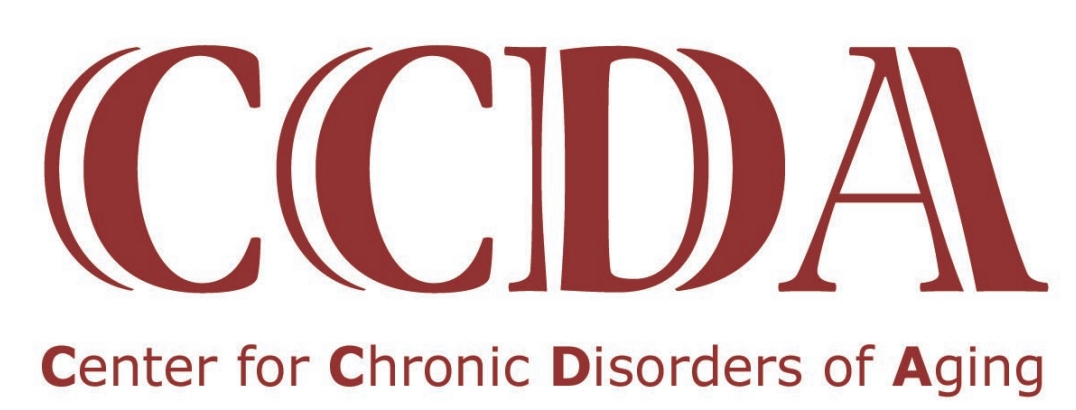




# Assessment of the Impact of Race and Proxies of Socioeconomic Status on the Prevalence and Health Outcome of Peripartum Cardiomyopathy (PPCM) Using the "All of Us" Databank



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## BACKGROUND

- This is an *outline of a research project* focused on assessing the effects of race and diverse proxies of socioeconomic status on the prevalence and outcome of peripartum cardiomyopathy (PPCM) using the "All of Us" databank and the UK Biobank.
- PPCM is a form of cardiomyopathy occurring during the last month of pregnancy or within months after giving birth in women with previously normal hearts.
- The estimated incidence of PPCM worldwide is 1 diagnosis out of 2,000 live births.
- The causes of PPCM remain unknown.
- Current knowledge is limited on how socioeconomic status affects sustained cardiac dysfunction resulting from PPCM.
- A retrospective cohort study conducted at the University of Pennsylvania Health showed that black race and socioeconomic proxies (like neighborhood disadvantage index (NDI)) were independently associated with sustained cardiac dysfunction (Getz et al., Am Heart J 2021).
- This study also showed that from all the components of the NDI, low education and high rental occupied housing were significantly associated with sustained cardiac dysfunction.
- The UPenn study showed some *limitations*, among which:
  - The population studies was restricted to small geographic areas
  - It did not consider factors such as food security, access to care, or disability status, as potential significant risk factors.

## CENTRAL HYPOTHESIS

We hypothesize that: 1) Among other socioeconomic proxies, food security, access to care and disability status might have a significant impact on the prevalence and outcome of sustained cardiac dysfunction from PPCM; 2) The use of the "All of Us" databank and the UK biobank will provide information to address cardiac dysfunction from PPCM from two geographically different and diverse populations

