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Evaluation of Biomedical Informatics Component of NIGMS Funded IDeA-CTR programs

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Overview

The National Institute of Clinical and Translational Sciences (NCATS) CTSA program specifies Biomedical informatics (BMI) as critical for enabling and advancing translational research. The CTSA program launched in 2006 and since then defined specific informatics functionality to support Clinical and Translational Research. These functions include capacity for data management, security, interoperability and reuse. In 1993 the National Institute of General Medical Sciences (NIGMS) began funding the Institutional Develop Award (IDeA) program to support research capacity building for states with historically low National Institutes of Health funding. In 2012, NIGMS began the Clinical and Translational Research (IDeA-CTR) Program to enhance CTR infrastructure necessary in IDeA states to improve competitiveness for NIH funded projects. The CTSA informatics research effort has resulted in extensive informatics innovations and resources across the country. Currently, BMI is not a required service for CTR programs .

GOAL:

We believe the NIGMS IDeA-CTR programs would benefit from adopting many of the CTSA innovations. We sought to determine current informatics practices of IDeA-CTR programs through a qualitative study of BMI activity and organization. We recommend possible convergence of NIGMS IDeA-CTR BMI activity towards NCATS CTSA BMI functionality.

Methods

We derived a set of basic BMI functions from the NCATS CTSA. These functions involve capacity for data management, security, interoperability and reuse. We used those functions to seed questions for a qualitative descriptive study through semi-structured interviews with existing IDeA-CTR programs. We interviewed the principle investigator or BMI director for participating sites to determine familiarity with informatics functions in CTR and activities in their programs. We also evaluated each IDeA-CTR web site for information about informatics resources.

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Results

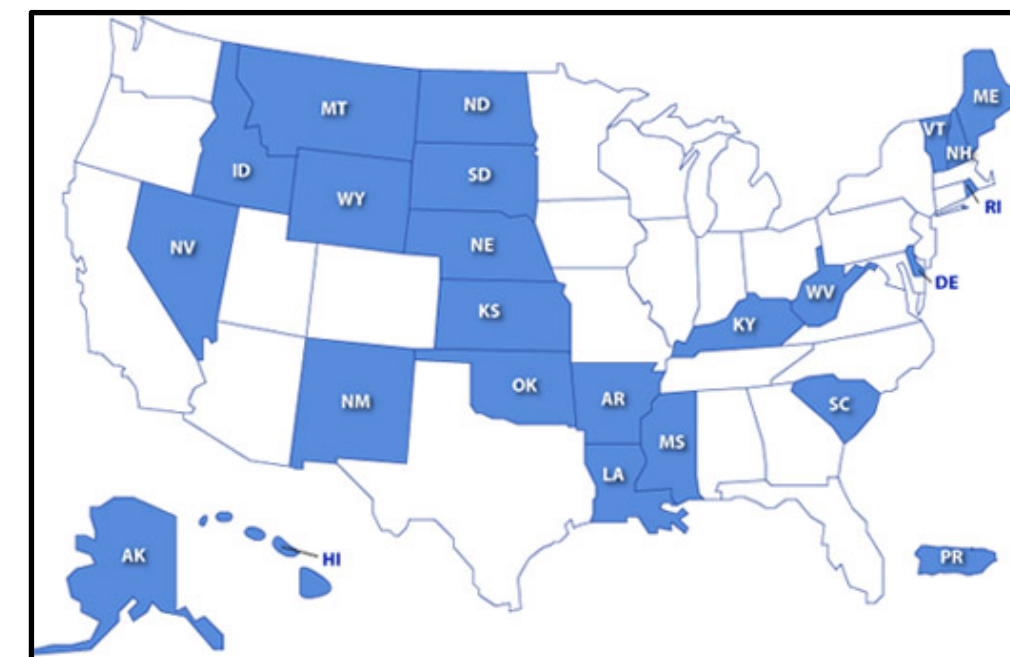
At the time of the study, eight of 10 CTR programs completed the semi-structured interviews. Review of site web portals indicated 4 of the programs listed BMI as a Key Component Area. Interviews with IDeA-CTR leadership indicated a wide variation in the focus on informatics requirements for CTR.

Table 1: IDeA-CTR, Award Year, and Clinical Focus

IDeA-CTR	Award Year	Focus
*Delaware (ACCEL)	6	
*Louisiana (LaCaTS)	6	
*Maine (Northern New England)	2	Rural Primary Care
*Mississippi	3	Obesity
Montana / Alaska (American Indian / Alaska Native)	4	Native Communities
*Nebraska (Great Plains)	3	Rural
*Nevada (Mountain West)	6	Research capacity
Oklahoma	6	Primary care
*Rhode Island (Advance)	3	
*West Virginia	6	Priority health conditions

*Interviewed

NIGMS IDeA States.



[https://www.nigms.nih.gov/capacity-building/division-for-research-capacity-building/institutional-development-award-\(idea\)](https://www.nigms.nih.gov/capacity-building/division-for-research-capacity-building/institutional-development-award-(idea)). Retrieved 10/20/18

Table 2: Comparison of IDeA-CTR Site Activity to NCATS BMI Priority Areas.

BMI Focus Areas	Research data warehouse	Data Management	Data Interoperability	Research Recruitment	Informatics Tools & Education	Comments
Delaware (ACCEL)	X	X				Focus on data access and collaboration
Louisiana (LaCaTS)	X	X	X		X	REACHnet CDRN
Maine (Northern New England)				X	X	BMI applications and study design
Mississippi						No specific BMI aims or activities
Montana / Alaska						No specific BMI aims or activities
Nebraska (Great Plains)	X	X	X	X	X	Great Plains Collaborative CDRN
Nevada						No specific BMI aims or activities
Oklahoma						No specific BMI aims or activities
Rhode Island (Advance)	X	X	X	X	X	i2b2, SHRINE, data systems
West Virginia	x					Commercial data warehouse

Discussion

The NCATS funded CTSA programs have a long history of BMI innovation and support. The NIGMS IDeA CTR programs are younger with a more diffuse focus. Review of CTSA RFA and programs identified major areas of focus; establish and maintain a sustainable research data warehouse; proper data governance; support for data standards and interoperability; use of informatics tools for research recruitment and development and dissemination of innovative informatics tools. We believe advanced CTR depends on robust informatics infrastructure for success. Our review indicates variable update of BMI focus areas by CTR programs. CTRs without access to these resources may be limited in competition for NIH funding. We recommend possible convergence of NIGMS IDeA-CTR BMI activity towards NCATS CTSA BMI functionality.

References

Robertson, D and Williams, GH. Clinical and Translational Science Infrastructure. In: Clinical and Translational Science. 2017. Obtained online: <http://dx.doi.org/10.1016/B978-0-12-802101-9.00034-X> on 2018-03-05.
Sandelowski, M. Whatever Happened to Qualitative Description? Research in Nursing & Health, 2000; 23: 334-340.
NIGMS Website, [https://www.nigms.nih.gov/capacity-building/division-for-research-capacity-building/institutional-development-award-\(idea\)](https://www.nigms.nih.gov/capacity-building/division-for-research-capacity-building/institutional-development-award-(idea)). Retrieved 10/20/18
NCATS Website, <https://ncats.nih.gov/>. Accessed 11/20/2018