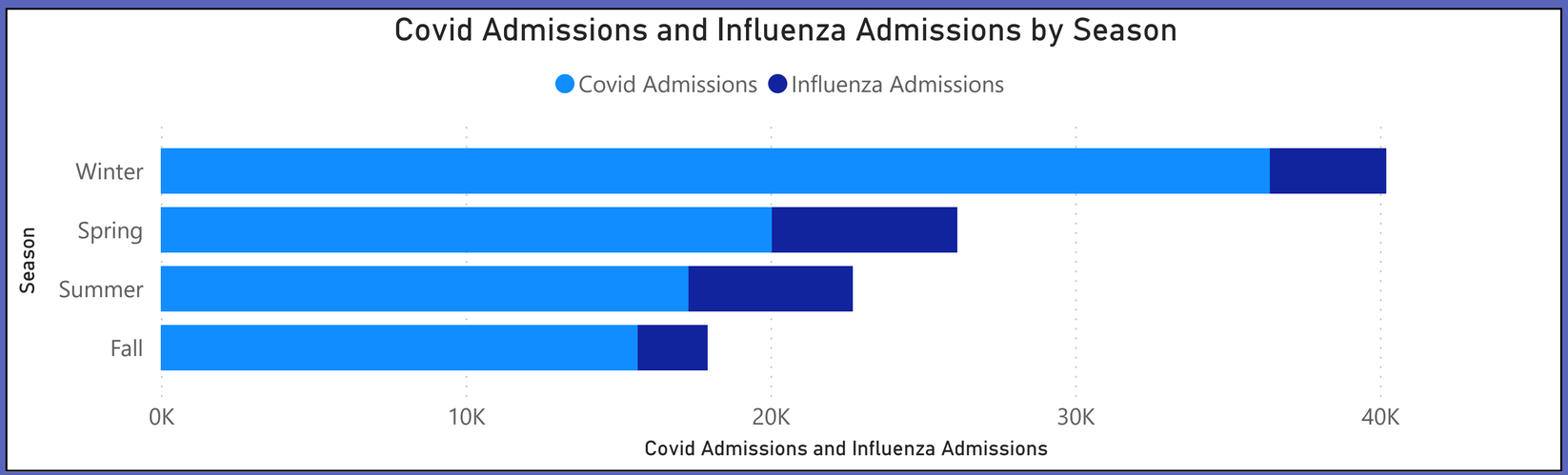
Q3: What is the seasonal trend for Covid and Influenza?

