



The following content may be used with your IRB or grant application if you plan to use REDCap.

REDCap (Research Electronic Data Capture), developed at Vanderbilt University, is a secure, web-based application designed to support data capture for research studies. REDCap provides: 1) an intuitive interface for data entry (with data validation); 2) audit trails for tracking data manipulation and export procedures; 3) automated export procedures for seamless data downloads to common statistical packages (SPSS, SAS, Stata, R); 4) procedures for importing data from external sources; and 5) advanced features, such as branching logic and calculated fields within electronic forms and the survey feature.

REDCap servers are physically located in the University of Michigan Health Information Technology and Services (HITS) data centers. Application and database servers are on virtual machines (VM). The VM servers are Red Hat Enterprise Linux Server, running Apache (application servers) and MySQL (database servers). Physical security for the databases is provided in a professionally managed and equipped tier-3 data center with tightly controlled access. REDCap flexibly yet securely supports multi-site clinical trials; users outside the University of Michigan Medical School access REDCap via a secure, 2-tier authentication system. Access to the application, the database, and the underlying systems infrastructure comply with industry best practices, supporting HIPAA security and privacy requirements and compliance with the HITECH Act. The application provides audit trails on user access to MICHHR and HITS technical and support teams. Backup of data and regular vulnerability testing are performed by HITS. UM has adopted the NIST Risk Management Framework as a guide to its institution-wide risk-based approach for assessing and prioritizing resource allocation for mitigating identified risks to systems and data.

Daily backups and VM snapshots of the application and database servers are stored on a remote storage device. The restoration of the servers from a hardware or software failure are protected for 24 hours of disaster recovery.

REDCap was initially developed and deployed at Vanderbilt University but now has collaborative support from a wide consortium of domestic and international partners.