

# Utah Clinical and Translational Science Institute Partnership with the CHPC

## Overview

The Biomedical Informatics Core (BMIC) provides comprehensive clinical and translational research informatics support to researchers through a variety of means, including research, education, consultation, and service delivery. A major goal of the BMIC is to advance innovation in clinical and translational research informatics and advance the science of performing research across the translational research spectrum.

## OPERATIONS

### Augmenting research data resources

Training, Navigation, Collaboration  
>206 active users, >20,000 research queries

### National network participation

Continue to provisioning data to [PCORnet](#), [N3C](#), [TriNetX](#), [ACT/ENACT](#), [PCORnet](#), [RECOVER](#).

### Maintaining [REDCap](#) usage levels

Knowledge articles, Self-service, [REDCap 21 CFR Part 11](#) validation  
>10,801 projects, >11,700 active users.

### Increase [OpenSpecimen](#) adoption

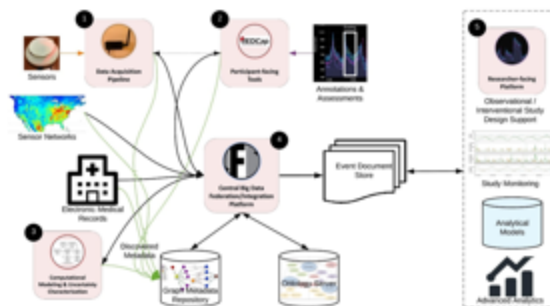
Share successes, Onboarding consults  
18 labs production/onboarding,  
>80,000 specimen metadata

### Streamline research support requisitions

[ProTracks](#)  
> 2791 users, >8000 fulfilled requests

## DEVELOPMENT

**Component D3:** Make available, consortium-wide, an infrastructure supporting modern informatics techniques to integrate clinical data with [SDoH](#) and environmental data at disparate temporal and spatial resolutions.

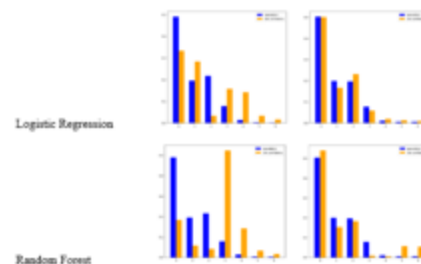


**Figure D3.1.** Architectural overview of the **Exposure Health Informatics Ecosystem**: (1) data acquisition pipeline; (2) participant-facing tools; (3) computational modeling and uncertainty characterization components including the [SpatioTemporal Human Activity Model](#); (4) big data federation/ integration platform. Events generated by (4) are available for the (5) researcher-facing platforms, which include monitoring and advanced analytics tools and processes for performing studies using a variety of experimental designs

## RESEARCH

**Component E:** Demonstrate to the CTSA community how Conformal Prediction can be used to (1) identify clinical predictions that, when used for unrepresented individuals, provide large uncertainties in the predictions and (2) quantitatively guide the inclusion of individuals from unrepresented backgrounds to reduce the uncertainty in their predictions.

**Uncertainty in Breast Cancer Risk Prediction:**  
**A Conformal Prediction Study of Race Stratification**  
AS Millar, J Arnn, S Himes, and JC. Facelli (Proceedings of MEDINFO 23, in Press).



**Figure 2.** Comparison of the distribution of race groups in the population (blue) and the corresponding prevalence among those in the LDR of the confidence distribution (orange).