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From the Schools of Public Health

TYPE 2 DIABETES AS A PORTAL FOR COMMUNITY AND UNIVERSITY COLLABORATION: ONE COUNTY'S EXPERIENCE

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As chronic disease rates rise in the nation, community health partnerships and collaborations become ever more important. Community partnerships between universities and their surrounding communities have become an issue of recent discussion, particularly universities with a School of Public Health.[1] As academic institutions aim to teach their students the importance of improving the quality of life of others, they can often begin in their immediate surrounding communities.

As a matter of location, some of the most resource-deprived communities in California immediately surround some of the most prestigious schools offering a public health focus. Good examples are the University of Southern California, Stanford University, and Loma Linda University School of Public Health (LLUSPH). LLUSPH is situated in the county of San Bernardino, which is ranked geographically as the largest county in the state of California. Chronic disease rates place San Bernardino County first for heart disease and sixth for type 2 diabetes when compared to other counties in the state. Nationally, the county continues to have some of the highest rates of chronic diseases, poverty, and violence.[2]

OVERVIEW OF THE PROBLEM

The county of San Bernardino has high rates of chronic diseases (heart disease and hypertension), cancer, violence, and teen risk behaviors.[2] Type 2 diabetes has significantly increased in the county in the last 10 to 15 years. From 1990 to 1996, mortality due to diabetes rose more than 147.3%, from the 14th leading cause of death to the seventh leading cause, making diabetes prevention and health promotion a top priority for the county.[3]

In 2000, few collaborative efforts existed in the county that addressed the rising incidence of diabetes, particularly among those at greatest risk—the afflicted Latino and black senior populations. Local need assessments revealed that health education for this targeted group was scarce, and difficult to access at best. One local hospital offered diabetes health education classes at a reduced rate, while the remaining hospitals and facilities required that participants have adequate health insurance coverage or pay hundreds of dollars out-of-pocket. Other discovered educational barriers included poor relationships between some institutional entities and members of the Latino and black communities. Historical events in the county perpetuate the lack of trust felt by many black members of the community toward the university and county. The lack of trust greatly affected the partnerships in the geographical area, making collaborative efforts to reduce and prevent type 2 diabetes virtually nonexistent. Compounding the historical mistrust, the unfortunate events of September 11, 2001, resulted in the lack of utilization of community-based resources by many immigrant populations, especially the elderly Hispanic/Latino population. These historical events had major impact on the self-management of diabetes in the county's aging black and Latino populations. Breaking down historical barriers and fostering community collaboration was vital to improving the quality of life for seniors living with diabetes.

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ASPH AND HRSA ANSWER THE CALL FOR HELP

Recognizing such a need, the Office of Public Health Practice at the Loma Linda University School of Public Health (LLUSPH) received funding in 2001 from the Association of Schools of Public Health (ASPH) through the Health Resources and Services Administration (HRSA). The purpose of the funding was two-fold: (*1*) To provide culturally appropriate health promotion and disease prevention services to underserved Latino and black seniors living with type 2 diabetes within the city of San Bernardino; (*2*) To work through a model that combines community/university collaboration for future professionals of public health with service learning opportunities in the local area.

Initial work began with graduate students gathering needs assessment data as part of a community laboratory class at LLUSPH. This year-long (three quarters) course provides student training with a systematic approach to program planning, implementation, and evaluation. Health promotion projects resulting from the training in this class have included such topics as community violence prevention, dental health, weight management, and vision screening.[4] Needs assessment data gathered in the fall quarter of 2001 revealed that Latino and black seniors living with type 2 diabetes desired basic health education information for managing their diabetes (i.e., nutrition, exercise, medication, and stress management); wanted information about community resources they could access for managing their condition; and needed assistance in obtaining medications. Three independent curricula and health education trainings were developed to reach the population in a culturally suitable and competent manner. To assure competence, the project development was overseen and managed by a university/community collaborative advisory board.

