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Short Communication

Community Advocacy Program

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Introduction

According to the Centers for Disease Control and Prevention (CDC), Health disparities is defined as "preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by socially disadvantaged populations" [1]. The CDC also defined health disparities as the differences in health outcomes and their determinants between segments of the population [2]. In a general sense, health disparities disproportionately affect the vulnerable and underserved populations including African Americans, Latinos, American Indian & Alaska Natives, Asian Americans, Pacific Islanders, other racial and ethnic minority groups, as well as the elderly and less educated in the United State [3-7]. These groups of individuals are at higher risks of developing serious complications from disease states such as heart failure, diabetes, hypertension, depression, chronic diseases, physical limitation, stroke, asthma, and various types of cancer which may lead to death. These racial and ethnic groups burdened by health disparities have the lowest educational and socioeconomic status and bear the greatest burden of most of the chronic diseases in America [7-10].

The purpose of this project is to develop the implementation of a community advocacy program through the Xavier University of Louisiana (XULA) Community-Based Health Outreach (CBHO) program with the intent of proactively eliminating those factors that may impede health literacy. This CBHO program will focus on providing basic health education and services to the vulnerable and medically underserved communities. The Xavier University of Louisiana College of Pharmacy (XULACOP) is a private, non-profit, historically Black institution located in the Midtown New Orleans area, Louisiana. It is the mission of XULACOP "to prepare pharmacists to impact medically underserved communities, particularly African Americans, in an effort to eliminate health disparities through patient-centered care, community service and scholarly work". This initiative of promoting health literacy aligns with the mission of XULACOP. A successful CBHO program would require concerted support from government agencies and educational institutions through grants and educational resources aimed at solving health literacy problems evident among the underserved communities. The XULA CBHO will serve as a case model that could be replicated in other medically underserved communities.

Public Health Significance

There are apparent health inequities that exist because of lower socioeconomic status, limited health literacy, lack of geopolitical representation, and racial background [11-15]. Health literacy is the ability to access health information, read, understand, and apply health information to make basic health decisions [16]. According to Healthy People 2020, health literacy is defined as the "degree to which individuals have the capacity to obtain, process and understand basic information and services needed to make appropriate health decisions" [17]. According to the Office of Disease Prevention and Health Promotion, the five place-based domains of Healthy People 2020 are economic stability, education, health and health care, neighborhood and built environment, and social and community context [18].

Health literacy is one of the determinants of health disparities that could be modified through specific educational intervention to improve health literacy in the population. Health literacy is an important step in achieving some of the United Nations Millennium Development Goals (MDGs). The MDGs aim to achieve universal primary education, reduce child mortality (especially for children under five), improve maternal health, and develop a global partnership for development [19]. According to the CDC, by 2030, about 71.5 million adults over 65 years old will be living in the United States [20-22]. This upward shift in life expectancy and elderly demographics is a critical factor that should drive efforts to improve health literacy, especially among this population. A study published in the British Medical Journal concluded that increasing age and low socioeconomic status was associated with low health literacy scores [23]. The study also found that higher levels of depression, chronic diseases, physical limitation, stroke, asthma, and higher mortality were associated with lower health literacy. A study by Peterson and colleagues found that low health literacy in heart failure was associated with significant increase risk for all-causes of mortality [24]. The study further asserted that low health literacy could be a target for intervention to improve patient's overall health. Low health literacy has resulted in poor health outcomes in diseases such as diabetes mellitus, hypertension, cancer, and asthma [25-29]. Some reports have estimated the annual economic impact of health literacy to be as high as $238 billion.

The National Assessment of Adult Literacy (NAAL) measures the health literacy of adults living in the United States. NAAL focuses on four basic performance levels which are below basic,

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basic, intermediate, and proficient. The NAAL report states that approximately 53% of adults in the USA have intermediate health literacy, 22% had basic literacy, 14% had below basic health literacy, and only 12 % of the United States population had proficient health literacy. According to the data published by the National Center on Education and Economy 1990, the average literacy proficiency levels for adults in the Sate of Louisiana fell within level 2 (257 to 263); while the average literacy proficiency levels for African American in Louisiana fell within the high end of Level 1 (223). The U.S. Department of Education reported the data on Louisiana's National Assessment of Adult Literacy (NAAL) conducted from 1992-2003, and the results published in 2006 suggests that there may be a correlation between literacy and health literacy [28]. Based on the 2003 assessment it was found that "adults who had graduated from high school or obtained a GED, average health literacy increased with each higher level of educational attainment" [28]. Additionally, higher percentages of adults who had taken some graduate level course or completed a graduate degree, and adults who had graduated from a 4-year college, had proficient health literacy than adults with lower levels of education [28].

