Understanding Disparities in Primary Care: Boston Medical Center

Problem Statement: Widespread research has demonstrated the existence of significant racial & ethnic disparities in access to, quality of, and outcomes in healthcare globally. Despite BMC’s demonstrated commitment to serving their diverse community and understanding and addressing social determinants of health, they do not have an understanding of how racial and ethnic disparities specifically manifest in their patient population.

COVID-19 has amplified existing racial and ethnic health disparities, while illuminating these disparities in the mainstream. With a vaccine imminent, BMC is concerned about how these racial and ethnic disparities could further hurt communities of color.

Scope of Work

- **Data**
  - Understand structure of and processes behind available data
  - Develop an understanding of the demographics of patient sample
  - Analyze how racial & ethnic disparities manifest in BMC’s patient population - qualitatively & quantitatively

- **Flu Vaccination**

- **Colonoscopy**

Early Challenges & Opportunities

Exploring and understanding the data revealed a number of learning opportunities around data quality, consistency, and process:

- **Limiting issues**
  - Race data was inaccurate and could not be used (no Hispanic/White, all Haitian/White mismatches)

- **Resolved issues**
  - The initial dataset showed a majority of patients as ‘not applicable’ for requiring the flu vaccine
  - Half of the patients in the sample do not have ethnicity data, so we had to use language data in much more detail

Early Challenges & Opportunities

- **Challenges to inform the future**
  - Structures of Ethnicity categories (“Asian Indian” often selected by Korean speakers)

Selected Findings

**Flu Vaccination**

- BMC’s patient sample is significantly lagging behind national coverage averages, across ethnicities
- Differences exist across Ethnicities: rates of vaccination for Cape Verdean, Haitian, and African patients range from 3-7% lower than the sample average and other ethnicities.
- Males have worse vaccination rates than females & Younger patients have the worst vaccination rates

**Colonoscopy**

- BMC’s sample population is behind national averages for colonoscopy coverage across all ethnicities
- Differences exist: rates of colonoscopy coverage for North Americans and Africans are 3-9% lower than the sample average and other ethnicities.
- Males mostly have worse overdue rates than females & Worst overdue rates are in the 50-59 age range

Patient Insurance Types

- Insurance type is proportionally dramatically different than the rest of the state, confirming that this is a low-income population across ethnicities
- Insurance type varies between ethnicities: Dominicans have a 13% lower rate of commercial insurance coverage than North Americans in the sample

Selected Recommendations

- Explore Data Further & Strengthen Data Management Processes
- Identify & Avoid ‘Missed Opportunities’ from scheduling future vaccinations
- Conduct provider & patient survey to better understand procedure perceptions

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*US Census 2010, Centers for Disease Control 2018

Selected Findings

- Patient Overdue for Flu Vaccine by Ethnicity
- Patient Overdue for Colonoscopy by Ethnicity

Patient Demographics

- Less than 50% of the 61,200 records included ethnicity
- Using language data, we were able to add assign 4,332 additional patients to an ethnicity
- Vietnamese population is notably small, compared to census data & considering it is a top language translation request to ensure our analyses were practical and actionable for BMC, we focused on the 7 largest ethnic groups

Addressing Missing Information

- Median age = 41 vs. City of Boston median age = 31
- 57% female, 43% male, in line with census

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