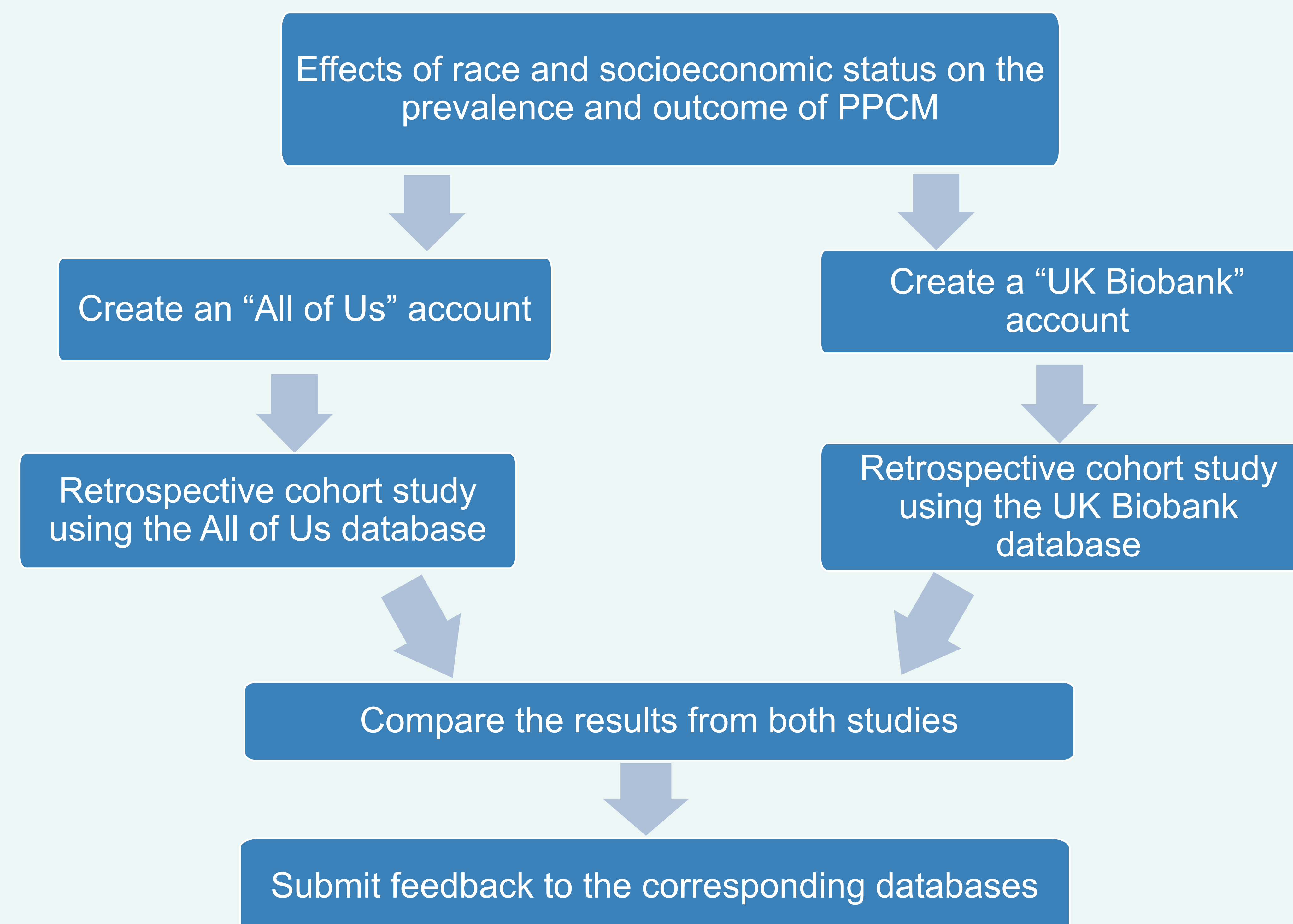
## AIMS

- To assess the effects of race and socioeconomic proxies (including NDI, lack of access to health care and food insecurity) on the prevalence and outcome of sustained cardiac dysfunction from PPCM across the US using the "All of Us" databank
- To evaluate the compliance of the "All of Us" database to interrogate these potential associations
- To compare the results obtained from the "All of Us" database with the UK Biobank

## METHODS

- The "All of Us" database focuses on enrolling people in the US from diverse groups that have historically been underrepresented in medical research. Deidentified biomedical data from over 600,000 participants is stored in a cloud-based system accessible to registered researchers (Ramirez et al., Patterns 2022).
- The "UK Biobank" is an open access biomedical database with over 500,000 participants in the UK (Sudlow et al., PLOS Medicine 2015).
- The "UK Biobank" will be used in addition to the "All of Us" database to expand the geographic region analyzed to a population outside of the US.
- Why access the UK Biobank as a comparative database for the "All of Us" database?* UK Biobank is a large-scale biomedical database and research resource, containing in-depth genetic and health information from half a million UK participants. The database, which is regularly augmented with additional data, is globally accessible to approved researchers and scientists undertaking vital research into the most common and life-threatening diseases. UK Biobank's research resource is a major contributor to the advancement of modern medicine and treatment and has enabled several scientific discoveries that improve human health." <https://www.ukbiobank.ac.uk/learn-more-about-uk-biobank/about-us>

Variables to be evaluated in the "All of Us" and UK Biobank" databases	
<ul style="list-style-type: none"> <li>Food Security</li> <li>Access to Care</li> <li>Disability Status</li> </ul>	<ul style="list-style-type: none"> <li>Education Status</li> <li>Rental Occupied Housing</li> </ul>



## EXPECTED RESULTS

- We anticipate that the "All of Us" and the UK biobank databases will be informative on PPCM from two highly diverse and geographically different populations
- Based on our hypothesis and previous studies, we expect that race and socioeconomic proxies (like food security, access to care and disability status) might have a statistically significant impact on the prevalence and outcome of sustained cardiac dysfunction from PPCM
- We think that understanding how socioeconomic factors affect the incidence and prevalence of sustained cardiac dysfunction from PPCM may be used to improve prevention, early diagnosis, and management of PPCM.

## REFERENCES

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- "All of Us" database project, NIH, USA
- UK Biobank, UK
- The "All of Us" and "UK Biobank" databases that will be used in this study are made available by the original researchers from the "All of Us" project and the UK Databank project, and by the participants in the corresponding databases.