A number of studies have shown that low health literacy led to adverse drug events resulting from inappropriate dosing, incorrect identification of medication, difficulty understanding caution and warning signs on the label, misinterpretation of dosing and ancillary instruction [29-31]. Furthermore, poor communication with providers has led to the occurrence of adverse events in patients [29-31]. Additionally, a study by Osborn and colleagues examined how health literacy explains racial disparity in diabetes medication adherence; they concluded that there is a relationship between low health literacy and less adherence to diabetes medications in African Americans [32]. Some studies have shown that low health literacy led to negative health outcomes. In a systematic review, Sheridan et al. showed that low health literacy level was associated with increased hospitalizations, greater emergency care use, lower use of mammography, lower receipt of influenza vaccine, poorer ability to demonstrate taking medications appropriately, poorer ability to interpret labels and health messages, and, among seniors, poorer overall health status and higher mortality [36]. Sheridan and colleagues demonstrated that health literacy interventions are associated with improvement in clinical outcomes (reduced disease severity) and health care utilization (reduced emergency visits and hospitalization) [37]. The common intervention techniques adopted in these studies include patient specific counseling, self-monitoring, written material, computer and web based intervention and periodic reminder phone calls; no single tool was used in isolation [23,24]. The National Action Plan to Improve Health Literacy provided seven goals that will improve health literacy and strategies for achieving them [16]. One of the goals (Goal 1) is to develop and disseminate health and safety information that is accurate, accessible, and actionable. In order to solve the health literacy problem, especially in underserved communities, it is prudent to provide basic health literacy education that is tailored to specific patient needs. A Community-Based Health Outreach (CBHO) program could be the vehicle to provide the needed educational intervention that improves health literacy in communities impacted by health disparities.

One of the overarching goals of the Healthy People 2020 and 2030 is to achieve health equity, eliminate disparities, and improve the health of all groups [33,34]. In order to achieve this goal, institutions must engage leadership, key constituents, and the public across multiple sectors to take action and design policies that improve the health and well-being of all." The Xavier University of Louisiana College of Pharmacy (XULACOP) will engage the leadership as well as policy makers and the public at large to ensure successful health literacy program across the State of Louisiana.

XULA Community Health Initiatives/Engagement

Hubinette and Colleague defined Health Advocacy as activities related to ensuring access to care, which may include understanding and navigating health system, mobilizing resources, addressing health inequities, influencing health policy and creating system change. The role of pharmacist as natural health care advocate is evident in their relationship and accessibility to the patients. Pharmacists in the community settings are involved in helping and directing patients to cheaper but effective alternatives for their disease state management. They provide appropriate medication counseling and vaccination to the public. The health advocacy role of pharmacist extends to helping patients navigate the home self- monitoring products, and follow up with medical and medication therapy appointments. Pharmacists also advocate for patients through their involvement in legislation that provides public health safety and best practices with safe medication use. Given the existence of health disparities especially in the medically underserved communities, health advocacy should be incorporated as an essential part of the solution to eliminating health disparities and health illiteracy. Therefore, training local community leaders as health advocates would be a great step in the right direction towards the improvement of the health literacy of the medically underserved communities.

The Xavier University of Louisiana College of Pharmacy (XULACOP) conducts several community outreach initiatives annually, primarily health fairs, to educate and improve health literacy in the Greater New Orleans area. These health fairs are conducted in central community locales such as barbershops, churches, malls, schools, and local community parks; approximately 1,000 participants are reached per year. During the health fair, community participants are educated on both appropriate medication use (name, indication, side effects, adherence, etc.) and common chronic disease states including hypertension, diabetes mellitus, dyslipidemia, and obesity. The participants are also educated on healthy nutrition and smoking cessation. Currently, XULA has not published any study to determine the impact of the college-wide health fair initiatives, although data collection has been ongoing.

