

FLATIRON PHASE 3 POWER POINT PRESENTATION

Henry Chung

BUSINESS UNDERSTANDING

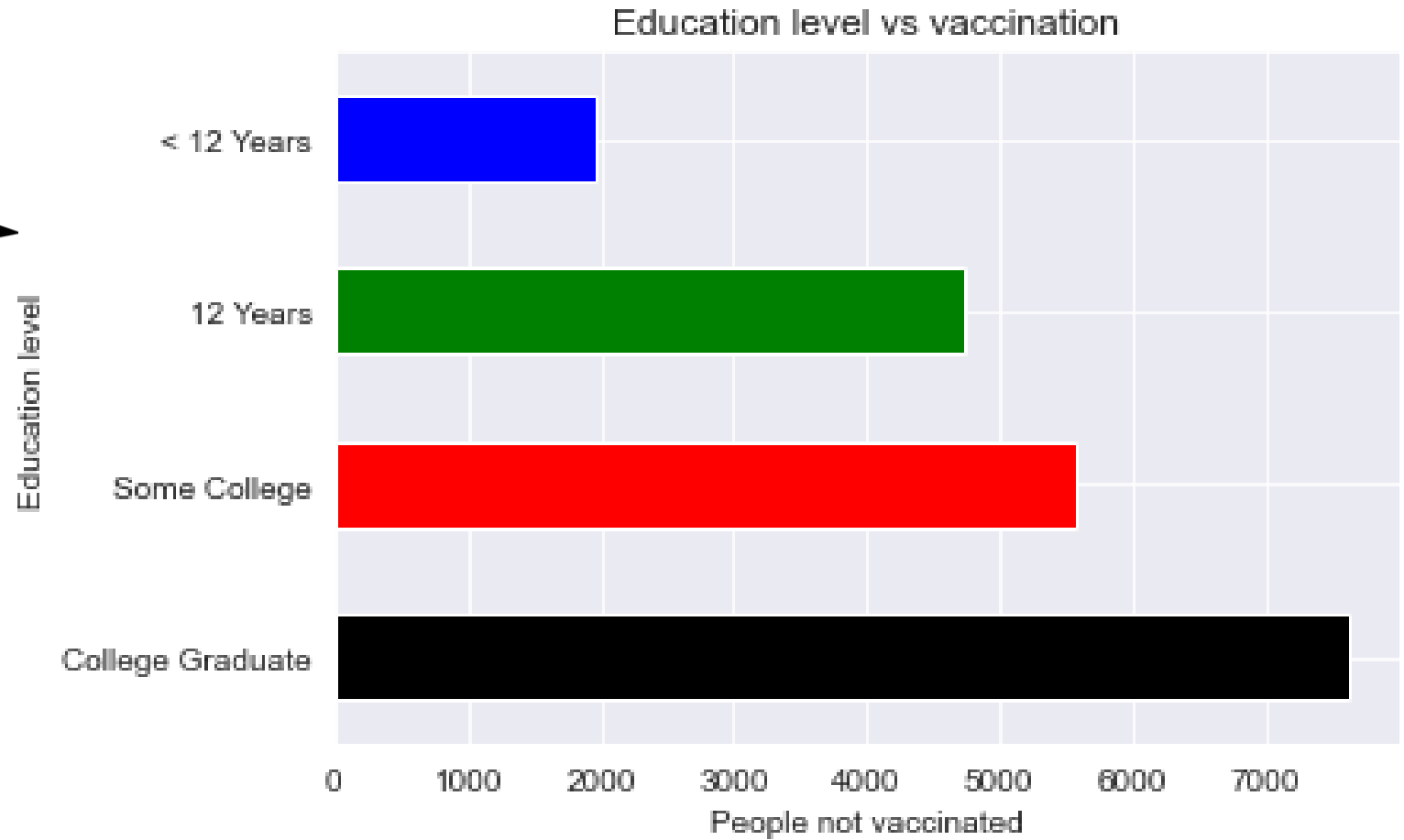
Stake Holder: New York State Department of Health wants to increase public H1N1 vaccination rate

Objective: Increase public vaccination rate with stronger public health efforts by understanding people's background, opinions, and health behaviors.

