

Council Date: February 2, 2021

Title of Initiative: Small Business Initiative (Small Business Innovation Research and Small Business Technology Transfer – SBIR/STTR)

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Objectives: This initiative will support small business innovation research proposing to develop a product, process or service for commercialization with the aim of improving minority health or reducing and ultimately eliminating health disparities. Appropriate technologies should be effective, accessible, affordable, and culturally acceptable.

Background

Over the years, there has been continued improvement of health for Americans with the introduction of medical and scientific advances. Despite notable health improvements for the population as a whole through technological advancement, there continues to be an alarming disproportionate burden of mortality and illness among persons from racial and ethnic minority and other population groups who experience health disparities. To meet this challenge, the NIMHD is committed to 1) leveraging the SBIR/STTR programs to better align with the Institute's mission; 2) educating small business concerns (SBCs) on the value in using the NIMHD Research Framework to identify novel product opportunities; and 3) promoting social entrepreneurship.

Description of Initiative

The purpose of this funding opportunity is to engage SBCs in developing technologies and products that engage, empower, and motivate individuals and communities, including providers and health care institutions, in sustainable health promoting activities and interventions that lead to improved health, better health care delivery, and the elimination of health disparities in one or more NIH-defined U.S. health disparity population groups.

NIH-defined U.S. population groups who experience health disparities include racial and ethnic minorities (African Americans/Blacks, Hispanics/Latinos, American Indians/Alaska Natives, Asians, Native Hawaiians and Other Pacific Islanders), socioeconomically disadvantaged individuals, individuals residing in underserved rural areas, and sexual and gender minorities. Appropriate technologies must be effective, affordable, acceptable, accessible and deliverable to the desired populations.

Research Priorities

Projects leading to commercializable, affordable, accessible and culturally acceptable technologies to disrupt or prevent interactions and processes responsible for or implicated in creating or sustaining health disparities are encouraged. Technologies may be new or innovative and should be informed by the NIMHD Research Framework, available at

<https://nimhd.nih.gov/about/overview/research-framework.html>. The NIMHD Research Framework identifies diverse factors within socioecological domains and levels that individually and synergistically are known to influence the distribution of disparate health outcomes among racial/ethnic minority populations and other populations who experience health disparities compared to the majority U.S. population. Within the context of the SBIR/STTR programs, this framework can be leveraged by small businesses to inform product conceptualization and designs. It can also inform novel design thinking and outcome-driven innovation, and lead to technologies useful at the individual, interpersonal, community or societal level. In addition to the factors listed in the Research Framework, technologies should be informed by the social determinants of health (SDOH) and how these determinants can increase risks for health disparities or increase resilience to adverse health outcomes. NIMHD recognizes the existence of diverse barriers in contributing to health disparities across multiple levels of influence:

- Physical and Social Environmental Barriers – Factors such as proximity to health care facilities and transportation may limit access to health care or an environment that doesn't support behavior change.
- Knowledge Barriers – Health literacy and language barriers can inhibit health care delivery, as well as a lack of patient information for the health care provider.
- Infrastructure Barriers – Rural hospitals and community health centers may not have the same resources and expertise of large hospitals, and may not be able to afford advanced medical technologies.
- Economic Barriers – Lack of insurance coverage or financial resources may also contribute to disparities in health care access, and time demands to travel to a health care facility.
- Cultural Barriers – Culture consists of the beliefs and practices shared among the members of social groups, including racial/ethnic populations, communities, health care organizations, institutions, and facilities. Cultural practices, procedures, and policies may impede access to health care, and health promoting activities or technologies.

Specific Areas of Research Interest

Technologies that might achieve the objectives of this initiative include, but are not limited to:

- Patient-centered technologies for identifying and leveraging racial and ethnic specific sociocultural protective factors and areas of resiliency (e.g., community support).
- Technologies disrupting or preventing the impact of discrimination, bias, and indifference on mortality and morbidity outcomes for racial and ethnic minorities and populations experiencing health disparities across systems of care and levels of influence (interpersonal, community, system, and structural).
- Technologies leveraging multiple digital technologies; for example, Fast Healthcare Interoperability Resources, the PhenX Toolkit, personalized medicine, and electronic health records for preventing mortality and morbidity disparities.

- Technologies for predicting mortality and morbidity risk and identifying preventive interventions.
- Technology leading to equal access, effective continuity of care, and provision of quality care through disruption of the limitations resulting from factors like insurance coverage, socioeconomic status, access to community resources, and site of care.
- Innovative products or services that facilitate or enhance self-management.
- Products to promote communication or care coordination between primary care providers, hospital emergency department staff, specialty physicians, dental health professionals, nurse practitioners, providers of mental health and behavioral health services, or patient navigators in medically underserved communities and regions.
- Technologies for preventing and minimizing adverse exposures and health risks (e.g., post-traumatic stress) or for promoting health, well-being, resilience, and recovery resulting from disasters or the threat of a disaster. Disasters may include public health threats such as COVID-19 or a similar pandemic. Such technologies may include new tools, apps, education, curricula, or other technologies to detect, screen, treat, or prevent or otherwise mitigate adverse health outcomes or to leverage community and/or population resilience and prevention efforts.