To date, XULACOP has hosted 13 Annual Health Disparities conferences, which has always been well attended by approximately 400 to 500 participants yearly. The focus of the conference is to provide evidence-based approach to eliminating health disparities in minority communities. The health disparities conference draws leading researchers and figures in health disparities, healthcare professionals, public health professionals, students, health advocacy groups, and governmental agency representatives across the United States of America. The health disparity conference continues to create awareness on health disparities and strategies to mitigate it while moving our healthcare system towards achieving health equity. Furthermore, XULA College of Pharmacy has infused elements of health disparity and health literacy in its didactic and experiential curriculum. A noteworthy program in this regard is the Senior Center Medication and Nutrition Counseling in the Introductory Pharmacy Practice Experience I and III (IPPE-I and IPPE-III) curriculum.

The purpose of this program is to improve health literacy in the senior citizens population. Patient counseling is a key part of the IPPE-I and IPPE-III curriculum. Students are placed in groups of five (five - three first-year pharmacy students (P1s) and two third-year pharmacy students (P3s). These students take medication and nutrition history of the senior citizens and also counsel them on their medications. During this process, students assess medication for the senior patients. This process takes about five to six senior center visits to complete under the supervision of licensed pharmacists. The promotion of health literacy through the senior center medication and nutrition counseling visits is in alignment with the mission of XULA College of Pharmacy.

Methods

The planning, implementation, and evaluation of the project will be based on the PRECEDE-PROCEED model, which is **a** theoretical framework used for health promotions**.** The PRECEDE-PROCEED model is a comprehensive structure for assessing health needs for designing, implementing, and evaluating health promotion and other public health programs to meet those needs [35]. PRECEDE stands for Predisposing, Reinforcing, and Enabling Constructs in Educational Diagnosis and Evaluation. It involves assessing the following community factors such as social assessments, epidemiological assessments, ecological assessment and implementation of innovation. PROCEED stands for Policy, Regulatory, and Organizational Constructs in Educational and Environmental Development. It involves the identification of desired outcomes and program implementation which include process evaluation, impact evaluation, and outcome evaluation. The proposed CBHO program will be delivered through an outreach center that is accessible to the impacted communities. The train-the-trainer model will ensure the successful execution of the health literacy project. This initiative will take a concerted effort from key stakeholders such as the XULACOP administrators, faculty, and students, along with community advocates. The secondary trainers from the community will eventually promote health literacy by teaching in their communities. The program will be promoted through the dissemination of promotional flyers to community centers and other public places.

Proposed Framework of the Community-Based Health Outreach Center

To expand our impact in the New Orleans community, the addition of a CBHO center would be a welcome idea. The Xavier University of Louisiana (XULA) CBHO center will be the venue for delivering the health literacy and basic health services under the CBHO program. In developing the community advocacy program, the train-the-trainer model will be applied. This train-the-trainer model has been shown to increase knowledge and confidence among participants. It is important to note that train-the-trainer model is now the key model in disseminating tobacco counseling knowledge/skills to healthcare providers [36,37]. Therefore, our CBHO program will adopt the basic premise of train-the-trainer model to maximize the delivery of health literacy to underserved communities that we serve. The health literacy program will address issues such as medication adherence, on-time refill of medications, attending physician appointment and follow-up visits, and monitoring blood pressure/blood glucose. The program will also include the patients' target health outcome including the goals of therapy for different health conditions.

The XULA CBHO center will be the venue for delivering the health literacy program. The XULA CBHO center is located in the Gert Town neighborhood in New Orleans, Louisiana. A clinical faculty at XULACOP and P3 students will be the primary trainers. The secondary trainers will be the community advocates. The community advocates will be recruited during health fairs in the community. Local churches and other neighborhood organizations may also be used to identify individuals who will be suitable for this program. These advocates must be individuals who are very familiar with their community needs. After the secondary trainers have been identified, they will be invited to the XULA CBHO center where they will be trained on the defined areas (Tables 1 and 2). XULA CBHO will provide home monitoring devices for blood pressure, blood glucose, and pill counters. XULA CBHO will also provide the trainers with in-depth knowledge of prescription labels to understand the directions on the prescription bottles, including refill due dates, expiration dates, and medication administration instructions.

