

Evaluating Clinical Trial Participation Across the Catchment Area: A Data Driven Approach

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1. Background

One of the primary missions of an NCI-Designated Cancer Center is to ensure alignment to the catchment area it serves across the research continuum, with a specific focus on clinical trial participation. Despite this, actively monitoring this population presents distinct challenges due to many factors, including data siloed in different systems, disparate levels of data specificity, and lack of technical expertise. Thus, the Sidney Kimmel Cancer Center (SKCC) Clinical Trial Informatics (CTI) group developed an interactive Shiny application to monitor trends in clinical trial accrual, while continuing to compare to both SKCC specific data, as well as publicly available information specific to our catchment area, with a focus on reproducibility.

2. Goals

- Develop reporting tools to monitor the accrual population that is user-friendly and interactive.
- Identify disparities between clinical trial participants and catchment area population.
- Highlight actionable insights around clinical trial metrics and reporting.

3. Solutions and Methods

Data sources:

- Clinical trial data: JeffTrial (SKCC's OnCore Instance)
- SKCC-specific cancer population data: Tumor registry (Metriq)
- Patient location data: EMR (Epic)
- Census level socioeconomic data (various public sources)

SKCC cancer population data is extracted from our tumor registry system and used to generate catchment level demographic metrics, while accrual data is linked with Epic to generate location information for patients at the census tract level and linked to public data resources of interest. These data are plotted using heat maps and other visualization tools within an interactive Shiny application that can be used to gain a better understanding of our trial population and provide an easy means of comparing and monitoring this population over time.

4. Outcomes

The applications that are developed are used both within our clinical trial organization and greater institution to consistently monitor the catchment population and ensure patients on clinical trials are representative. Additionally, teams are able to identify gaps and potential disparities, and work to identify barriers to participation.

5. Lessons Learned and Future Directions

Future work will aim to provide more insights on internal metrics that may illuminate potential hurdles for patients on studies. This will include examining distances between patients and their study sites, so we can ensure we are offering trials closer to home for all patients, as well as where there are geographic gaps in trial offerings within our community sites.