Health Disparities Research Program

- Overview

The Health
Disparities Research Program, Research and Faculty Development Core, centers on strong hypothesis-driven research that addresses significant minority health issues. Each project within this program provides an unprecedented opportunity for junior faculty at Dillard to become competitive basic or clinical researchers. Furthermore, these projects provide a clinical research setting in which to train undergraduate students and minority nurses to become clinical research associates (CRAs), who in turn, will play a key role in promoting minority participation in clinical research and clinical trials. Each project pairs an established investigator with a junior faculty member at Dillard in a model that promotes faculty development. In addition, the biostatistics group will provide mentoring for a biostatistician at Dillard, bringing to four the initial number of Dillard faculty to be mentored. The faculty development program is based on a development curriculum for junior faculty and has a strong evaluation component based on achieving independent research funding at Dillard. The projects were selected competitively on the basis of innovation, relevance, potential for integration into the overall mission of the Center, and capacity to build health disparities research at Dillard. The projects address a breadth of issues contributing to solving health disparities from behavioral medicine to genomics and include patients and control populations from all ages and both genders. The investigation into human genetic variations is poised to play an unprecedented role in bolstering efforts to find new prevention and treatments for chronic conditions that disparately affect minorities. To that end, these projects employ the latest advances in genomics and focus on understanding the genetic underpinnings of diseases such as cancer, infectious disease, asthma and obesity.

Research Projects

The areas of research currently being conducted by Dillard University investigators partnering with LSUHSC researchers focuses on prostate cancer, cervical cancer, HIV/AIDS, obesity and asthma.

Research Project 1:Prostate Cancer

Project Title: “Incidence of Biology of Androgen Receptor (AR) Mutation in African American Men with Prostate Cancer”

Scientists: Dr. Eric L. Buckles and Dr. Shahriar Koochekpour

Project Overview: This project evaluates the frequency of AR mutations in African American men with prostate cancer that suffer a higher incidence and mortality rate as compared with Caucasian men. The research aim is to investigate AR mutations using genomic DNA extracted from African American men with prostate cancer and normal tissues followed by PCR, automated DNA sequencing and bioinformatics analyses. In addition, this project also determines the biological activities of AR mutations and their clinical histopathology significance such as PSA, Gleason, and age.

Research Project 2: Cervical Cancer, HIV/AIDS

Project Title: “Education of Health Disparate Woman about Human Papilloma Virus (HPV), Cervical Cancer and Preventative Vaccines”

Scientists: Dr. Charlotte Hurst and Dr. Michael Hagensee

Project Overview: It is fact that women of lower socioeconomic status have little knowledge about HPV, the need for Pap smears and efficacy of the current FDA approved HPV vaccines. To this end, a screening questionnaire to better ascertain the knowledge base of the enrolled subjects is being developed by Dr. Hurst with a goal to assess the depth or lack of knowledge of enrolled cohort as to the role of the HPV in developing cervical cancer and the ways for prevention. The areas that need further education will be identified and education modalities developed and implemented with assessment tools utilized to ascertain the effectiveness of the intervention.

Research Project 3: Asthma and Obesity

Project Title: “Obesity and Asthma: Determinants of Inflammation and Effects of Intervention”

Scientists: Dr. Yolanda M. Powell-Young, Dr. John Estrada, and Dr. Melinda Sothern

Project Overview: African American youth are disproportionately overweight and obese. African American teens also experience a higher incidence of asthma co morbidity. Asthma associated lung inflammation is conditioned in part by genetic factors and diet. Although the regulatory mechanisms are not well understood, the severity of asthma symptoms and the rate of morbidity intensify as adipose tissue increases. It has been hypothesized that pro and anti-inflammatory cytokines may mediate these responses. Secondly, weight reduction has been shown to improve the severity of asthma symptoms via a reduction in inflammatory responses. Using a genome-wide approach, the primary aim of this research study is to (a) determine the frequency of single nucleotide polymorphisms (SNPs) among obese and non-obese African American adolescent females and (b) examine the effects of diet and/or exercise on the severity of inflammatory among these individuals.

Summer Scholars Program (SSP)

The SSP is a student research program designed to fill the pipeline with bright, young, college students who are interested in pursuing careers in science and research. Students selected for SSP participation will be involved with active researchers and mentors beginning in their sophomore year through the senior year. Research experiences and encouragement through mentorships, will guide students to continue their studies at the graduate level and ultimately contribute to the diversity of the scientific workforce. The areas of research currently being

conducted by Dillard University investigators partnering with LSUHSC researchers focuses on prostate cancer, cervical cancer, HIV/AIDS, obesity and asthma. Students majoring in biology, chemistry, physics, nursing, public health, and psychology at Dillard University are eligible to apply. Students are expected to continue participation for three consecutive summers, preferably in the same laboratory. Funds to support, housing, meals and a stipend will be provided. Upon completion of the program and during the fall of the senior year, students are expected to apply for admission to graduate school at LSU and other graduate programs that offer research opportunities.

How to Apply

- A completed application and Dillard University Transcript (applications available in the MHHDRC Office, Room 100 Stern Hall).
- First-year students with a grade point average of 2.8 or better.
- Two letters of recommendation from a Dillard University science, nursing, psychology, or public health faculty.
- An essay (2-3 paragraphs) of your interest in participating in the SSP.

Application Submission Deadline - April 1, 2013.

Summer Scholars Research Program Application (download)