Activity	Method
Center	XULA Community-Based Health Outreach (CBHO) Center
Primary Trainers	▪ Clinical Faculty
	▪ IPPE-III students
Secondary Trainers (Advocates)	▪ Community members
Recruiting Community Members	▪ Recruitment sites
	o Health fair
	o Churches
	o Community centers
	▪ Baseline survey
Types of Training	Reading medication labels
	Medication refill information & expiration dates: Medication names and indications
	Medication dosing information
	Blood glucose monitoring and reading
	Blood pressure monitoring and interpretation: Physician appointment reminders
	Behavioral training – smoking cessation and nutrition
Training materials	▪ Videos
	▪ Pamphlets
	▪ Personal face-to-face interactions
	▪ Organ-system simulation kit & models (to teach and demonstrate what hypertension, diabetes, smoking cessation, high cholesterol does to the body, etc.)

Table 1: Proposed Framework of the Health Literacy Program.

Program Impact of Health Advocacy Program

The health advocacy program is anticipated to improve the health literacy of the community. The improvement in community health literacy will translate to better health and wellness, and medication adherence. The program will provide valuable and easily accessible resources (health advocates) that will work closely with the community.

The health advocacy program is in line with the mission of the Xavier University of Louisiana College of Pharmacy, which is to prepare pharmacists to impact the medically underserved communities, particularly African Americans, in an effort to eliminate health disparities through patient-centered care, community service, and scholarly work.

Phase	Timeline	Activity
Phase 1: Program Planning	4 - 6	• Identify location for the XULA CBHO center
	months	• Identify stakeholders
		• Identify community advocate partners
		• Secure funds
		• Recruitment of trainers
		• Develop training materials
		• Purchase equipment (blood pressure monitors and blood glucose monitors)
Phase 2: Social Marketing	6 months	Patient recruitment
1. Promotion/ Advertisement of the CBHO Center		• Conduct health fairs to distribute flyers
		• Visit local churches
		• Acquire health literacy materials
Phase 3: Program Implementation	3 months	• Initial training: video training with students
• Training-the-trainer		• Video training with community Advocates
Phase 4. Program Evaluation	Quarterly	See Program Evaluation section below

Table 2: Phases of Development of the Community Advocacy Program.

Program Evaluation: Assessment of the CBHO

Evaluation of the health literacy program is paramount for ensuring continuous quality improvement of the CBHO center. A pre- and post-test survey will be used to assess changes in health literacy level of the community advocates and the patients from baseline. This will enable the primary trainers to be more specific and focused on individual deficits during the training period. On a quarterly basis, these individuals will be re-evaluated to ensure that they retained the basic health literacy information that was delivered prior. The primary trainers will use the survey data to train the community advocates on patients' specific needs and how to meet those needs using available resources. One–on–one feedback may also be used to elicit more responses from patients and trainers. Our core outcome measure will include improving medication adherence, doctor's appointment, and medication refills by a rate of 80%, which is a commonly acceptable medication adherence rate. As part of recruiting and retaining strategies, raffle giveaway, goodie bags, and flyers may be used as an incentive to enhance participation. Most importantly, clearly stating the goals of the community outreach program will provide enough buy-in and ownership for some enthusiastic community advocates.

Conclusion

The health advocacy program is a necessity for bridging health disparities and health literacy among the medically underserved communities. The proposed health advocacy program would be implemented in four phases, which includes program planning, social marketing, program implementation, and program evaluation. Training of community leaders who would serve as health advocates is very paramount to the success of this project. Therefore, a robust evidenced-based training program will utilize the Precede-Proceed model for planning, implementation, and evaluation. Perpetual data collection throughout the phases will be put in place through a continuous quality assurance model. The XULA CBHO model will serve as a case project for future projects.

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Conflicts of Interest

The authors declare no conflict of interest.

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