



RMATRIX — Clinical Translational Research Award

Jerris R. Hedges MD, MS, MMM (Dean); Bruce Shiramizu MD (Professor, Department of Pediatrics); and Todd Seto MD (Associate Professor, Department of Medicine); John A. Burns School of Medicine, University of Hawai'i

The University of Hawai'i (UH) at Manoa, John A. Burns School of Medicine received a research infrastructure award in November 2010 to advance clinical and translational research in health disparities reduction in Hawai'i. Clinical and translational research refers to the translation of knowledge from the laboratory bench to the patient's bedside and then to the larger community. The grant was awarded by the National Institutes of Health's National Center for Research Resources (NIH, NCRR) on a competitive basis to provide resources to campuses to foster collaborative research. The Clinical & Translational Research Award is a Research Center in Minority Institutions (RCMI) program aimed at addressing health disparities (differences in health between subsets of the population) through the conduct of clinical and translational research.

Entitled **RCMI Multidisciplinary And Translational Research Infrastructure EXpansion in Hawai'i** or **RMATRIX**, this grant is a 3-year award with the opportunity to renew and/or extend the clinical and translational research activities into other national collaborations. The UH Manoa, John A. Burns School of Medicine is the backbone for this award that will complement many areas of excellent health disparities research that are already underway in our state. Given the emphasis of the 2010 federal Patient Protection and Affordable Care Act on improving health across the population and finding innovative, cost-effective best practices, building the infrastructure to pursue clinical and translational research focused on the reduction of health disparities in Hawai'i is a timely endeavor.

The grant has three primary objectives:

- Establish RMATRIX at the University of Hawai'i as the lead clinical and translational research infrastructure entity for UH system partners, national collaborators in the RCMI Translational Research Network (RTRN), and local community collaborators with the overarching goal being to reduce health disparities in our community
- Encourage clinical and translational research development through a multidisciplinary research education, training and career development program
- Establish Key Functions to support and promote multidisciplinary clinical and translational research in Hawai'i and beyond

These Key Functions, forming the core of this grant, are designed to support the development of researchers, including those based in the community, with a focus on reducing health disparities. The specific Key Functions are:

- Collaborations and Partnerships (i.e., building synergy between researchers and institutional partners)
- Community-Based Research (i.e., working with community-based partners to address health disparities)
- Participant and Clinical Resources (i.e., supporting clinical trial initiation and execution)
- Multidisciplinary Research Education, Training, and Career Development (i.e., training of junior investigators who are seeking careers in health disparities elimination, clinical & translational research, and/or community-based research)
- Biomedical Informatics (e.g., developing data storage, electronic record linkages and Internet based applications for researchers)
- Research Design & Biostatistics (e.g., assisting with research study design and data analysis)
- Research Ethics (e.g., helping researchers address community-based concerns and other research ethics mandates)
- Regulatory Knowledge & Support (i.e., guiding researchers facing research regulatory challenges)
- Evaluation Milestones (i.e., helping investigators to monitor their progress and that of the overall RMATRIX program)

In Hawai'i, substantial health disparities have been reported, particularly in Native Hawaiian, Pacific Island, and Asian communities. RMATRIX will focus on supporting research for those conditions where differences in the incidence, severity, or outcome of disease have been noted in subsets of the population of Hawai'i. The grant seeks to enhance the health of all in Hawai'i by identifying mechanisms leading to disease, the reasons that some subsets suffer disproportionately, and treatments or preventive interventions that are effective for those most at risk. To be addressed are the complex relationships between genetics, socioeconomic factors (such as life-style, occupation, stress, health psychology, and access to care), culture (such as diet and physical activity, illness recognition, sociological and psychological factors), and geography (including island remoteness). The multicultural and multiethnic nature of Hawai'i provides the perfect environment in which to confront