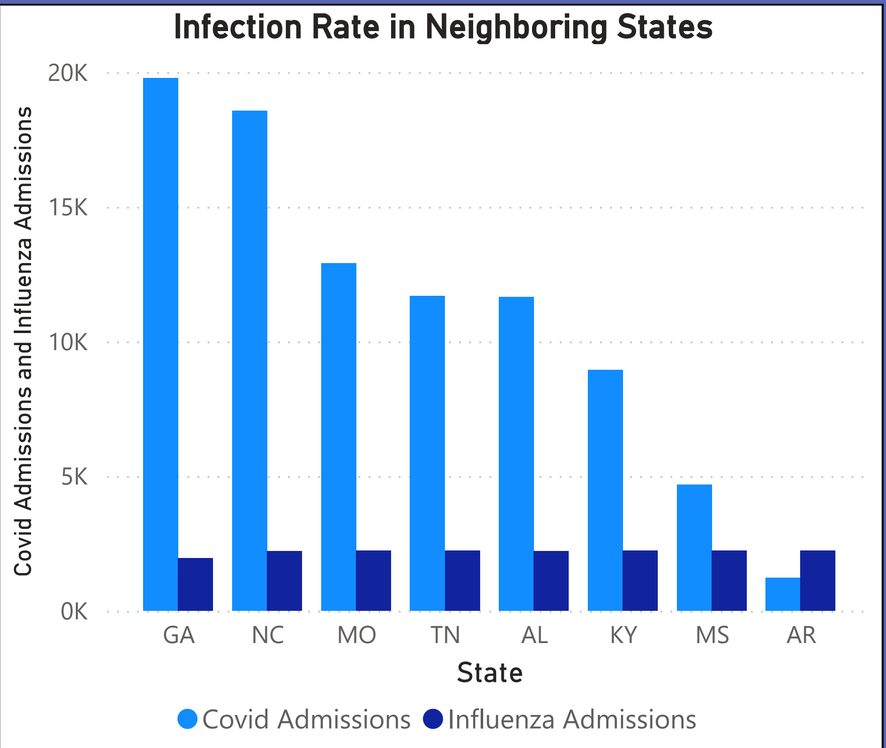
Year

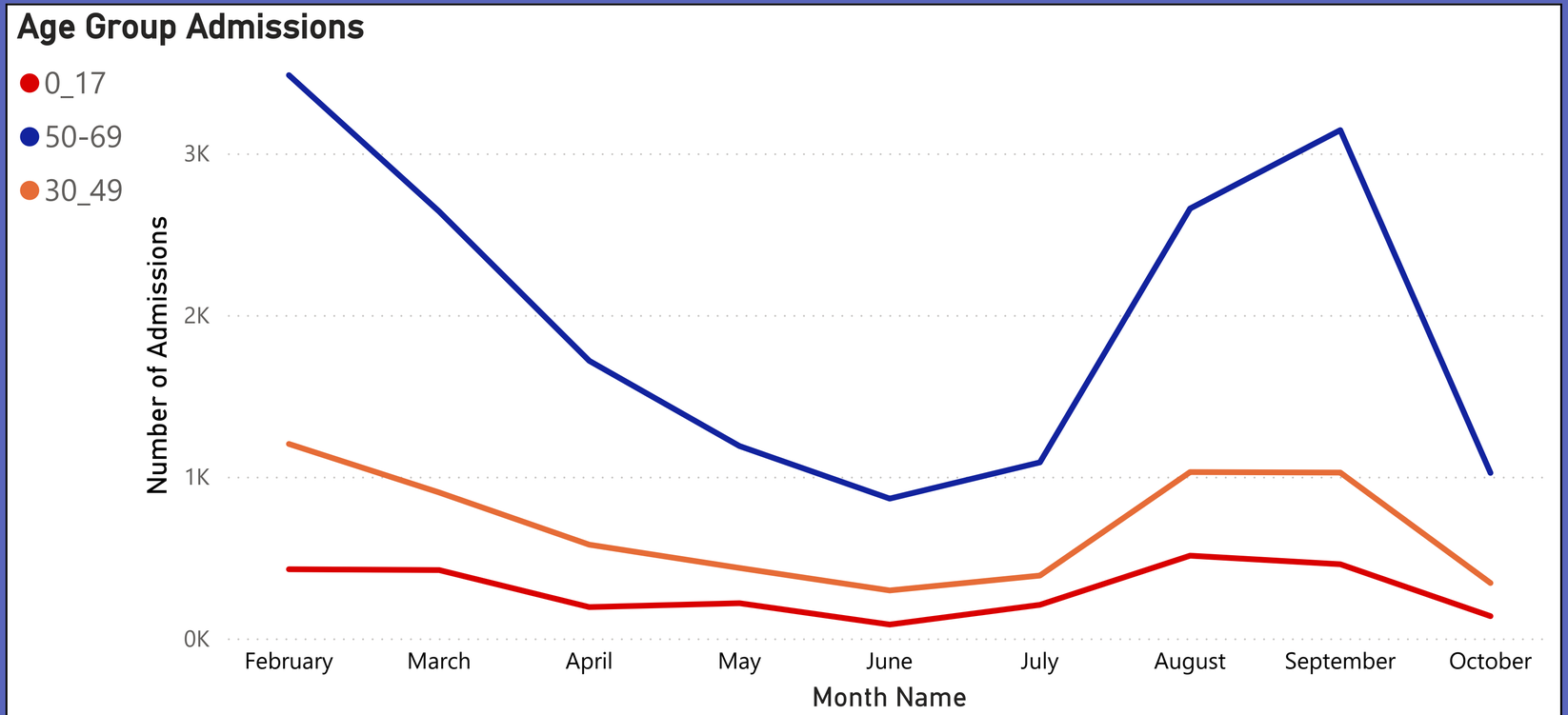
2020 | 2021 | 2022 | 2023

Date

2/5/2023 — 10/14/2023







Q4. What is the emergency plan in place to handle employee shortages

Emergency Actions - Low

- Offer voluntary overtime with fatigue safeguards.

Emergency Actions - Mild

- Redeploy staff from elective or ambulatory areas.
- Engage pre-contracted agencies

Emergency Actions - Critical

- Assign a contingency incident command staffing team with roles.
- Adjust nurse-patient ratios in non-critical units while maintaining ICU units.

Q&A