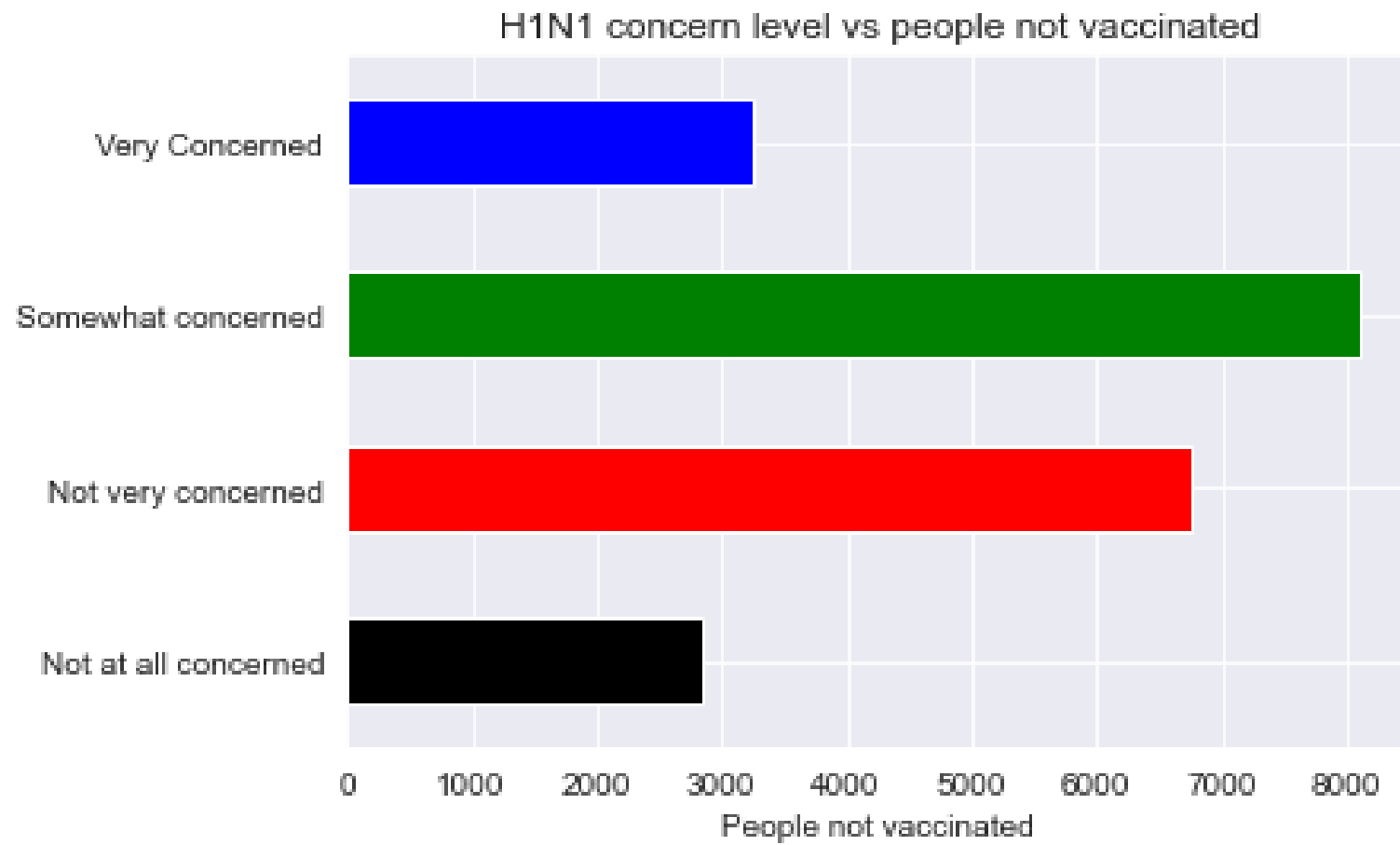


DATA SOURCE — AND PROCESSING

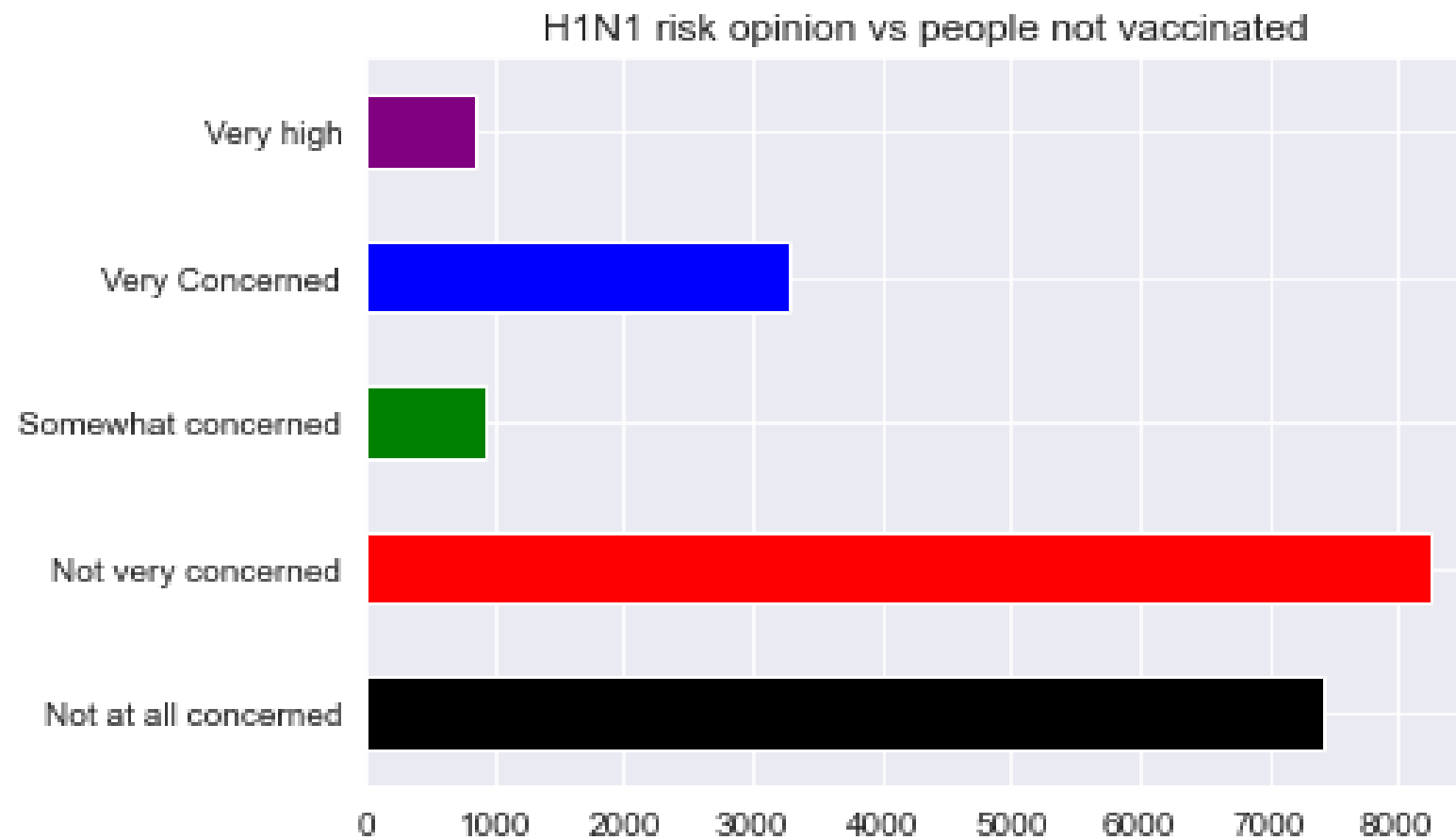
- 26707 of survey data is collected in the National 2009 H1N1 Flu survey is used.
- 37 features are included in the dataset, but the seasonal flu data (3 features) were not used in this study.
- Target variable = people get H1N1 vaccine.
- around 21% is vaccinated with H1N1 vaccine



