PROJECT MANAGEMENT PLAN
Preparing for Influenza Season Staffing Issues

PROJECT OVERVIEW & PURPOSE

The goal of this project is to analyze relevant data to prepare for and mitigate the staffing shortages in hospitals across the United States that are common during flu season. The purpose of this plan is to provide a convenient outline to carry out this analysis, regarding communication, deliverables, schedule and milestones, and the audience.

STAKEHOLDER COMMUNICATION

Meetings: At the project outset, a video or conference call will be arranged with key stakeholders, including but not limited to hospital administrators, staff agency administrators, as well as representatives using frontline staff from the agency including front-line staff. During the meeting, there will be time to discuss business requirements, focused Q&A, discuss communication preferences, and any updates to business requirements or goals.

Calls: Have biweekly calls with key stakeholders, such as hospital administrators and staffing agency administrators to answer any questions and give a brief status update.

Written communication: Twice per month, emails will be sent to stakeholders to give project updates. Emergency or contingency plan: Communicate urgent issues or delays immediately via email and schedule a video or conference call with key stakeholders within the week.

SCHEDULE & MILESTONES

WEEK ONE

Starting with Requirements
- Create a list of data questions needed to answer analysis.

Designing a Data Research Project
- Design the data research project.
- Formulate a hypothesis.

Sourcing the Right Data
- Describe the data sets accessible for the project.
- Explain the relevance and limitations of each data set.

Data Profiling & Integrity
- Create a data profile for each of the data sets in the analysis.
- Include information on data types, data integrity issues (accuracy and consistency), any cleaning conducted, and summary statistics in each profile.

WEEK TWO
Data Quality Measures
- Implement additional data quality measures to your data profiles related to completeness, uniqueness, and timeliness.

Data Transformation & Integration
- Integrate data from two sources into one cohesive data set using data transformations.

Conducting Statistical Analysis
- Calculate the variance and standard deviation for key variables.
- Identify variables with a potential relationship and test for a correlation.

Statistical Hypothesis Testing
- Formulate a statistical hypothesis regarding an outcome of interest around two groups in
- your data.
- Conduct hypothesis testing and interpret the results.

Consolidating Analytical Insights
- Create an interim report consolidating the findings of your analysis.

WEEK THREE
Visual Design Basics
- Create a data visualization design checklist.
- Explain how the visualizations in a given example can be improved.
- Connect project data to preferred BI tool.

Composition & Comparison Charts
- Create a pie, bar, or column chart, as well as a treemap in Tableau.
- Use visualization design checklist to design charts.

Temporal Visualizations & Forecasting
- Create a time forecast for a variable and display it in Tableau.
- Use visualization design checklist to design chart.

Statistical Visualizations: Histograms & Box Plots
- Create visualizations that look at the distribution of a variable.
- Use visualization checklist to design chart.

Statistical Visualizations: Scatterplots & Bubble Charts
- Create visualizations that look at the correlation between variables.
- Use your visualization design checklist to design your chart.

WEEK FOUR
Spatial Analysis
- Map a variable and justify spatial visualization choice (heat, density, or choropleth).
- Use visualization design checklist to design chart.

Textual Analysis
- Create a word cloud using qualitative data.
- Use visualization design checklist to design chart.

Storytelling with Data Presentations
- Create a narrative to communicate your research findings and insights in relation to your
- research goals.
- Publish your analysis as a Tableau Storyboard.

Presenting Findings to Stakeholders
- Record a video presentation for stakeholders.

PROJECT DELIVERABLES
- An interim report consolidating initial findings of analysis.
- A recorded video presentation for key stakeholders.

AUDIENCE
- Hospital and clinic administrators using the staffing agency's services
- Staffing agency administrators
- Front line workers of those hospitals and clinics: nurses, physicians, and physician assistants
- Influenza patients

CONTEXT
- Preparedness planning should be implemented across all hospital and clinics in program, including educating and preparing the temporary healthcare workers.
  - Plan for adequate PPE during this time to prevent transmission between patients and workers and vice versa and also to alleviate healthcare workers fear of getting sick and maintain attendance.
  - Also educate healthcare workers on anti-viral therapy and proper procedures to avoid getting sick to alleviate healthcare workers fear of getting sick and maintain attendance.
  - Require flu vaccination among healthcare workers and educate them on PPE use, proper administration of treatment for seriously ill individuals with the flu, and anti-viral therapy should they get the flu themselves.
- High-risk groups or vulnerable groups include those older than 65, younger than 5, and those with chronic health conditions.
- People need the flu vaccination every year because protection wanes and the virus is quickly mutating and changes every year.
- Special attention should be given to areas with higher rural populations because staff attendance tends to wane during those times for concurrent fear of getting sick and transportation issues.
- While the flu is spread year-round, most of the United States experiences higher rates in the fall and winter.

HYPOTHESES
- If an individual is older than 65 years of age or less than 5 years of age, then that individual has a greater chance of hospitalization or death as a result of infection with the flu.
- If someone gets an annual flu vaccination, then he/she is less likely to experience one or more of the following: get the flu or be hospitalized or die from the flu.
- If a vulnerable population has adequate flu vaccination rates, hospitals and clinics in that specific region or location will be less likely to experience understaffing during flu season.
- If a region or location has a certain threshold or percentage of vulnerable citizens, then more temporary seasonal staff should prevent understaffing at those hospitals and clinics in that region.

DATA WISH LIST

- Vaccination rates of those 65 and older (not just children) as well as those of other vulnerable or high-risk groups.
- Vaccination rates in different regions (to compare with flu-related hospitalizations and mortality in those regions)
- Population of different age groups by state and county (if data is incomplete) as well as any data on other vulnerable groups, such as asthma, diabetes, pregnancy, etc.