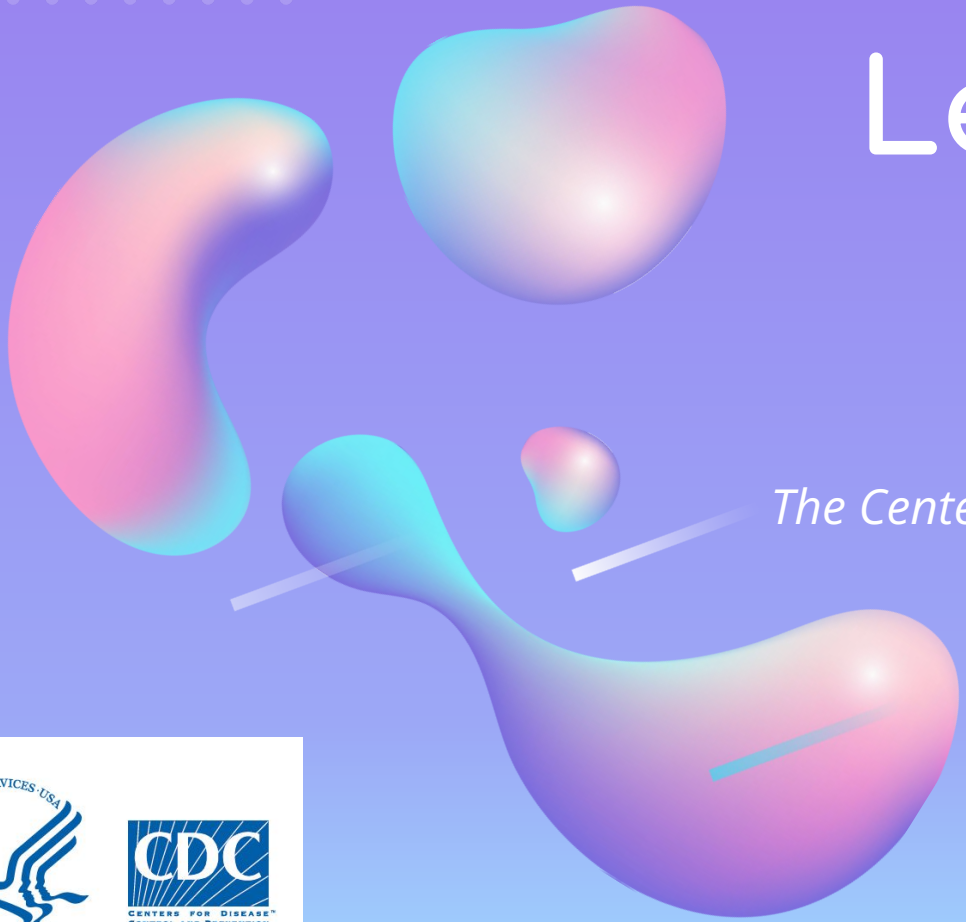
Lessons from the H1N1 Pandemic

The Center for Disease Control and Prevention



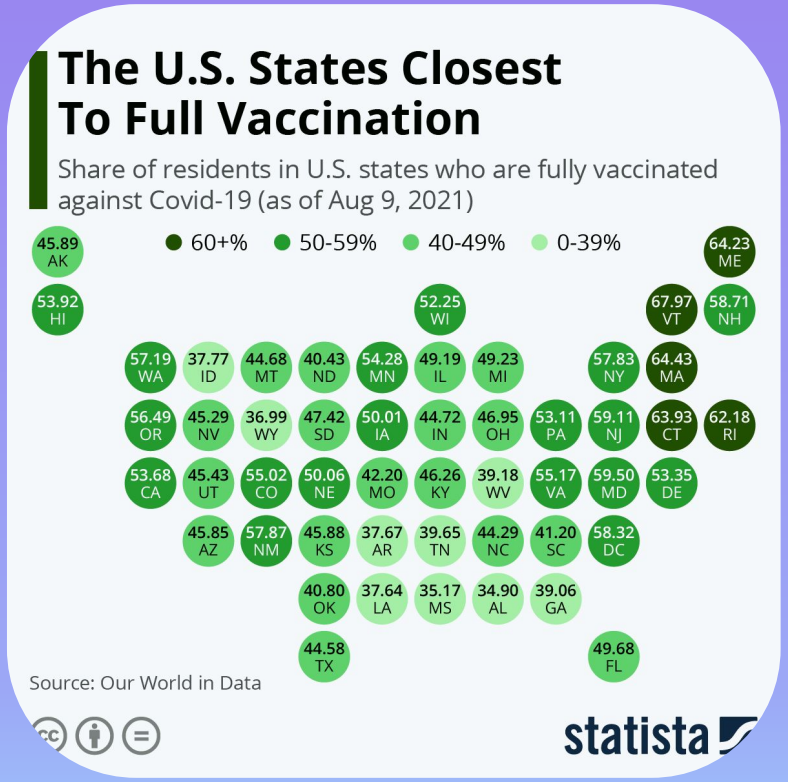
OUR TEAM

Jade Adams
(she/her)
Data Scientist

Stephen William
(he/him)
Data Scientist

BACKGROUND

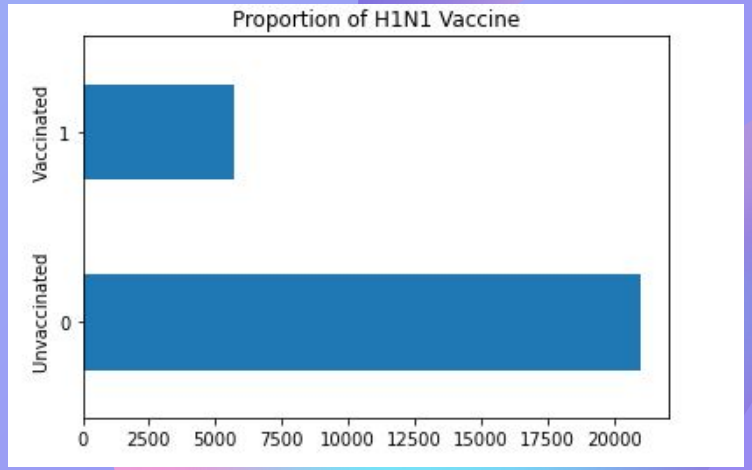
- CDC combating COVID-19 vaccine hesitancy
- Goal to find lessons from the 2009 H1N1 pandemic



Source: statista.com/chart/25239

BUSINESS PROBLEM

- Produce an accurate model to predict whether a respondent received an H1N1 vaccination
- Focus public health resources on vaccine-hesitant populations
- Prepare for future surveying methods to hone in on important vaccination decision factors