EDA ANALYSIS



EDA ANALYSIS



EDA ANALYSIS

ROAD MAP FOR THIS STUDY

Split the data into 75%-25%

Data Cleaning

Implement model and pipeline

Finding optimum hyperparameters

Model evaluation and
recommendation



Confusion Matrix - Baseline Model

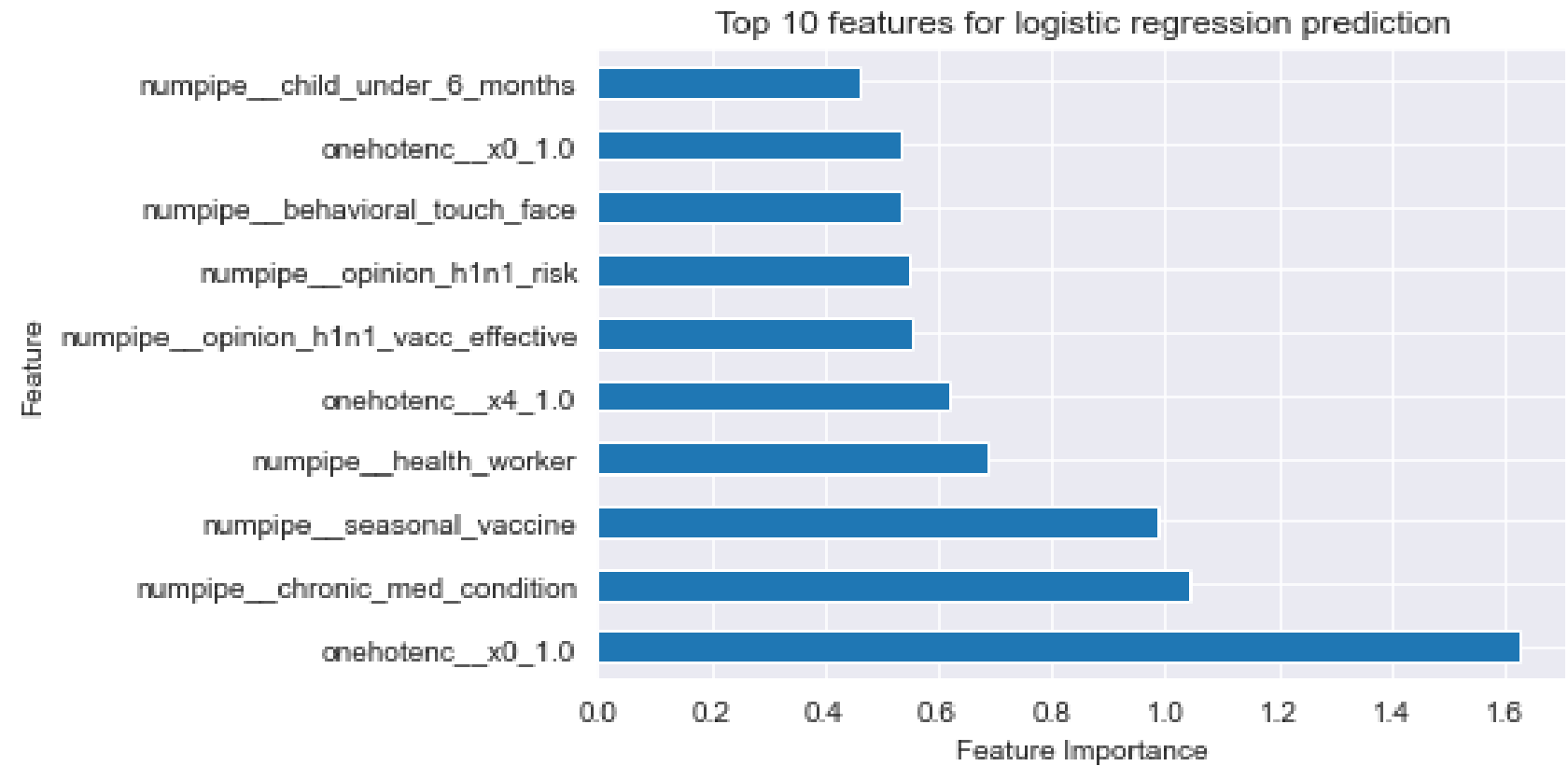
	0: not vaccinated	1: vaccinated
0	5260	0
1	1417	0
	Predicted label	

