

Vaccination Status

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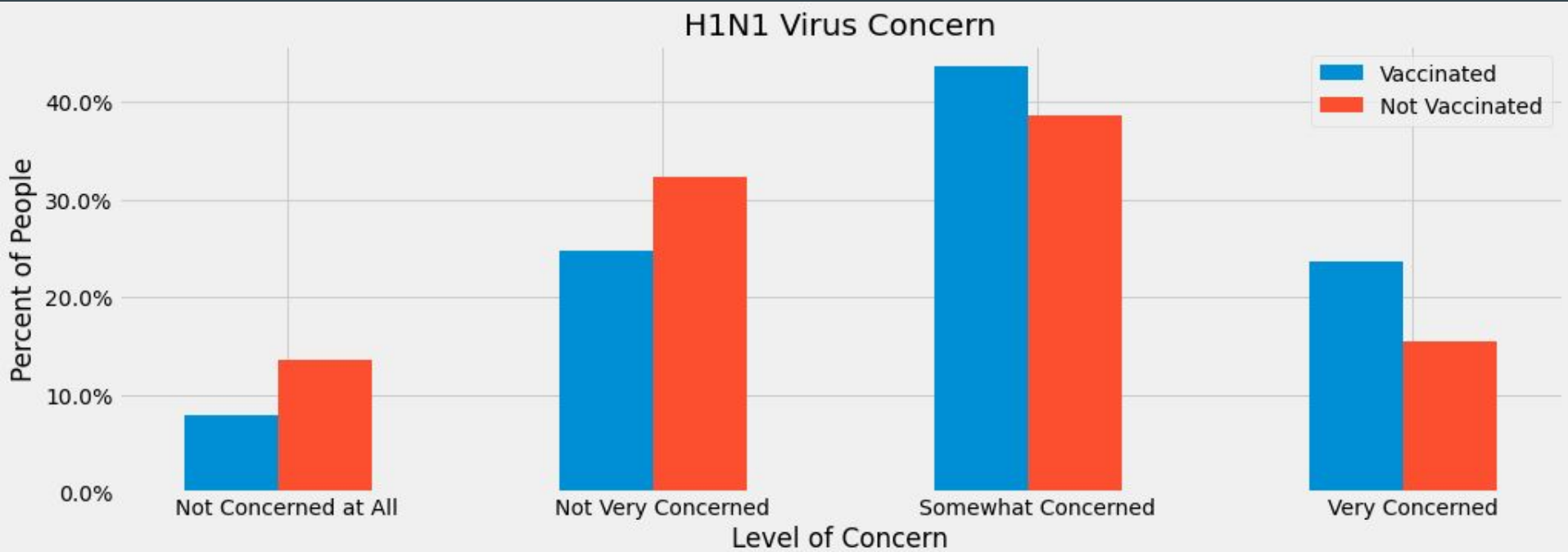
Business Problem

- A non-profit wants to see the factors that determine if an individual has received either the H1N1 vaccine and/or the flu vaccine.

