

Biomedical Research Informatics Core

BRIC works closely with study teams to help facilitate the data capture, management, and sharing needs of research protocols. This collaborative relationship starts from the pre-award stage, through the data collection period and continues through the analysis and presentation of findings. BRIC services are available to all MSU colleges and units. All BRIC personnel are trained in human subject confidentiality and human health research requirements.

Services

- **Pre-Award Planning:** Our team will create a customized data management plan and provide supporting material for the Human Subjects Protection and Resource/Facilities sections of your proposal.
- **Databases:** Databases are constructed to organize and integrate information from multiple data sources.
- **Data Management:** Our data managers can support studies in many ways, including building a custom database, testing electronic versions of study instruments, monitoring for data quality, report writing, managing user access, data imports, data cleaning, and user study specific database training.
- **Data Sharing:** Our teams can assist with preparing and processing data uploads for submission to meet data sharing requirements.
- **Data Storage and Security:** BRIC partners with facilities on campus to provide dependable data storage and security.
- **Custom Application Development:** Innovative studies often require unique informatics solutions. If your study demands features beyond what is available, BRIC can build a solution to fit your requirements.
- **Co-Investigation:** BRIC senior staff are available to participate as a co-investigator for your study.

REDCap

REDCap (Research Electronic Data Capture) is a web-based data capture system that is widely used by members of the REDCap Consortium, a collaboration of over 7,000 institutions. As a contributing REDCap consortium member, BRIC has maintained and managed REDCap installations at MSU for over fifteen years.

BRIC has a tiered support model to increase accessibility to the REDCap service.

- **Base:** Intended for when study teams can manage most project tasks within their research group without additional support.
- **Premium:** For projects that require significant support from BRIC staff, require study-specific development, or data management.

Location

**Clinical and Translational Sciences Institute
Biomedical Research Informatics Core**
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Visit www.ctsi.msu.edu for more details.

Core Leadership



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Research Highlights

Data Sharing

The National Institute for Mental Health mandates data sharing through its Data Archive (NDA). BRIC has been responsible for satisfying this funding agency's data sharing requirement for over five years across multiple projects. This service allows the study team to focus on conducting their research while placing the data sharing task with experienced data managers. BRIC manages GUID generation, pseudoGUID assignment, data structure creation, data element modifications, and the transformation code necessary to prepare data for import into NDA.

REDCap to Epic Interface

BRIC has been supporting the [Flint Registry](#) since it was created in 2017. The Flint Registry is a project that connects people to services and programs to promote health and wellness and helps understand how the Flint water crisis has affected the Flint community. Since beginning recruitment, the Flint Registry has enrolled more than 22,000 subjects into the registry and has made more than 35,000 referrals to services, helping improve the health and wellness of the community.

BRIC has collaborated with registry staff to complete many projects that help facilitate and improve registry data management and collection. One recent example is a collaboration with Hurley Medical Center where BRIC created a tool to move registry data from [REDCap](#) directly into the Epic Electronic Health Record System. This integration has completed over 400,000 updates to Epic system records since it was originally implemented. This automated process enables the registry team to leverage the advantages of both REDCap and Epic in response to the protocol requirements and community input.

Details regarding this integration have been published in the Health Information Journal.

<https://doi.org/10.1177/14604582241249927>

eCap Data Integration

Medication adherence can be a difficult variable to reliably determine due to inaccuracy and variability in self-reporting by study subjects. To help address these problems, BRIC has collaborated with investigators studying diabetes management including a subject's medication adherence. To collect adherence data, each subject is given an [eCAP](#)TM medication container manufactured by Information Mediary. The cap tracks each time a study subject opens their container, and at each study event the cap is scanned to send these data to the manufacturer's servers. BRIC interfaces with the external API to pull the raw data, calculate adherence rates, and store these data directly in the study's [REDCap](#) project.