

Creating a healthier nation through education

Abbreviations: STEM, science, technology, engineering, and math; REBUILD, research enhancement for building infrastructure leading to diversity

Editorial

Public health initiatives engaging in health promotion, disease prevention, and early disease detection may be utilized to help eliminate and/or decrease the epidemic onset of preventable chronic diseases manifesting in communities located across the nation. Pertinent public health crises such as health disparities and health illiteracy may be eliminated and/or decreased in future generations through educating college students how to create healthy and vibrant functioning communities in their future careers in STEM (science, technology, engineering, and math) related fields of study.

Studies have shown that education is a strong positive social determinant that is directly related with people living a healthier and a higher quality of life. A lack of formal education often restricts the opportunities for people to achieve lives of the higher socioeconomic status. An inadequate formal education often leads to people experiencing lives of the lower socioeconomic status, inadequate health care, inadequate social support during their daily living, unrelenting chronic levels of stress, and hazard environments compounded with negative social determinants.

Many factors need to be addressed that could potentially affect the academic achievements of students. Social determinants such as inadequate health care, bullying, violence, dysfunction in the home dynamic, hunger, homelessness and/or inadequate safe shelter, and lack of clothing may hinder potentially good students from demonstrating excellent performances in their course work. These negative social determinants may hinder student attendances at school which would affect their ability to keep up with the course assignments along with understanding taught subject matters. Students may avoid attending school due to the embarrassment of how various types of negative social determinants have adversely affected their lives. Once these issues are addressed, often you will observe an improvement in their academic performances and interaction with their peers.

There is a need to encourage students of diverse demographic backgrounds especially individuals from unrepresented minority populations to enroll in postsecondary academic institutions in order to pursue STEM related careers. College students could become future leaders in their communities who are a diverse population of biomedical scientists and health care and public health professionals working to combat the epidemic manifestations of preventable uncontrolled chronic diseases such as diabetes mellitus type II, obesity, malnutrition, heart disease, and renal disease.

The 5-year REBUILD (Research Enhancement for Building Infrastructure Leading to Diversity) Detroit Initiative is comprised of four Detroit postsecondary academic institutions including Wayne County Community College District, Wayne State University, University of Detroit Mercy, and Marygrove College collaboratively working to increase the percentage of underrepresented students to successfully complete STEM related academic programs sponsored by a \$21million grant from the National Institutes of Health. Jointly,

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greater than 47,000 undergraduate students attend one of the four partner Detroit academic institutions involved in the REBUILD Detroit Initiative where greater than 50% of them are underrepresented minorities.

The goal is to guide at least 75% of the REBUILD Detroit Initiative college student participants to graduate with a baccalaureate degree specializing in biomedical science or a related field. The mission of this program intends for 50% of these graduates to further their education in doctoral programs in their perspective fields of study.

The University of Detroit Mercy who will be the primary academic institution managing the grant will provide research opportunities and mentorship. Wayne State University will serve as the research partner who will mentor faculty from the partnering institutions in their individual research skills, and also, teach them how to engage in research training for students. Furthermore, Wayne State University will train REBUILD Detroit Initiative student participants how to prepare for graduate school and successfully fill out grant applications. Marygrove College and Wayne County Community College District will serve as the pipeline schools where courses will be developed as they prepare for students to succeed in their research endeavors.

Educational programs such as the REBUILD Detroit Initiative will enable college graduates of STEM related programs across the nation to apply scientific concepts when analyzing and evaluating the health status of communities in which they will serve in their future careers in fields such as biomedical science, health care, and/or public health. Their discoveries in biomedical research may be utilized in translational research in order to engage in health promotion or early disease detection in their communities, for example: It was discovered through biomedical research that the BRCA gene is related to an aggressive form of breast carcinoma. This knowledge may be utilized in the field of public health promoting awareness of breast cancer to women across the nation and perhaps globally. Professionals involved in STEM related careers are enabled to teach their communities how to become proactive in taking care of their health.

The goal of the American Public Health Association is to create a healthier nation in one generation. Educating college students of diverse demographic background to become future leaders promoting health is an excellent avenue that may be utilized to accomplish this goal.

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Conflict of interest

The author declares no conflict of interest.