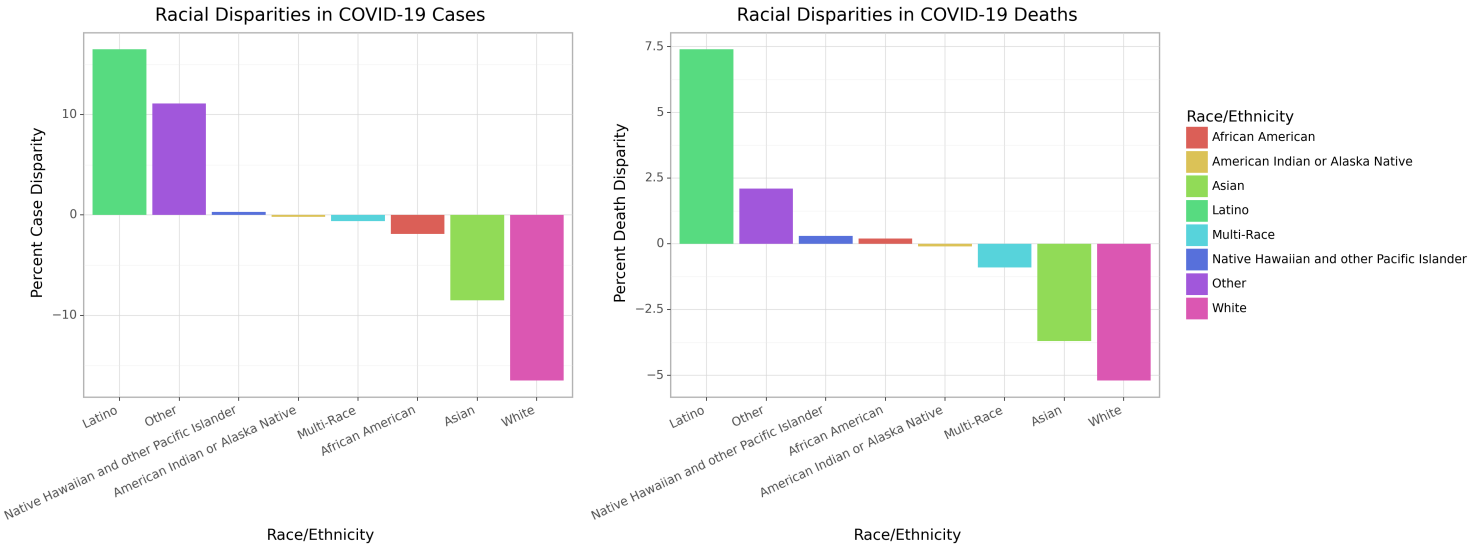
Proposed Analysis of California's COVID-19 Vaccination Rollout

The COVID-19 pandemic has affected Californians along racial and ethnic lines. Addressing these inequities via an equitable vaccination rollout is paramount to ensuring that the CDPH lives up to its stated mission "to advance the health and well-being of California's diverse people and communities"[1]. I propose undertaking a county-level analysis of California's vaccination rollout in order to assess its equity and identify whether certain groups are currently being underserved as well as where the problem is most prevalent.

The Problem



Comparing the percentage of COVID-19 cases and deaths by race and ethnicity with California's demographics reveals severe inequities for both metrics[2]. The most stark example of this is with California's Latino population, which represents only 39% of the state's population yet accounts for 55% of cases and 46% of deaths. Furthermore, research has revealed racial inequities in hospitalizations. For example, studies from early 2020 show that "compared with non-Hispanic white patients, non-Hispanic African American patients had 2.7 times the odds of hospitalization"[3]. Beyond this, national research has shown that the economic impact of COVID-19 has fallen disproportionately on low-income individuals[4]. Considering these data in planning the COVID-19 vaccination

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[1] https://www.linkedin.com/company/california-department-of-public-health/about/

[2] CA Department of Public Health COVID-19 Race and Ethnicity Data

[3] https://pubmed.ncbi.nlm.nih.gov/32437224/

[4] https://www.pewresearch.org/social-trends/2020/09/24/economic-fallout-from-covid-19-continues-to-hit-lower-income-americans-the-hardest/

rollout[5] offers the CDPH a way to remedy racial and ethnic disparities by adjusting our state's vaccination program to be more equitable.

Proposed Project

In order to address these inequities, we must first quantify the performance of the state's vaccination rollout thus far. **I propose conducting an evaluation of the state's vaccination rollout thus far in order to measure racial, ethnic, and economic disparities, and to inform what actions are needed to remedy them.** Performing this analysis at the county level allows CDPH to implement programs targeted to specific groups in individual counties. The only costs associated with this undertaking are the time and effort to acquire, clean, and merge the necessary datasets, as well as to perform the proposed analysis.

Proposed Plan

In order to conduct a robust county-level analysis, we will construct a database with the following data:

- Percentage of vaccinations administered to each racial/ethic group in each county[6]
- Demographic data (population by racial/ethic group) for each county[7]
- Income data (mean/median income) for each county[8]

Once these data are acquired, I will perform an analysis and present descriptive visuals to answer the following research questions:

1. Are certain racial/ethic or income groups being vaccinated at disproportionately high or low rates?
2. Do these disparities differ at the county-level, and if so, which counties are implementing the most unequal vaccination rollout?

This information will empower the CDPH to improve the equitability of the vaccination rollout by informing the efficient targeting of resources to the most affected communities. For example, if data were to reveal that Latino individuals were being vaccinated at disproportionately low rates in farming areas such as Central California, programs could be implemented to promote trust in vaccinations in those areas and vaccination drives targeted toward farm workers (such as mobile vaccination clinics) could be established.

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[5] https://covid-vaccine-dashboard.herokuapp.com

[6] https://covid19.ca.gov/vaccines/

[7] https://www.census.gov/quickfacts/CA

[8] https://en.wikipedia.org/wiki/List_of_California_locations_by_income