

Co-creation of Digital Tools to Enhance Young Adult Minority Participation in COVID-19 Trials

Investigators

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Project Summary

Increasing young adult racial and ethnic minorities' participation in COVID-19 clinical trials is essential to reducing health disparities in the uptake of COVID-19 vaccinations and associated treatment burden. Yet, several obstacles hinder racial/ethnic minority participation in trials, including structural barriers associated with a lack of financial resources, proximity to trials, transportation issues, and group-specific problems such as mistrust of the medical/research community or concerns about medical experimentation. In response, Dr. Yang and Dr. Mackey's study aims to utilize novel approaches involving big data, machine learning, data science, and community-driven qualitative research to develop and evaluate a digital tool to encourage young minority adults to participate in the clinical trial process. The efficacy of the digital health tool will be evaluated by conducting a controlled before-and-after study among a population of young adult college students at a Minority Serving Institution. The proposed project will result in co-creation of a digital health tool to increase young adult racial and ethnic minority participation in COVID-19 and other clinical trials.

Populations Served: Asian, Black or African American, White, and Hispanic or Latino.

Goals/Aims:

1. Develop insights into which communities in the United States are underrepresented in the context of access to COVID-19 clinical trials, while also assessing racial, ethnic, age, and socioeconomic factors that may contribute to underrepresentation using data mining.
2. Characterize broad user self-reported knowledge, attitudes, and lived experiences with COVID-19 clinical trials, including among members of underrepresented communities, by using big data and machine learning to identify and characterize discussions on social media platforms.
3. Identify specific rationalities, cultural norms, and historical influences related to COVID-19 clinical research engagement with racial and ethnic minority young adults in the Los Angeles-Long-Beach-Anaheim Metropolitan Statistical Area (LALBA-MSA) through deep, nuanced focus group discussions.
4. Ideate, co-create, and jointly design a digital health tool to encourage clinical trial participation among young adult minority populations through co-design sessions and pilot testing held with racial and ethnic minority young adults in LALBA-MSA.
5. Evaluate the efficacy of the digital health tool by conducting a controlled before-and-after study among a population of young adult college students at a university designated as a Minority Serving Institution.

Preliminary Key Findings:

- Results from a systematic review found that several types of technology are currently being explored and utilized in clinical trial recruitment. However, evidence supporting the use of digital technologies is varied and requires further research and evaluation to identify the most valuable opportunities for encouraging diversity in clinical trial recruitment and enrollment practices.
- Nationally, COVID-19 studies were less likely to be found in counties with higher proportions of male residents and children. Within the two largest geospatial clusters, Los Angeles and New York City, study sites were significantly farther away from communities with higher proportions of Black or African Americans and children.
- Using topic modeling to analyze over 800,000 posts from twitter (X) from October 2020 - October 2021 found that of the top 200 tweets included 76 unique tweets related to pediatric COVID-19 vaccine topics by verified

Twitter users. Eighteen of these tweets (generating 34,408 retweets) contained explicit misinformation. Seventy-one percent of user replies agreed with misinformation sentiment of the original tweet.

- In focus groups with 158 racially and ethnically diverse young adults, thorough and transparent information about clinical trials from a variety of sources viewed as legitimate by young adults were found to be foundational to enhancing their engagement with clinical trials.
- Focus group testing of a co-designed mobile application and webpage created specifically to meet the information needs and habits of young adults suggest that mobile applications and websites can be designed to increase interest in participating in clinical trials.

Publications/Abstracts/Posters, etc.

- Leveraging a Digital Mixed Methods to Develop Tools to Encourage Young Minority Participation in COVID-19 Clinical Trials. SOCRA 2022.
- [Leveraging Multiplatform Infodemiology to Detect and Characterize Barriers to COVID-19 Vaccine Clinical Trial Participation](#). APHA 2022.
- [Characterizing Twitter Public Sentiment on COVID-19 Clinical Trials Using Unsupervised Machine Learning and Longitudinal Analysis](#). APHA 2022.
- [Identifying Spatial Disparities in Online Discussions About Clinical Trials for COVID-19 Vaccines](#). APHA 2022.
- [Demographic Disparities and Spatial Variability of COVID-19 Clinical Trials in the United States](#). APHA 2022.
- Utilizing Social Listening to Detect and Characterize COVID-19 Clinical Trial Barriers Among Minority Populations. PMSA 2022.
- [Envisioning a Future Where Technology Serves Global Health Equity: Multistakeholder Perspectives](#). APHA 2022.
- [Characteristics of Interventional and Observational Studies on COVID-19 Therapies in the United States](#). APHA 2022
- [Communications for Evidence-Based Impact](#). Preventive Medicine 2022.
- Leveraging Infodemiology, Big Data, and Machine Learning to Characterize Barriers to Minority Clinical Trial Participation. Stanford-Building a Culture of Health Equity Summit 2022.

Additional Information needed:

	Fill in please	Instructions
Age	18-29 years of age	Please list all the following age groups included in your study: Under 18, 18-64, 65 and above
Geographic location	California	Please list all states included in your study or enter Nationwide
Rural	No	Please enter Yes or No