
Predicting H1N1 Vaccine

— Laura Brown —

Summary

Analysis on what variables can predict whether a person receives the H1N1 vaccine or not and recommendations for Pfizer on how they can increase the number of people vaccinated.

Creating partnership with doctors around the country to recommend and educate patients on benefits of the vaccine and the risks of not getting the vaccine.

Producing a PSA to educate the public about the virus and encourage them to protect themselves.

Encourage those who get the seasonal flu vaccine to also get vaccine for the current virus.

Outline

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Business Problem

Given information about people's vaccination status, their hygiene habits, economic standing, doctor recommendations, etc., we want to give suggestions to Pfizer on how they can maximize the number of people who get vaccinated.

Objective:

Create a model that can accurately predict who will receive the H1N1 vaccine and how we can potentially increase that number in the future.

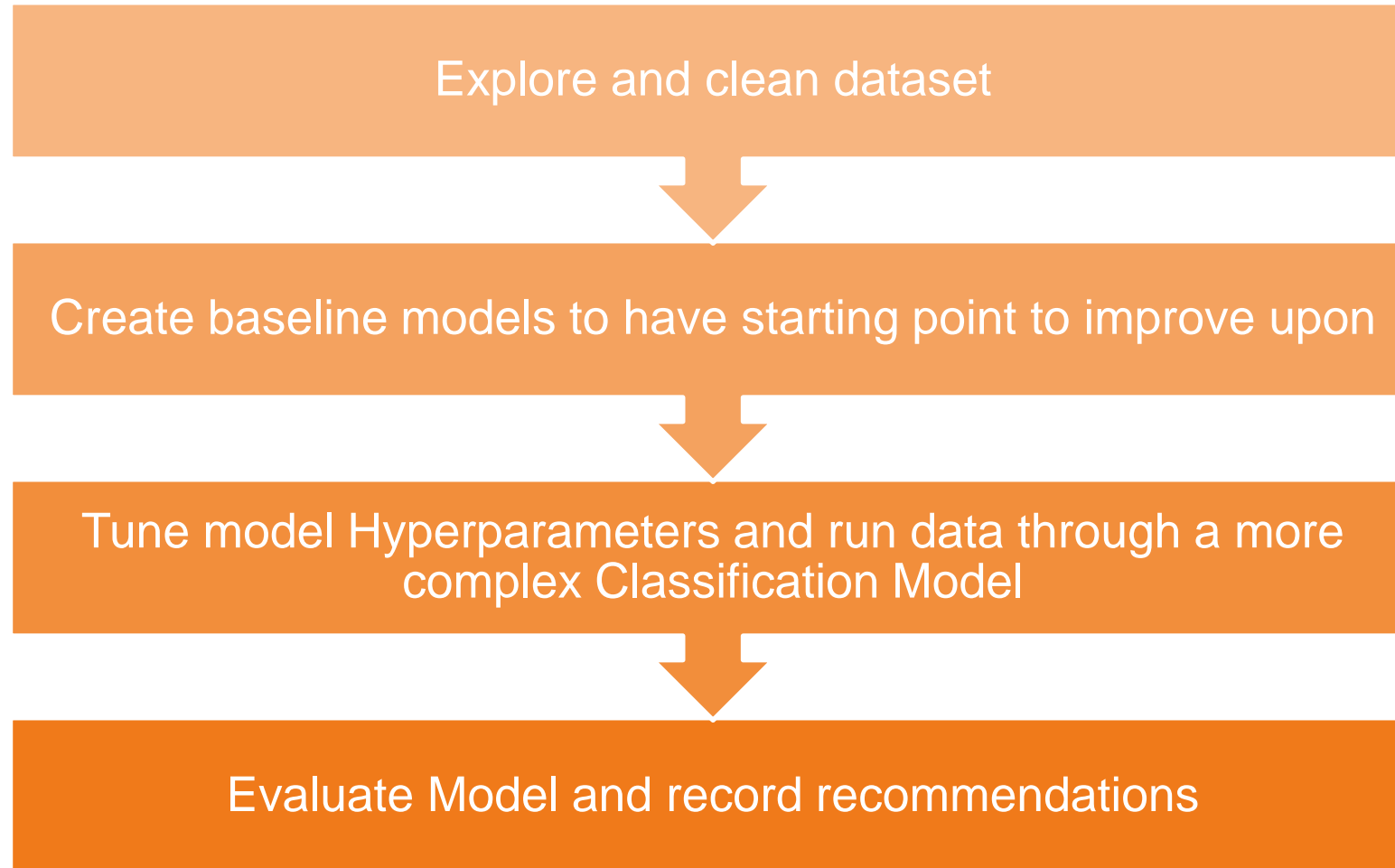


Data

- Source: National 2009 H1N1 Flu Survey (NHFS)
- 26,707 samples
- 37 columns (variables)
- Numerical and Categorical data types
- Parameters Used:
 - Dependent: H1N1 Vaccine
 - Strongly Correlated Independent: h1n1 concern, h1n1 knowledge, doctor recommend h1n1, chronic med condition, health insurance, opinion h1n1 vaccine effective, opinion h1n1 risk, seasonal vaccine