Confusion Matrix - Logistic Regression

	0: not vaccinated	1: vaccinated
0	4992	268
1	615	802
	Predicted label	

BEST MODEL

- Logistic Regression
- Precision
 - Positive case (0 % to 75%)
 - Negative case (79% to 87%)
- Accuracy
- Improve the score from 78% to 87%



TOP 10 FEATURES FOR THE MODEL

- People care !!! People who are more aware of their health situations are likely to get vaccinated.
- Promote H1N1 risk without vaccine.
- Target college level people with proper H1N1 knowledge.



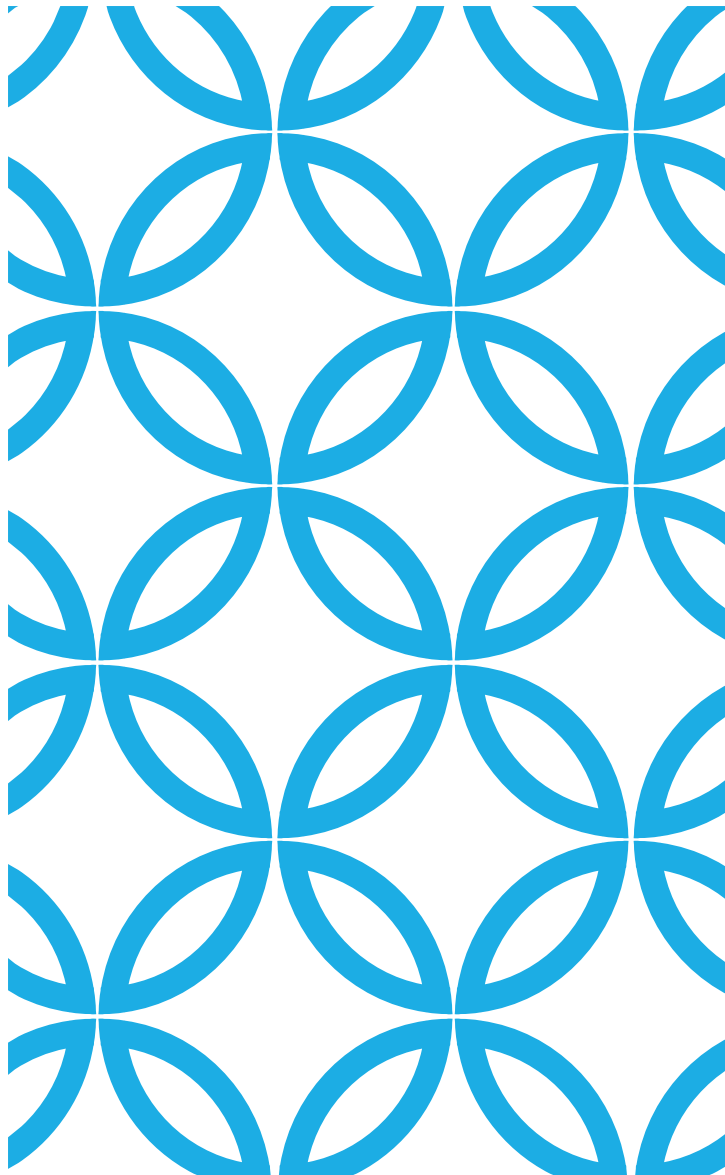
This Photo by Unknown Author is licensed under CC BY-SA-NC

CONCLUSION/RECOMMENDATION

- Investigate employment status and employment occupation and vaccination rate.
- Investigate with advanced models



NEXT STEP



THANK YOU
