**UC Center for Health Informatics**Biomedical informatics is the interdisciplinary field that studies and pursues the effective uses of biomedical data, information and knowledge for scientific inquiry, problem solving and decision making. Biomedical informatics is an integral component of both clinical and translational research. The Department of Biomedical Informatics (BMI) at UC focuses on computational approaches to challenges in biomedical research. BMI Technical Services maintains a close relationship with the Secure Data Center, Information Security and Privacy, the Institutional Review Board (IRB), UC Health and the Cincinnati Children’s Hospital. The Center for Health Informatics (CHI) is the designated Honest Broker for clinical data for the research mission. UC Health uses Epic as the electronic health record and is a rich source of data for the clinical and research domains. Access to clinical data is provided through the Honest Broker process. Services include clinical data acquisition/harvesting and reporting for research, data integration, investigator data management and faculty are available for co-investigator roles. In addition, CHI offers application development such as custom software, database design, data warehousing, specialty data marts, research registries, interfaces to Epic for research and robust data collection. BMI designs, configures, and develops electronic data capture systems such as REDCap and other tools. BMI supports the data collection, transformation, reporting and visualization/analytics needs of research projects including multi-center clinical research studies, clinical trials, and registries. The CHI provides access to the clinical research enterprise warehouse to the open source i2b2 informatics framework to support translational research. i2b2 feeds the TriNetX cohort analysis tool that is also the gateway to the TriNetX global research network. The primary use case of the TriNetX is cohort identification, allowing users to perform an enterprise-wide search on a de-identified repository to determine the existence of a set of patients meeting certain inclusion or exclusion criteria. BMI is closely associated with the Clinical and Translational Science and Training (CCTST) established by the UC College of Medicine in October 2005 and funded by a Clinical and Translational Science Award (CTSA). The CTSA is a NIH Roadmap initiative to create an academic home for clinical and translational research at academic health centers across the country. The CCTST serves UC, its Academic Health Center partners, and the community by providing consultation to investigators on research design and implementation. The CCTST helps in preparing career development awards, assisting faculty in preparing large multidisciplinary and multi-institutional grants and coordinating clinical and translational research. Director – Brett Harnett, MS, Biomedical Informatics.

Secure Data Center**.** UC is an academic leader in the deployment and use of information systems in support of research and education. Major components of UC's advanced cyberinfrastructure include the following:

1. **Secure facilities**: To provide the security, scalability, and functionality to support the research mission. All data is protected using physical, technical, and administrative controls as outlined by HIPAA, HITECH, and other Federal legislation.
2. **Storage systems**: UC’s data storage system is capable of housing copious amounts of data. The EMC Isilon platform delivers a complete scale-out [NAS] storage platform including hardware, software, and accelerator nodes for the emerging domain of ‘big data.’ There is a disaster recovery co-location in Columbus, Ohio.
3. **Networks**: The state-funded Ohio Academic Resources Network (OARnet) provides UC and other member organizations with intrastate networking including access to Internet2, the commodity internet, virtualization, cloud computing, videoconferencing, connections to regional and international research networks. The new 100 gigabit services offer an order of magnitude greater bandwidth to these services in certain locations. Internal networks provide fast and secure transmission both wired and wireless.
4. Link to UCIT Servers/Services/Data management.