

# HACKLYTICS 2023 PROJECT DESCRIPTION

**Team Name: Tran\$parency**

Members: Joseph, Natalia, Jeongwon, Rudro

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Theme: Access to healthcare

## BUSINESS PROBLEM

American Health Insurance Company (AHIC) has been experiencing a growing problem with high claim costs and members receiving surprise bills after visits to the ER. Emergencies are oftentimes unpredictable and AHIC does not always have the ability to intervene and steer members towards lower cost providers. AHIC has sourced data from CMS and internally to identify patterns in the way hospitals charge for emergency services. AHIC is developing solutions to reduce ER costs to improve the patient experience so that members can spend their time recovering after stressful events and not worry about medical bills or access to care. AHIC's objective is to build an innovative, technological solution that will take a step forward in reducing the high cost of care for AHIC's members as they navigate a complex healthcare system in their greatest times of need.

## SOLUTION

The analytics, IT, claims, and innovation teams at AHIC have come together to leverage technology and solve this pain point for AHIC members. The Cost Solutions team developed a machine learning model to recommend hospitals to patients through a recommendation engine based on the hospital's distance from the member's current location, the overall hospital rating, average hospital charge, and other factors. The recommendation engine is integrated with a web app that will be built into the functionality of the AHIC member mobile app. Members will be

able to use this feature on the go. As they open the app they'll have the option to enter any symptoms they have into a textbox on the landing page and the recommendation system will use natural language processing to identify the level of care they'll need in order to suggest the best providers to see in their area. Once the recommendation web app is implemented, AHIC plans to send proactive outreach emails to members so that they can educate themselves on the best providers to go seek out in case of an emergency. The goal is for AHIC to harness member and provider data to provide greater patient education and improve access to care, all while reducing healthcare costs.

## **DATA SOURCES**

<https://www.kaggle.com/datasets/center-for-medicare-and-medicaid/hospital-ratings>

<https://www.kaggle.com/datasets/andrewmvd/us-hospital-locations>

<https://www.kaggle.com/code/speedoheck/hospital-data/data>

## **REFERENCES**

"Top Challenges Impacting Patient Access to Healthcare." Patient Engagement HIT, [patientengagementhit.com/news/top-challenges-impacting-patient-access-to-healthcare](http://patientengagementhit.com/news/top-challenges-impacting-patient-access-to-healthcare).