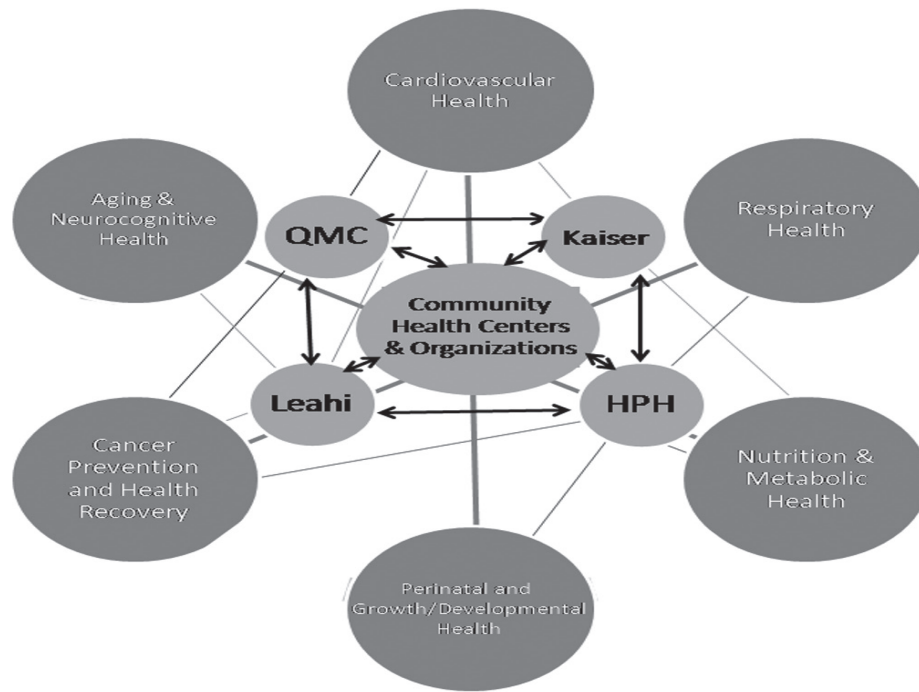


Figure 1. HEALTH Initiatives and Links to Community Research Partners. The HEALTH (Health Equity & Lifestyle Transformation in Hawai'i) Initiatives represent health disparities in Hawai'i. Queens Medical Center (QMC), Hawai'i Pacific Health (HPH) facilities, Leahi – The site of the Clint Spencer HIV-AIDS clinic, and Kaiser – Kaiser Health System represent some RMATRIX community partners. Other community organizations, federally-qualified health centers, and institutions such as Kuakini Medical Center and Tripler Army Medical Center provide other potential key contact points for community-based research.

these phenomena. Indeed, some disparities researchers believe that Hawai'i now reflects the anticipated multicultural and multiethnic nature that the US mainland may experience in 20-30 years.

The RMATRIX investigators will emphasize six **HEALTH** (Health Equity & Lifestyle Transformation in Hawai'i) Initiatives as a basis for understanding and addressing such disparities. The HEALTH Initiatives are:

- Cardiovascular Health
- Respiratory Health
- Cancer Prevention and Healthy Recovery
- Nutrition & Metabolic Health (including the issues of obesity and diabetes)
- Perinatal and Growth/Developmental Health
- Aging & Neurocognitive Health (including issues related to stroke, dementia, and substance use)

Figure 1 illustrates the ties between community-based organizations and the investigative teams. The focus of projects supported by RMATRIX Key Functions will be on the HEALTH Initiatives. The RMATRIX investigators will develop collaborations and partnerships among university-based basic science, clinical science, and translational researchers who share a focus on reducing health disparities. Partnerships between the School of Medicine, School of Nursing, and Cancer Center have already been developed. Similar collaborations with the School of Pharmacy at UH-Hilo and the College of Tropical Agriculture and Human Resources (CTAHR) at UH-Manoa are evolving. The RMATRIX investigators will link with community-based investigators and organizations such as The Queens Medical Center, Papa Ola Lokahi, Hawai'i Medical Service

Association, the Waianae Coast Comprehensive Health Center, Waimanalo Health Center, and other community-based groups and health centers to reach out to the Native Hawaiian population. Similar efforts will be undertaken with organizations representing other Asian and Pacific Island ethnic groups.

The program will bring together experts and leaders from multiple disciplines throughout UH's Manoa and Hilo campuses to partner and collaborate with communities to identify the barriers and issues related to disparities in health. Recognizing that successful programs currently exist, RMATRIX will work with participants that will include neighborhood health clinics, Hawaiian civic groups, and health policy leaders. The network of professionals will begin working with leaders in communities with the greatest health disparities. The medical school will establish RMATRIX as a single administrative infrastructure for what is envisioned as a statewide effort to address health disparities. The challenges that RMATRIX hopes to tackle include bringing the university and diverse communities together for the benefit of those at a disproportionate HEALTH risk in Hawai'i with the capacity to build research in the community where ideas are self-generated and people can work with RMATRIX investigators to identify culturally-appropriate approaches to address health inequities.

Other vital components of RMATRIX are the links and collaborations with other NIH, NCRR-funded programs at the medical school and UH. Efforts will be made to coordinate and leverage resources from each of the programs to provide efficiency and avoid duplication for researchers. RMATRIX will enhance existing resources, foster collaborations, and support investigators through education, training and career development in projects that focus on the HEALTH Initiatives.