**PROJECT SUMMARY**

This application addresses broad Challenge Area (10) Information Technology for Processing Health Care Data and specific Challenge Topic, 10-RR-101: Information Technology Demonstration Projects Facilitating Secondary Use of Healthcare Data for Research. The analysis of aggregate, anonymous healthcare data has tremendous potential to improve patient outcomes, reduce healthcare delivery costs, and benefit basic research. There is a crucial need for systems that aggregate data from point of care, and other transactional systems, in repositories that are easily searchable, secure and compliant with current regulatory requirements of patient privacy. Despite the prevalence of systems capable of producing HL7 compliant data, no system exists to aggregate data in a comprehensive manner from these systems for use in clinical research. To bridge this gap, we propose to build CAMEO (Construction, Aggregation, Management, Exploration, Organization), a tool for securing, indexing, exploring, and redistributing healthcare data represented as HL7 messages. Cameo easily enables the acquisition of data from the vast majority of current healthcare management systems by leveraging the existing interoperability capabilities of these systems.