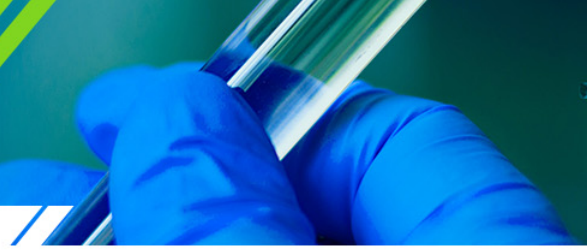


# H1N1 VACCINE RECEPTION RATE PREDICTION

BY EDMUND NYARIBO



# Business Overview



- Vaccination, is a key public health measure used to fight infectious diseases via the indirect protection.
- 'USE Department of Health and Vaccination Services' needs to gain more insights from personal vaccination patterns to provide guidance for future vaccination efforts.

# Business Understanding



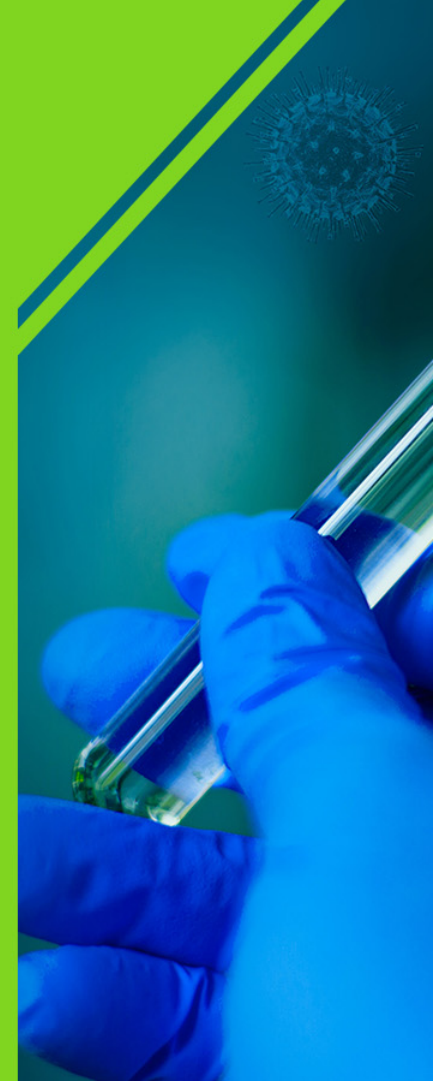
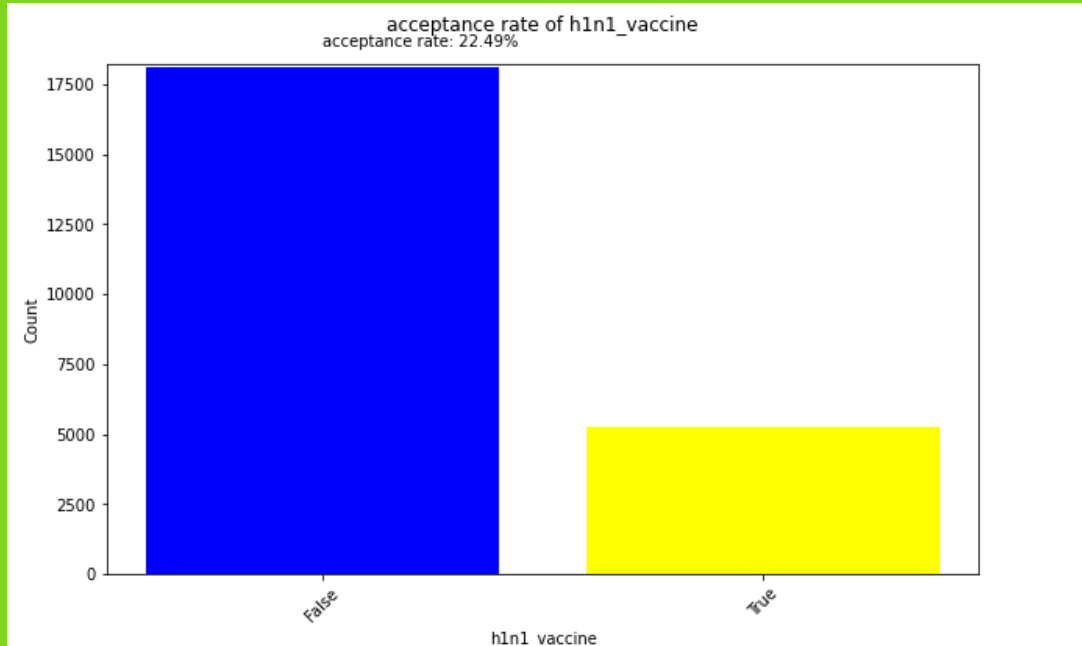
- The primary goal is to create a platform that delivers accurate predictions of the acceptance of the H1N1 vaccine flu shot.

## **OBJECTIVE**

- To predict the acceptance rate of the H1N1 vaccine.

# DISTRIBUTION FOR THE ACCEPTANCE RATE OF THE VACCINE

The plot shows according to the data that only 22.5% of the sample population received the vaccination which is quite low



# Best Model Results

We used four models to model our features, and the **Random Forest Classifier** model was our best model having the following scores; from a scale of 0 – 1.

	precision	recall	f1-score	support
0	0.905900	0.827072	0.864693	3620.000000
1	0.544396	0.706327	0.614879	1059.000000
accuracy	0.799744	0.799744	0.799744	0.799744
macro avg	0.725148	0.766699	0.739786	4679.000000
weighted avg	0.824081	0.799744	0.808153	4679.000000

\* **Precision:** In **class 0**, the **precision** is **0.90**, indicating that **90%** of the instances predicted as class 0 **are actually true**.

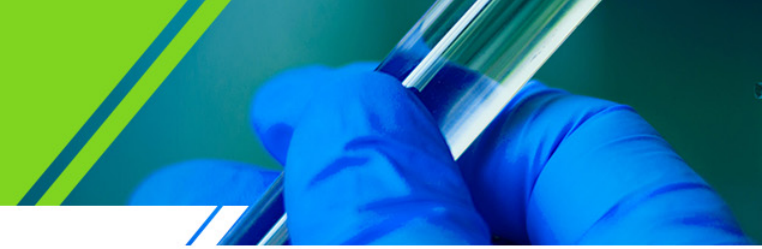
In **class 1**, the **precision** is **0.544**, meaning that **54%** of the instances predicted as class 1 **are true** .

\* **Recall:** In **class 0**, the **recall** is **0.8270**, indicating that **82.7%** of the actual class 0 instances **are correctly predicted**.

In **class 1**, the **recall** is **0.7063**, meaning that **70.6%** of the actual class 1 instances **are correctly predicted**.

# CONCLUSIONS

- The Random Forest Classifier model, being our best model should be incorporated into the health system in order to help in predicting the acceptance rate of the vaccine.
- This will can also help the health facility in knowing the intensity of the campaign they need to do in order to increase the acceptance rate of the vaccine.





# THANKS

**Any inquiries...**

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**Repository link:**

[https://github.com/EdmundNyaribo/Phase3project\\_H1N1\\_vaccine\\_predict](https://github.com/EdmundNyaribo/Phase3project_H1N1_vaccine_predict)