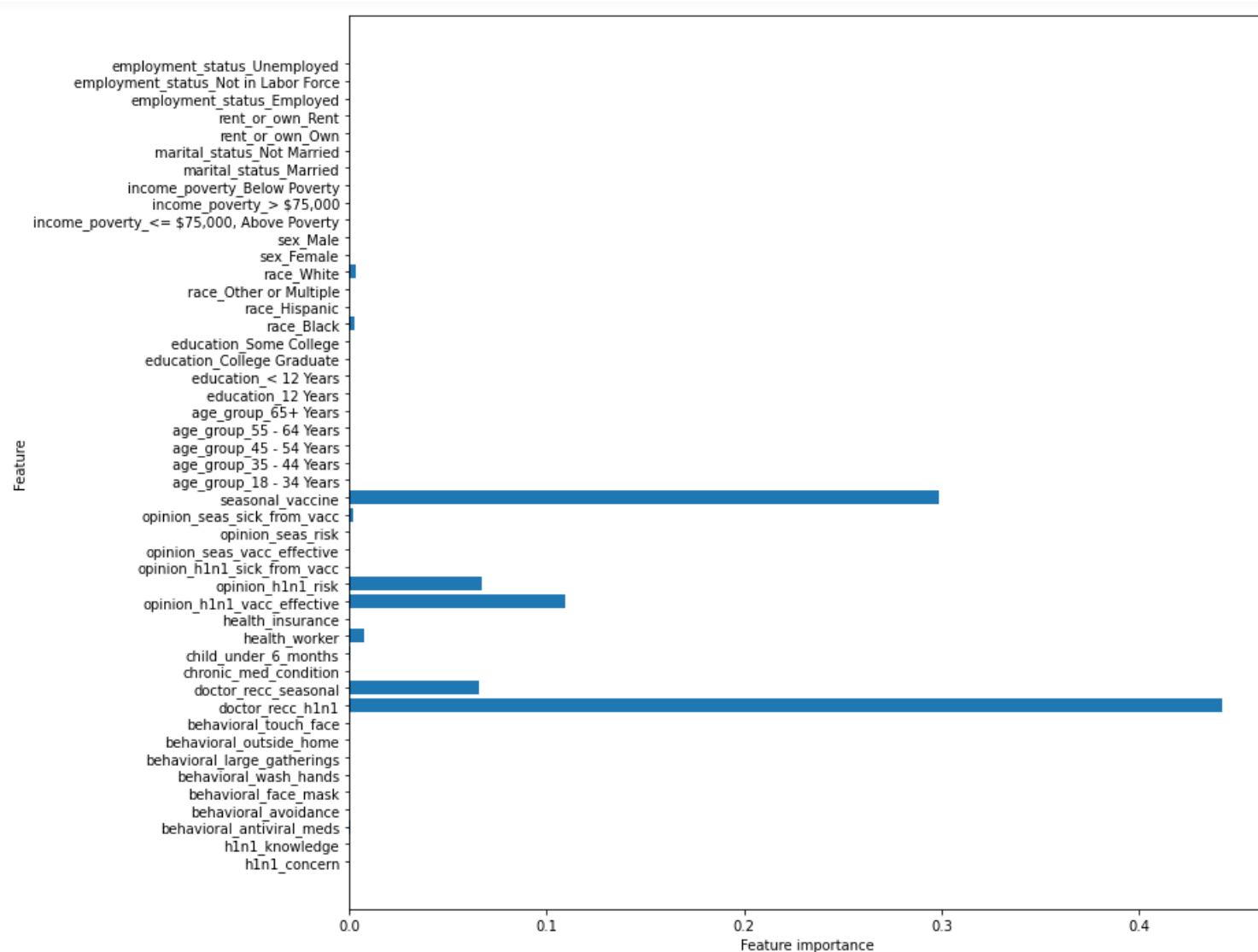


Methods



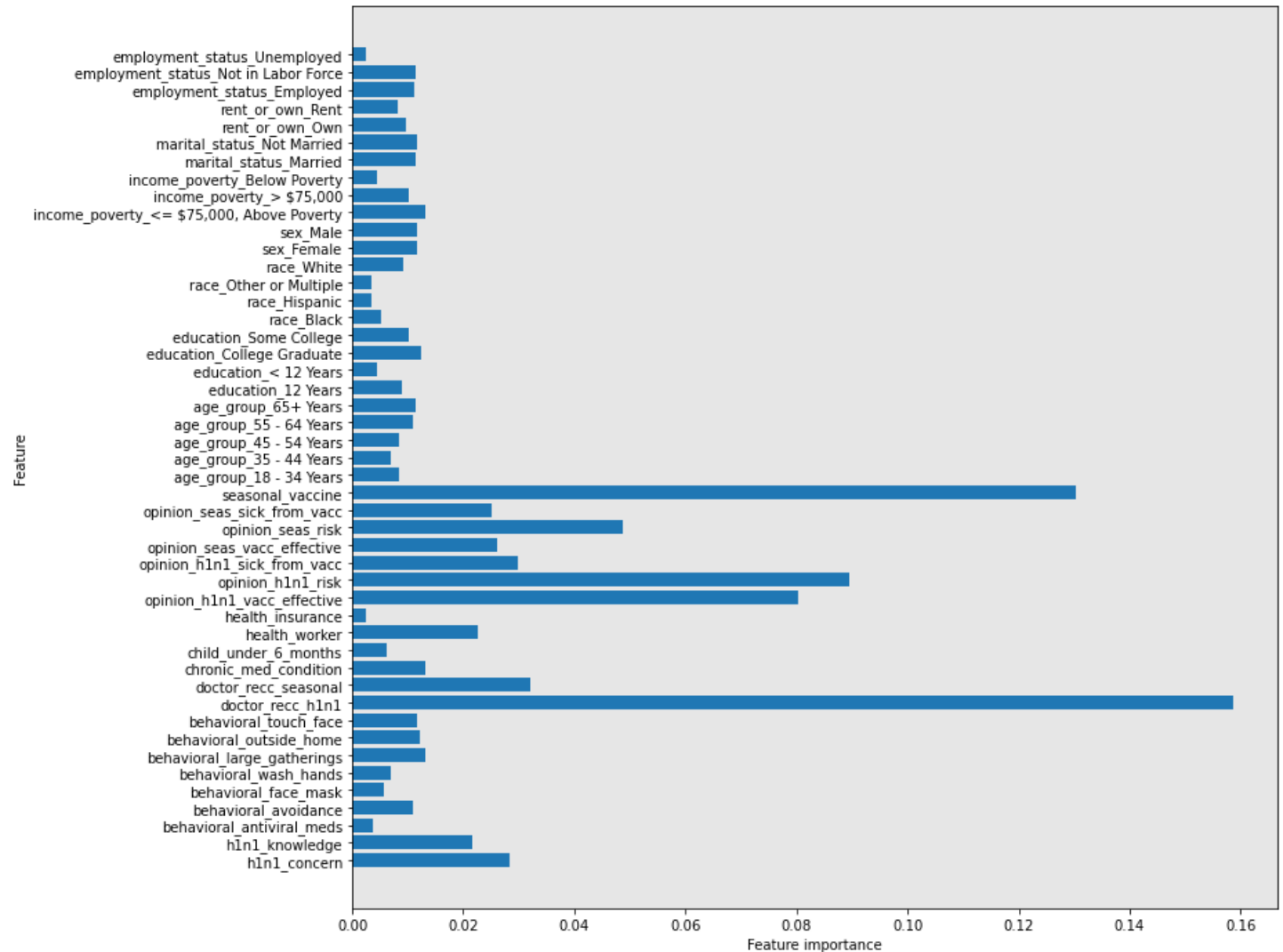
Results – Baseline Model

- Precision for predicted Negatives: 87%
- Precision for predicted Positives: 68%



Results – Final Model

- Precision for predicted Negatives: 86%
- Precision for predicted Positives: 74%



Conclusions

- Doctor recommendations have a very strong influence on people getting vaccinated.
- The more people were informed about H1N1, the more likely it was that they would receive the vaccine.
- If a person receives the seasonal flu vaccine, they were more likely to get the H1N1 vaccine.

Next Steps:

- Conducting a new survey and seeing how people's responses have changed or stayed the same from 2009 would be important information to have if another pandemic were to occur in the United States.

Thank You!

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