- **Stakeholders**

  1) Medical frontline staff

  2) Hospitals and clinics using staffing agencies services

  3) Influenza patients

  4) Staffing agency administrators

- **Schedule and milestones**

Exercise 1.2: Starting with Requirements
● Create a list of the data questions you need to answer for your analysis.
Week 2
Exercise 1.3: Designing a Data Research Project
● Design your data research project.
● Formulate a research hypothesis.
At this point I would communicate with the stake holders my plan and verify that it will align with what they are looking for.
Exercise 1.4: Sourcing the Right Data
● Describe the data sets you have access to for your project.
Page 4
● Explain the relevance and limitations of each data set to your project.
Week 3
Exercise 1.5: Data Profiling & Integrity
● Create a data profile for each of the data sets in your analysis.
● Include information on data types, data integrity issues (accuracy and consistency), any cleaning you conducted, as well as summary statistics in each profile.

Exercise 1.6: Data Quality Measures
● Implement additional data quality measures to your data profiles related to completeness, uniqueness, and timeliness.
At this point I would send an update through email and give weekly updates going forward with the progress made.

Week 4
Exercise 1.7: Data Transformation & Integration

- Integrate data from two sources into one cohesive data set using data transformations.

Exercise 1.8: Conducting Statistical Analyses
- Calculate the variance and standard deviation for key variables.
- Identify variables with a potential relationship and test for a correlation.

Send email to stakeholders of any insights made during this week and correlation results. Schedule meeting for next week for presentation and make sure that this aligns with availability of stakeholders.

Week 5

Exercise 1.9: 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.

Exercise 1.10: Consolidating Analytical Insights
- Create an interim report consolidating the findings of your analysis.

Present "half way report" to stakeholders and discuss if we are heading in the right direction for formulation of a plan for proceeding with a staffing plan.

Inter-rim report is major project deliverable 1: Written report delivered with a short verbal discussion and Q&A.

Cater information to 2 separate audiences which is explained in further detail in audience definition section

1) **Frontline staff and patients- less full on detail and more of an overview**
2) **Hospitals and staffing agencies- more complete detail with some explanations as to how the numbers were calculated.**

Achievement 2: Data Visualization & Storytelling

Week 6

Exercise 2.1: Intro to Data Visualization
- Explain how data visualizations can be used in your project.
- Install Tableau.

Exercise 2.2: Visual Design Basics & Tableau
- Create a data visualization design checklist.
- Explain how the visualizations in a given example can be improved.
Page 5
- Connect your project data to Tableau.

Send update email on progress made this week.

Week 7

Exercise 2.3: Composition & Comparison Charts
- Create a pie, bar, or column chart, as well as a tree map in Tableau.
- Use your visualization design checklist to design your charts.

Exercise 2.4: Temporal Visualizations & Forecasting
- Create a time forecast for a variable and display it in Tableau.
- Use your visualization design checklist to design your chart.

Send update email to stakeholders with weekly progress.

Week 8
Exercise 2.5: Statistical Visualizations: Histograms & Box Plots
- Create visualizations that look at the distribution of a variable.
- Use your visualization design checklist to design your charts .

Exercise 2.6: Statistical Visualizations: Scatter Plots & Bubble Charts
- Create visualizations that look at the correlation between variables.
- Use your visualization design checklist to design your chart.

Send update email with weekly progress.

Week 9
Exercise 2.7: Spatial Analysis
- Map a variable and justify your spatial visualization choice (heat, density, or choropleth).
- Use your visualization design checklist to design your chart.

Exercise 2.8: Textual Analysis
- Create a word cloud using qualitative data.
- Use your visualization design checklist to design your chart.

Send update with weekly progress with a preview of topics that will be discussed at meeting next week. Schedule meeting for presentation and make sure that this aligns with the stakeholder's availability.

Week 10
Exercise 2.9: 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.

Exercise 2.10: Presenting Findings to Stakeholders
- Record a video presentation for your stakeholders.

Make sure to dedicate some time at the end of the meeting for questions so that the stakeholders are fully satisfied and on board with plans and recommendations.

Final video presentation is major project deliverable 2- Powerpoint report with dynamic report/dashboard visuals.

Cater information to 2 separate audiences which is explained in further detail in audience definition section

> 1) **Frontline staff and patients- less full detail and more of an overview**
> 2) **Hospitals and staffing agencies- more complete detail with some explanations as to how the numbers were calculated**

This is a very wide audience as shown above. I would divide this in to two separate presentations where the first presentation is focused on the frontline staff and the patients. This would go over the plan and the overview of the data that lead to these decisions with a bit of the why for understanding purposes.

The second presentation would be aimed more at the overview that the hospitals using the staffing agencies and the staffing agency administrators. This is more of an overview type audience that would want more of the dive into the numbers and more explanation behind the analysis that lead there.

Insights from light reading on the topic

Vulnerable groups are universally considered to be the older population and those with pre-existing conditions.

- **Form a hypothesis for your project.**

Motivation: The flu season can vary year to year in severity depending on the strain of flu, and many other factors. Hospitals and staffing agencies need a staffing plan utilizing the current pool of employees to optimize these employees to best cover the needs during flu season.

Objective: This project will review which locations have the highest vulnerable populations against their occurrence of the flu.

Hypothesis: If a region has a high vulnerable population, then these regions will have higher case numbers of the flu given an outbreak situation.

Data Wishlist

Historical data on the outbreaks in previous years corresponding to the regions that were hit the hardest.

Data on the patients to find correlation/causation to these outbreaks

Staffing availability/constraints by region