



Advancing research opportunities and promoting pathways in graduate education: a systemic approach to BUILD training at California State University, Long Beach (CSULB)

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Abstract

Background and purpose: First-generation college graduates, racial and ethnic minorities, people with disabilities, and those from disadvantaged backgrounds are gravely underrepresented in the health research workforce representing behavioral health sciences and biomedical sciences and engineering (BHS/BSE). Furthermore, relative to their peers, very few students from these underrepresented groups (URGs) earn scientific bachelor's degrees with even fewer earning doctorate degrees. Therefore, programs that engage and retain URGs in health-related research careers early on in their career path are imperative to promote the diversity of well-trained research scientists who have the ability to address the nation's complex health challenges in an interdisciplinary way. The purpose of this paper is to describe the challenges, lessons learned, and sustainability of implementing a large-scale, multidisciplinary research infrastructure at California State University, Long Beach (CSULB) – a minority-serving institution – through federal funding received by the National Institutes of Health (NIH) Building Infrastructure Leading to Diversity (BUILD) Initiative.

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Planning for CSULB BUILD (the AHORA initiative)
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... builds a unique alliance between the different health research disciplines at CSULB in order to bring together often disparate areas of science

Fortifying the research infrastructure

The research infrastructure is a key element of the national research system. It provides the physical and technical resources necessary for the conduct of research. The infrastructure includes research facilities, equipment, and personnel. The government has a responsibility to ensure that the research infrastructure is well-maintained and up-to-date. This requires a significant investment of resources. The government should also ensure that the research infrastructure is accessible to all researchers, regardless of their institutional affiliation. This will help to promote a more inclusive and collaborative research environment.

The research infrastructure is also a key element of the national innovation system. It provides the resources necessary for the development of new technologies and products. The government should therefore support the research infrastructure as a key element of its innovation strategy. This can be done through a variety of measures, including funding, tax incentives, and regulatory support. The government should also ensure that the research infrastructure is well-integrated with the rest of the national innovation system. This will help to ensure that research results are effectively translated into commercial products and services.

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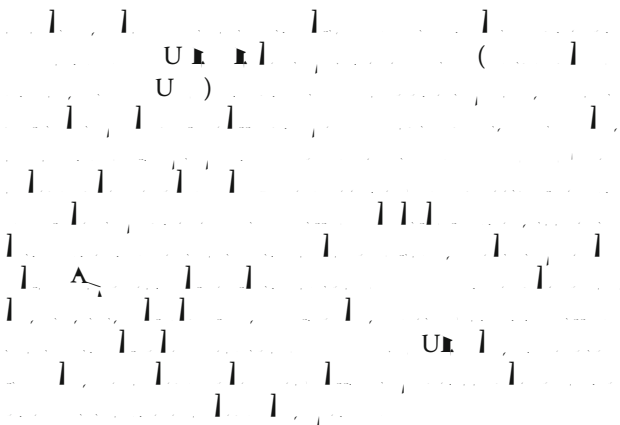
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Institutionalization efforts for sustainability

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Additional files

Additional file 1: Selected list of past and current student research training programs at California State University, Long Beach (CSULB). This file includes a selected list of past and current student research training programs at CSULB by program name, dates of operation, program methods and objectives, and key findings and results. (DOCX 22 kb)

Additional file 2: Overview of student learning goals and skill development from research curriculum at California State University, Long Beach (CSULB). This file includes an overview of the student learning goals for each of the courses developed to be part of the BUILD (and campus) research curriculum. (DOCX 22 kb)

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Availability of data and materials

Not a data-based article.

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Authors' contributions

This manuscript included writing contributions by all of the authors representing their different roles on the CSULB BUILD initiative. The first two authors (Urizar and Henriques) provided extensive work in writing different sections of the manuscript while providing final edits to make sure that all sections met journal guidelines. All authors have read and consented to the authorship on this version of the manuscript.

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Ethics approval and consent to participate

The CSULB BUILD Initiative was conducted in full compliance with ethical standards and approved by the Institutional Review Board at California State University, Long Beach.

Consent for publication

Not applicable

Competing interests

There are no conflicts of interest in this manuscript with any of the authors in any way.

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