PREPARING FOR INFLUENZA SEASON

PROJECT MANAGEMENT PLAN

PROJECT STAKEHOLDERS

- Medical agency frontline staff (nurses, physician assistants, and doctors)
- Hospitals and clinics using staffing agency services
- Influenza patients
- Staffing agency administrators

Stakeholder Communication:

Meeting (with all stakeholders)	At the project onset, all stakeholders will meet to discuss the business requirements of the upcoming influenza season to determine when to send staff and how many staff to each hospital and clinic in every state.
Calls	During the analysis phase, weekly calls will be help to update stakeholders on the status of the project and answer and questions
Emails	Send out weekly emails following the calls to document what was discussed and confirm action steps for the upcoming week
Emergency Contingency	Any urgent issues are communicated via email with a follow-up call scheduled within three days.

Schedule and Milestones

PREPARING & ANALYZING THE DATA

Week 1	
Starting with Requirements	Create a list of data questions needed to be answered for the analysis
Week 2	
Designing a Data Research Project	Design the research project
	Formulate a Research hypothesis

Sourcing the Right Data	Describe the datasets you have access to for the project
	Explain the relevance and limitations of each data set for the project
Week 3	
Data Profiling and Integrity	Create a data profile for each data set in the analysis
	Include information on data types, data integrity issues, cleaning conducted, and a summary statistics of each profile
Data Quality Measures	Implement data quality measures for completeness, uniqueness, and timeliness
Week 4	
Data Transformation and Integration	Integrate data from two sources in one cohesive data set using data transformations
Conducting Statistical Analyses	Calculate the variance and standard deviation for key variables
	Identify variables with potential relationships and test for a correlation
Week 5	
Statistical Hypothesis Testing	Formulate a statistical hypothesis regarding the outcome of interest around two groups in the data
	Conduct hypothesis testing and interpret the results
Consolidating Analytical Insights	Create an interim report consolidating the findings of the analysis

DATA VISUALIZATION & STORYTELLING

WEEK 6	
Data Visualizations	Explain how Tableau and visuals will be used to understand the data
Visual Designs & Tableau	Create a data visualization design checklist and use it as a guideline for the visuals

Week 7	
Compositions & Comparison Charts	Create a pie, bar, or column chart, as well as a treemap in Tableau
Temporal Visualizations and Forecasting	Create a time forecast for a variable and display in Tableau
Statistical Visualizations: Histograms & Box Plots	Create visualizations that look at the distribution of a variable
Statistical Visualizations: Scatter Plots & Bubble Charts	Create visualizations that look at the correlation between variables
Week 8	
Spatial Analysis	Map a variable and justify the spatial visualization choice (heat, density, or choropleth)
Textual Analysis	Create a word cloud using qualitative data
Week 9	
Storytelling with Data Presentations	Create a narrative to communicate the research findings and insights in relation to the project goals
	Publish the analysis in a Tableau Storyboard
Presenting Findings to Stakeholders	Record a video presentation for the stakeholders

Project Deliverables

- Creating an interim report consolidating the findings of the analysis
- Recording a video presentation for the stakeholders

Audience Definition

The audience will consist of all stakeholders. The majority of the audience for the project includes frontline workers, hospital administrators, and the staffing agency, so a high level of domain knowledge is assumed. However, given that patients are also apart of the audience, the presentation should include definitions and context to familiarize everyone with any common data lingo and provide thorough explanations of basic data functions and visualization understanding as well as allowing for questions when needed.

CONTEXT

Who is most affected by influenza?	Pregnant women at any stage Children between 6mo and 5yr Elderly Individuals > 65yr Individuals w/ chronic medical conditions Health-Care workers
Which state has the highest vaccination rate? Do these states have educational programs allowing for more accessibility to get vaccinated?	More Research Needed from Data Set
Which state has the most residents in vulnerable populations?	More Research Needed from Data Set
When does flu season start?	Depends on the state and climate, but primarily between December - March. Peak season is commonly in February and can continue into March
What time of year are influenza shots offered?	CDC recommends to get the shot in early fall but ideally by the end of October before the season begins
What time of year has the most hospitalizations for influenza?	More Research Needed from Data Set

POSSIBLE HYPOTHESES

- Understanding risks and prevention of influenza starts with education and accessibility to the vaccine. If states with educational programs allow for increased accessibility, then more people will get their vaccines.

- People over the age of 65 are considered part of the vulnerable population who are at a higher risk of hospitalization due to influenza. Increased hospital staff leads to better quality of care and lower mortality rates. If hospitals in geographical areas with a higher median of this age group are provided with more staff, then mortality rates will decrease.

- Young children between 6 months and 5 years are also a vulnerable population. If more children receive the influenza shot, then the mortality rate in child influenza will decrease.

DATA WISHLIST

- Influenza mortality rate based on state and age group
- Average age in each state
- States with the highest population of 65+ people

- States with the highest rate of mortality in children by state
- Vaccination rate in each state by age group
- Government programs providing vaccines and education by state
- Hospital staffing rates by state
- Average time of death by state