

Concept Clearance

Branch: Population Health Branch

Council Period: 201910

Concept Title: Environmental Health Sciences Core Centers

Introduction

The mission of the NIEHS is to discover how the environment affects people in order to promote healthier lives. The NIEHS Strategic Plan of 2018-2023, articulates three strategic themes to accomplish this mission: *Advancing environmental health sciences; Promoting translation – data to knowledge to action; and Enhancing EHS through stewardship and support.* As the implementation of environmental health sciences has evolved over the years, as evident from latest strategic plan, so have the goals and implementation of the NIEHS Environmental Health Sciences Core Centers (EHS CC) evolved over time. Since its inception in 1964 the EHS CC have supported centralized scientific equipment, facilities, and other resources shared by investigators having existing, funded, peer-reviewed research projects. Through coordinated efforts addressing a common theme and shared resources, the EHS CC accelerate and deepen the insights gained from environmental health research conducted along the research spectrum from basic mechanistic and toxicological research to population and public health and dissemination research. Over the decades the EHS CC have evolved from a central mission of providing facility cores and other resources to facilitate and grow the environmental health sciences research community across the country to the current program that places a greater emphasis on translational research/research translation, team science and the integration of community engagement as critical elements in advancing environmental health research to public health and clinical practice. Another evolution of the Centers program has been the recent focus and ability of the EHS CC to rapidly respond to arising environmental concerns as a consequence of natural disasters, aging infrastructure, and legacy and emerging environmental contaminants impacting local communities.

Structurally, the EHS CC have not evolved significantly over the years. Each Center is required to include administrative, facility/service, integrated health sciences and community engagement cores as well as a pilot project program and career development. The structures, functions and implementation of services in support of a Center's vision is at the discretion of the Center Director and their administrative team. The direct cost for an EHS CC remained stable around \$1.0M for decades. Approximately six years ago NIEHS implemented a sliding scale for level of funding support for the Centers Program. Based on the amount of NIEHS and NIH grant dollars a Center could receive \$700K, \$1.0M or \$1.3M.

Research Goals and Scope

The overall goals for the EHS CC Program are to enhance the capabilities of existing programs in environmental health sciences, assist with building programmatic and scientific capacity, lead in the development of novel research directions, recruit and groom future leaders in the field, and pioneer efforts in community engagement. The EHS CC grant provides facilities and resources to accelerate research along the spectrum from basic mechanistic and toxicological science to population and public health and dissemination. The emphasis for the Centers Program is on providing intellectual leadership and fostering innovation through use of state-of-the-art technologies and methodologies to advance environmental health sciences research as well as the NIEHS strategic plan.

The emphasis for an EHS CC is to create a flexible structure that advances its vision for environmental health by providing a mechanism to 1) foster integration, coordination, and translation among investigators by promoting collaborations among basic biomedical, clinical and public health researchers, and creating opportunities to bring in investigators from complementary fields through the use of the Pilot Project Program and Career Development/Enrichment activities; 2) integrate and build upon existing programs to answer complex questions leading to improved strategies towards preventing environmentally induced disorders that can be aided by the thematic teams developed within each Center and through the use of the Integrated Health Sciences Facility Core and other Facility Cores; 3) interact multi-directionally with communities (broadly defined) to ensure responsiveness and relevance of the Centers' science to community needs on issues such as prevention, environmental health literacy, and environmental public health through a Community Engagement Core (CEC); and 4) create a pipeline for future environmental health researchers by recruiting and retaining new environmental health researchers as well as researchers from new fields through Career Development/Enhancement activities. Consequently, the Centers Program should enhance the ability of scientists working in the field of environmental health sciences to identify and capitalize on emerging opportunities that will translate into advances improving the understanding of the relationships among environmental exposures, human biology, and disease.

Mechanism and Justification

We are proposing that the EHS CC program continue, using the NIH P30 grant mechanism. This mechanism supports shared resources and facilities for categorical research by numerous investigators from different disciplines who provide a multidisciplinary approach to a joint research effort or from the same discipline who focus on a common research problem. The core grant is integrated with the Center's component projects or program projects, though funded independently from them. This support, by providing more accessible resources, is expected to assure a greater productivity than from the separate projects and program projects, and will ensure responsiveness to community-identified environmental health topics. Consideration will be given to the continuation of the sliding scale as well other potential structural changes, specifically the Integrated Health Sciences Facility Core.