

Project Management Plan

Project Overview:

Motivation:

The United States has an influenza season where more people than usual suffer from the flu. Some people, particularly those in vulnerable populations, develop serious complications and end up in the hospital. Hospitals and clinics need additional staff to adequately treat these extra patients. The medical staffing agency provides this temporary staff.

Objective: Determine when to send staff, and how many, to each state.

Scope: The agency covers all hospitals in each of the 50 states of the United States, and the project will plan for the upcoming influenza season.

A. Stakeholder Communication

- Meetings:

3 Meetings will be held via video conference with the following stakeholders:

Staffing agency administrators, hospitals and clinics associated with the staffing agency, medical agency frontline staff

1st Meeting: Project Onset

- Introduce the project detailing the objective
- Engage in a Q & A session about the agency's staffing process, concerns, procedures, etc.
- Communication plan will be presented
- Discussing business requirement document

2nd Meeting: Week 5

- Presenting findings from initial analysis
- Discussing hypothesis

3rd Meeting: Week 10

- Presenting the final report to all stakeholders including relevant insights and recommendations

- Calls:

Video calls are scheduled on a monthly basis to update stakeholders on the status of the project. Stakeholders are encouraged to ask any questions. The analyst should take written note of questions, comments, and concerns with the intent of addressing them overtly or subliminally in the 3rd meeting.

- Written Communication:

Emails are sent out to staffing agency administrators once a milestone is reached. The email will detail which part of the project has been completed as well as any findings that are relevant to the objective

- **Emergency/Contingent Plan:**
Any emergency issues should be sent by email with URGENT included in the subject line, followed by a concise message. Any issues that may impact the project development need to be communicated as soon as possible. Please allow the analyst 48 hours to follow up.

B. Schedule and Milestones

Week 1: Brainstorming

- Composing questions to start and eventually guide the analysis

Week 2: Designing the Project

- Listing assumptions and constraints
- Formulating 1-2 hypotheses

Week 3: Sourcing Data

- Describing the data sets that are being used
- Explaining the relevance and limitations of each data set to your project

Week 4: Data Profiling & Integrity

- Curating a data profile for each of the data sets being used
- Detailing information on the data that was used, the cleaning that was conducted, and the summary statistics

Week 5: Data Quality Measures

- Adding more data quality measures to the data profiles

Week 6: Data Transformation & Integration

- Integrating data from two sources into one cohesive data set using data transformation tools.

Week 7: Conducting Statistical Analyses

- Calculating the variance and standard deviation for key variables
- Finding variables that have a potential relationship and testing for a correlation

Week 8: Statistical Hypothesis Testing

- Compose a statistical hypothesis about a desired outcome for two groups in the data
- Conduct hypothesis testing and interpret the results

Week 9: Consolidating Analytical Insights

- Composing an interim report and appropriate visualizations that detail the findings of the analysis

Week 10: Storytelling

- Create a narrative to communicate the research findings and insights as it relates to research goals
- Publish the analysis as a Tableau storyboard
- Record a video presentation for stakeholder's representatives

C. Project Deliverables

1. Interim report consolidating the findings of the analysis
2. Video presentation

D. Audience Definition

- Staffing agency representatives: individuals responsible for the allocation of medical frontline staff
- Hospitals and clinics: representatives from hospitals and clinics across all 50 states that are associated with the staffing agency
- Medical agency frontline staff: individuals that are employed with the staffing agency (nurses, physicians assistants, doctors..)

Context:

- People at greater risk of developing severe complications when infected are pregnant women, children under 59 months, the elderly(age 65 and older), individuals with chronic medical conditions, and individuals with immunosuppressive conditions

Source: [World Health Organization](#)

- Flu season typically occurs in the fall and winter. Flu activity peaks between December and February.

Source: [Centers for Disease Control and Prevention \(CDC\)](#)

- For the 2021-2022 flu season, there was an estimated 9 million flu illnesses, 100,000 flu-related hospitalizations, and 5,000 flu deaths

Source: [Centers for Disease Control and Prevention \(CDC\)](#)

- States that have high very high flu activity: Alabama, Georgia, North Carolina, Tennessee, South Carolina, Maryland, Texas, Louisiana, Arkansas, Kentucky, New Jersey, and New Mexico

Source: [Centers for Disease Control and Prevention \(CDC\)](#)

- Deaths can be prevented with flu shots and adequate medical staff

Source: [National Institutes of Health \(NIH\)](#)

Hypotheses:

1. If the state has a large vaccinated population of adults 65 and older, then the mortality rates are lower during flu season.
2. If staffing is increased in vulnerable states, then mortality rates will decrease
3. If a vulnerable state has low flu shot rates, then the mortality rates will be high
4. If individuals are given a flu shot, then the risk of developing serious complications from the flu disease will decrease.

Data Wish List:

- Population of each state split into age groups
- Historical data of the staffing agency's employment and retention rates, including where staff has been sent
- Staff capacity of hospitals and clinics
- Vaccination rates per state including age, gender, & socioeconomic status
- Mortality rates per state