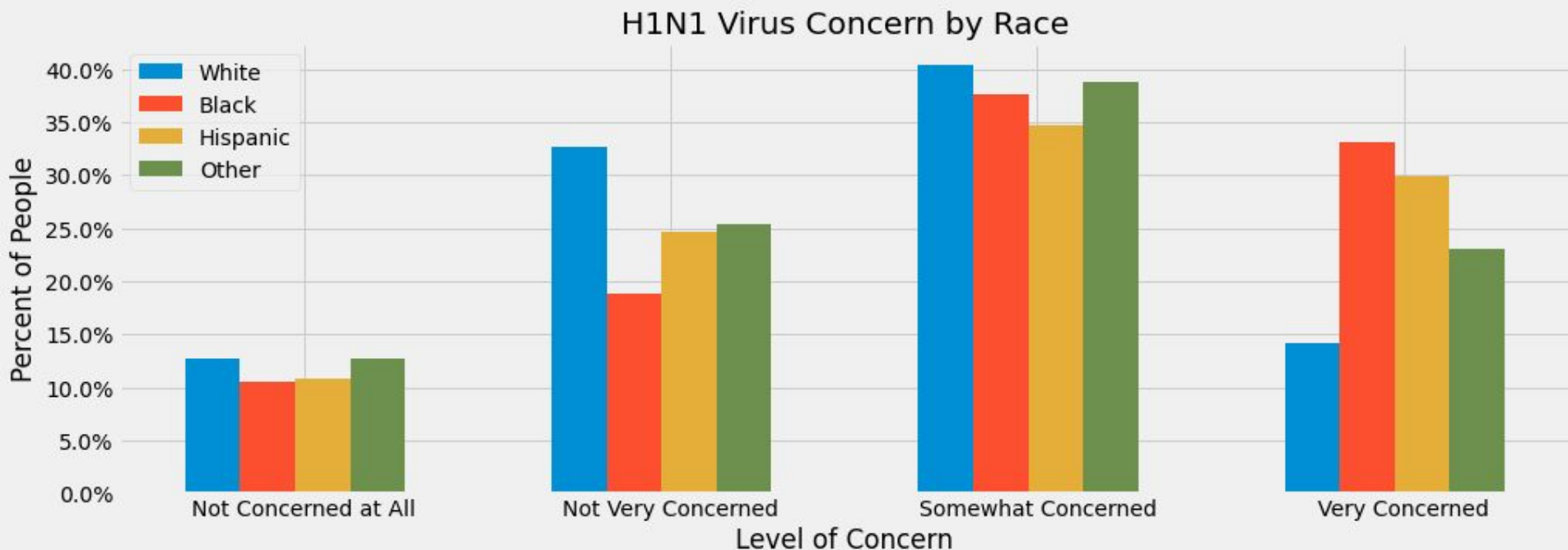
Data

- Approximately 26,000 records of individuals from Driven Data

Concern of H1N1 Virus



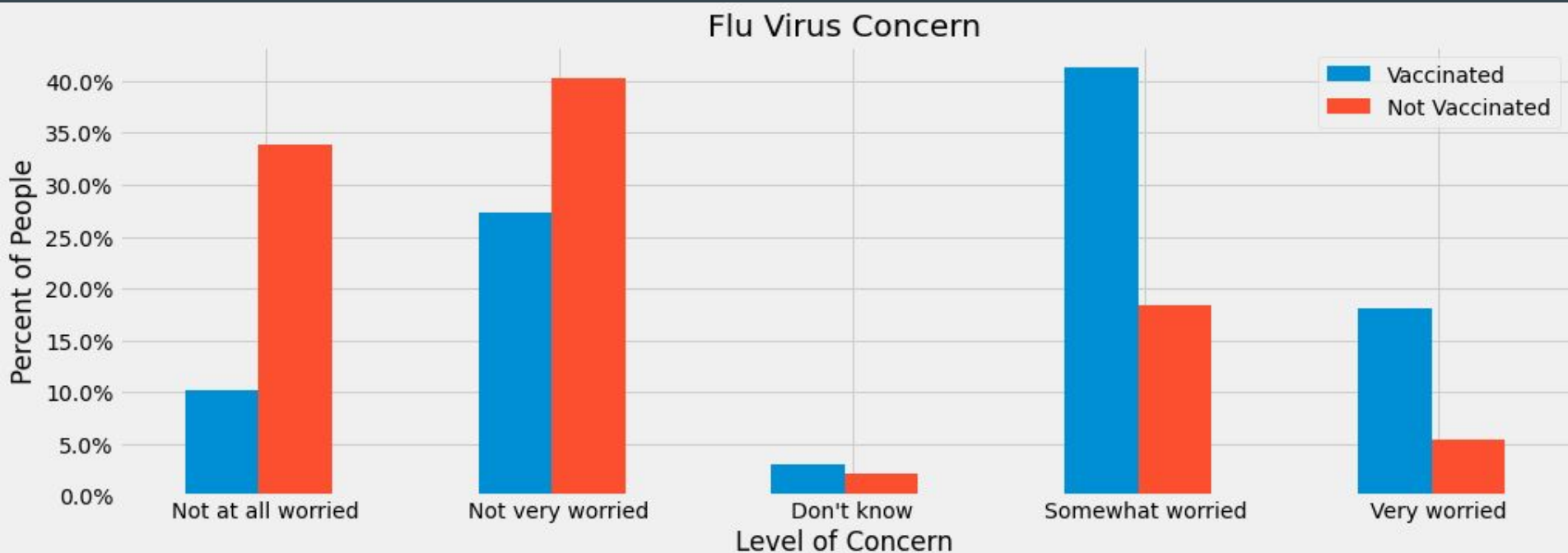
Concern by Race



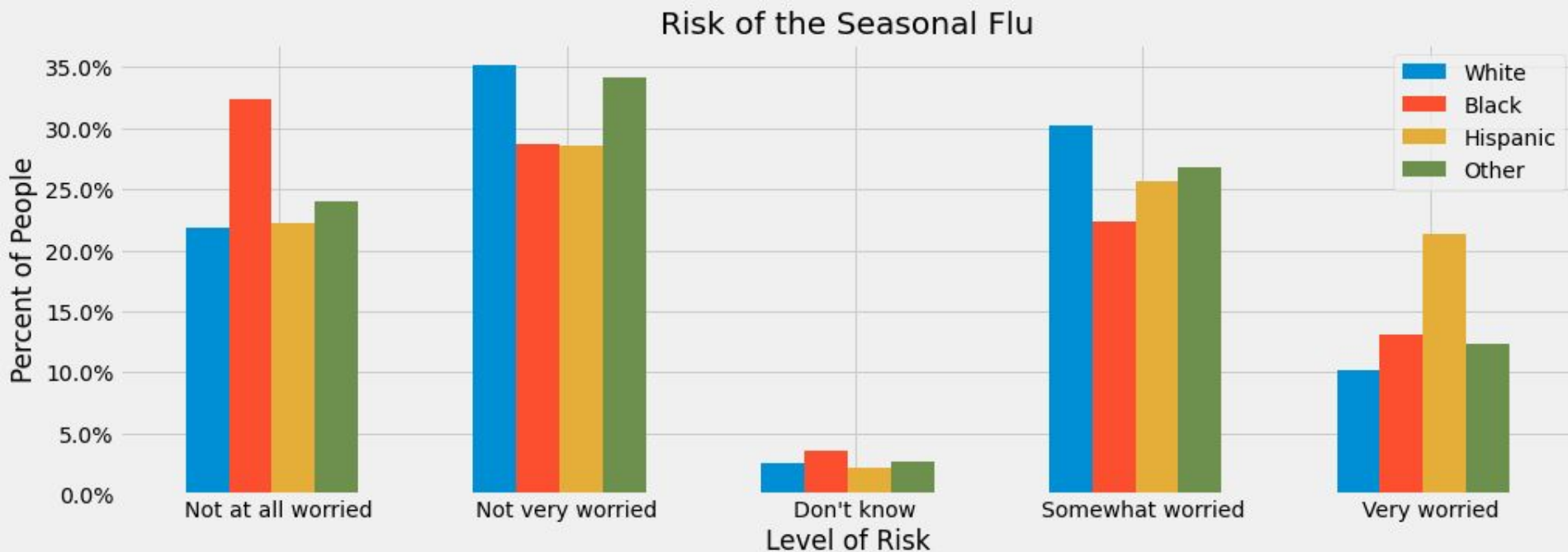
Models

| Logistic | K-Nearest Neighbors | Support Vector Classifier | Random Forest Classifier | Gradient Boosting Classifier | XGBoost Classifier | Neural Network |
|----------|------------------------|---------------------------------|--------------------------------|------------------------------------|-----------------------|-------------------|
| 0.770 | 0.760 | 0.801 | 0.835 | 0.838 | 0.840 | 0.806 |

Seasonal Flu Concern



Concern by Race



Models

| Logistic | K-Nearest Neighbors | Support Vector Classifier | Random Forest Classifier | Gradient Boosting Classifier | XGBoost Classifier | Neural Network |
|----------|------------------------|---------------------------------|--------------------------------|------------------------------------|-----------------------|-------------------|
| 0.776 | 0.737 | 0.780 | 0.779 | 0.783 | 0.784 | 0.771 |

Conclusion

- H1N1 Vaccination
 - Race
 - Age
- Flu Vaccination
 - Race
 - Age
 - Gender
 - Education

Next Steps

- More information
 - Efficacy of Vaccines
 - Political Affiliation
 - Region
 - Attempt to complete missing data
- Runtime
 - More Computational power
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Questions?