Duke UNIVERSITY | BIOMEDICAL ENGINEERING

Through its faculty and graduates, the Duke University Department of Biomedical Engineering (Duke BME) is a driving force in creating engineering knowledge and novel biomedical technology that improve the human condition through the advancement of clinical care and biomedical science.

> *"Working on DATAcc, I learned from the diverse stakeholders. Developing inclusive devices is not a job for one part of the industry – it requires a collaborative community to gain a common consensus.*
>
> — **Md Mobashir Hasan Shandhi, Ph.D.,** Postdoctoral Researcher, BIG IDEAS Lab, Biomedical Engineering, Duke University

The Opportunity

- Researchers at Duke BME published a paper on methods for intelligent allocation of diagnostic testing by leveraging data from commercial wearable devices during COVID-19.
- Upon completing the research, authors acknowledged that the study population was biased towards white communities compared to Black and Latin communities, as is the case in much of biomedical research.
- Authors began to strategize how to right size the demographic imbalance in future research. At the same time, Duke BME was working as a member of DATAcc to develop toolkits that outline the steps necessary to develop and deploy inclusive to digital health measurement products.

The Impact

- By participating in DATAcc, the Duke BME team could engage with people who bring different perspectives in healthcare - from bench to bedside - and learn how they approach digital health equity.
- Leveraging experience from DATAcc and prior research, authors from Duke BME and partnering organizations published *Demographic Imbalances Resulting From the Bring-Your-Own-Device Study Design*, which proposes the Demographic Improvement Guideline to address imbalances.