THE DATA

26,000

Number of respondents in the dataset

25

Different characteristics per respondent

91%

The percentage of respondents who knew about the H1N1 pandemic

21%

The percent of respondents who received the H1N1 vaccine

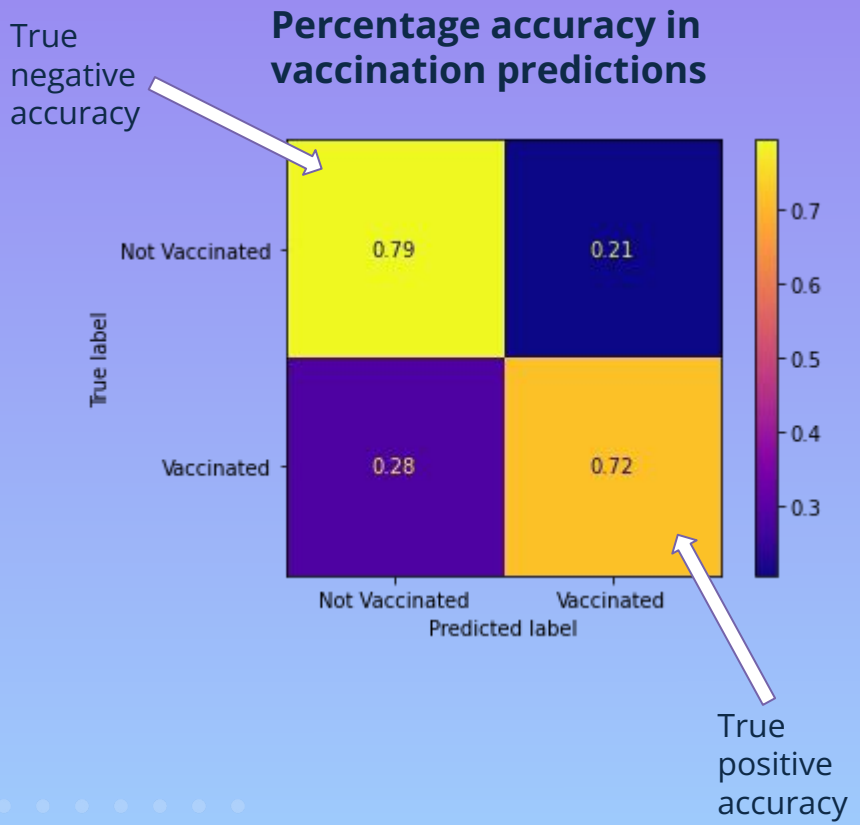
EXPLORATORY ANALYSIS

- Maintained data consistency by inputting the mean of each category into missing information

- More complete, future surveying by the CDC will result in more accurate predictions

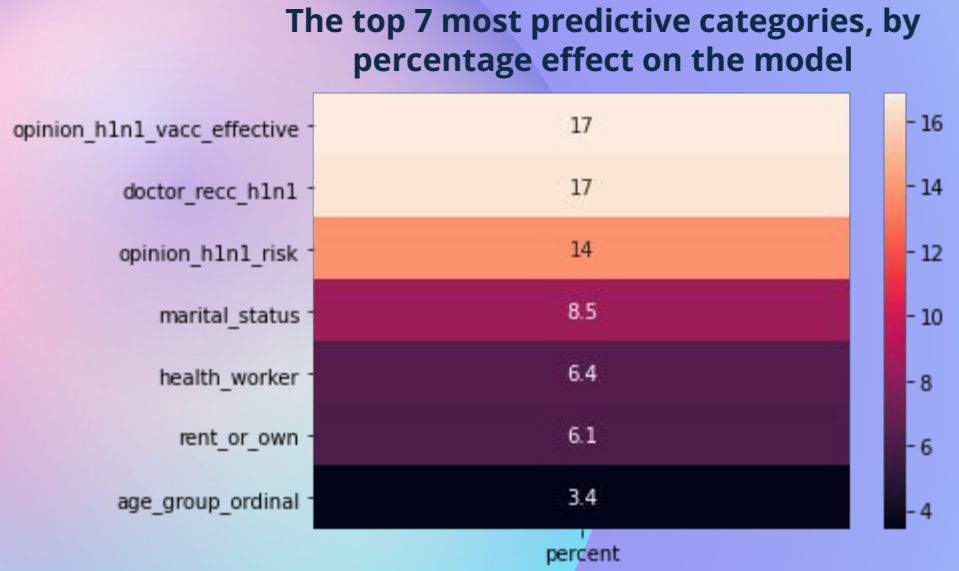
OUR MODEL

- Used logistic regression pipeline to predict vaccination status
- **75%** overall accuracy



MODEL CHARACTERISTICS

- Most important decision factors: doctor recommendation and personal opinions on H1N1
- Age, employment, income, and race all significant demographic decision factors



RECOMMENDATIONS

DOCTOR FOCUS

Improve doctor outreach and requirements to recommend the vaccine

INVEST IN SURVEYING

Study the factors that determine pandemic concern and belief in vaccine effectiveness

DEMOGRAPHY-BASED EDUCATION

Focus pandemic education on populations with high factors in vaccine hesitancy

QUESTIONS?