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SDSC's Health CI Division, City of Hope to Create Cancer Research Infrastructure

The Health Cyberinfrastructure (CI) Division of the San Diego Supercomputer Center (SDSC) at the University of California, San Diego, is participating in a multi-million dollar project with City of Hope, a National Cancer Institute (NCI) designated Comprehensive Cancer Center in Duarte, CA, and other universities and health organizations to create a research cyberinfrastructure that includes a secure, cloud-based data management platform.

The project, titled "Innovative Infrastructure to Enhance the California Teachers Study (CTS)" will continue the California Teachers Study (CTS) through 2021. The CTS consists of 133,479 current and former public school teachers or administrators who were members of the California State Teachers Retirement System (STRS) and agreed in 1995 to have their health and lifestyle tracked to help understand why teachers have historically had higher rates of breast cancer.

The CTS was initially supported by the State of California through revenues generated by cigarette taxes for the purpose of supporting breast cancer research. Today, the CTS functions as a collaboration among City of Hope; University of Southern California; University of California, Irvine; and the Cancer Prevention Institute of California (CPIC).

Funding for the five-year award, which comes from the National Cancer Institute (NCI), is more than $12 million, with SDSC being awarded just over $4 million for compliance hosting as well as building and operating the data warehouse/data management platform.

SDSC's Health CI Division will assist in City of Hope's consolidation of all CTS data, including datasets, and accompanying documentation, and will design, build, and implement a dedicated cloud-based data management platform within its Sherlock Cloud infrastructure. Such a platform will allow every member of the CTS team to securely access and use all CTS data and information in real-time in a consolidated, integrated, and secure manner. This will not only transform how CTS data is collected, stored, and shared for high-impact research, but it also has the potential to reduce associated costs of ongoing research while increasing efficiency and security.

"SDSC's Health CI Division is an ideal partner for our data management needs because it currently provides a similar cloud service for the Centers for Medicare and Medicaid Services and the National Institutes of Health (NIH)," said James Lacey Jr., Lead Principal Investigator at City of Hope. "Its environment is entirely HIPAA- and FISMA-compliant, meaning the Health CI team has specific experience providing the type of data security that our CTS Data Mart and research require. Our partnership with SDSC's Health CI Division will modernize the long-standing CTS project through Sherlock Cloud's innovative data management solutions, which will make the California Teachers Study an example for other studies like this."

When the Health CI Division conceptualized and built the Sherlock Cloud, one of its primary objectives was to support a wide range of researchers and their projects. The Division understands the requirements of research computing, and aims to contribute to the advances that City of Hope has made in the fields of women's cancer and their overall health through the forthcoming CTS Data Management platform.

"CTS researchers will have a data warehouse platform built on secure cloud technology that will greatly enhance the reliability and accuracy of the data collected, and have a more seamless mechanism to access, annotate, input, and transmit data, thereby heightening accuracy and the quality of collaborative analysis performed," said Sandeep Chandra, director of SDSC's Health Cyberinfrastructure Division. "We are thrilled to build upon our healthcare data warehouse expertise and contribute to such an important study, and we look forward to helping City of Hope with its data and security requirements."

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