PROJECT DESCRIPTION

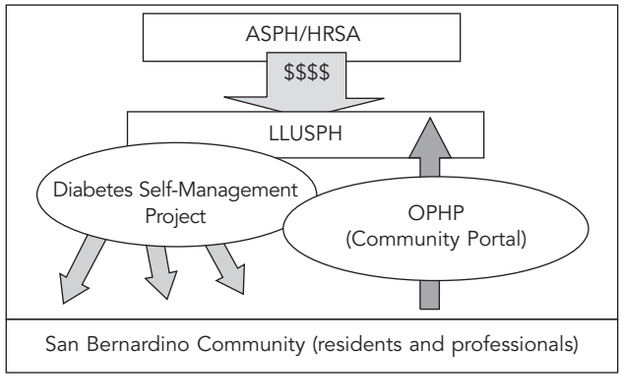
Providing diabetes education

The health education component of the project aimed directly at improving the quality of life of the local population living independently with type 2 diabetes in a resource-deprived area in San Bernardino City, CA. In addition to providing basic education about diabetes self-management, the secondary goals were to connect participants with diabetes management resources in the local area and facilitate proper diabetes care. The project was entitled "Diabetes SMILE" (Self-Management for Independent Living Senior Education), or "Sonrisas por Vida" (smiles for life) for the Spanish-speaking population.

Presentations, materials, and messages were tailored specifically to the culture of each of the three following targeted groups:

- *The Plaza:* A senior living facility in the heart of the city of San Bernardino housing seniors living with diabetes from all nationalities.
- *The Black Health Committee:* A train-the-trainer model was developed for and with the health committee of the local Inland Empire Concerned African American Church Consortium (IECAAC). Participants included representatives from local black churches serving on the IECAAC health committee. The curriculum included comprehensive diabetes self-management education materials and information on how to conduct individual needs assessments at their respective churches. Computer disks were provided with all materials for easy replication at each church site.
- *Monterey Elementary Parenting Group:* Diabetes self-management curriculum materials and health education classes were provided in both Spanish and English at this elementary school parenting group consisting only of mothers. Participants included mothers of elementary school children who regularly attended parenting classes sponsored by the San Bernardino County Department of Public Health. This audience was chosen due to the established nature of group and the family orientation of the Latino population. Besides acting as parents of young children, many of the mothers also care for their husbands and aging parents who are living with diabetes.

Service learning/community collaboration model. The service learning model and community/university collaboration had three major components: service learning of graduate students, program advisory board input, and directives for community/university partnership sustainability. Service learning was facilitated



via a graduate-level class in the Department of Health Promotion and Education at LLUSPH, entitled Community Programs Lab. Graduate students were closely supervised by university faculty and community professionals working in diabetes health education. As the students interfaced with the community, the faculty and diabetes professionals provided valuable feedback and suggestions for enhanced learning and program improvement.

The advisory board consisted of students, faculty, and community partners familiar with diabetes management. This component enabled partnerships to be created between and among project administrators, students from LLUSPH, representatives from community based organizations, church organizations, senior living establishments, religious-based organizations, and health-based organizations. The success of the advisory board resulted in a sustainable relationship between the university and diabetes management community partners.

The partnerships created by the advisory board established relationships for future chronic disease prevention programs for the Office of Public Health Practice in the LLUSPH. The ASPH grant provided funds to facilitate the development of the physical office and the website, which features community projects of the past, present, and future. Furthermore, it supported an on-site location for community members to have a portal into the university resources and professional connections.

MEASURING PROGRAM IMPACT

The success of the project focused on examination of the health education provided and the sustainability of the partnerships it created.

The impact of health education interventions was measured using a mixed methods approach. Participant's knowledge of diabetes increased above baseline and 71.4% of program objectives were met according to the grant specifications. Qualitative evaluation data revealed that the program participants felt they gained a better understanding about diabetes and its management. The majority of participants commented that they had received some prior information on diabetes self-management, but that it was never explained and presented in a fashion that was "down to earth," allowing for optimal understanding.

The largest project impact came from the creation of community partnerships. These included the American Heart Association (AHA), American Diabetes Association (ADA), Inland Empire Concerned African-American Church (IECAAC), Community Hospital of San Bernardino, and The Plaza Senior-Living Complex. This project also continued to solidify the partnership between the LLUSPH and the San Bernardino County Department of Public Health (SBCDPH), specifically the nutrition program. As a result of the partnerships, new projects were formed targeting chronic disease prevention, and a closer relationship was formed between LLUSPH and the community at large. The ADA partnered with the Latina Youth Diabetes Project, a primary prevention project for type 2 diabetes among Latina young people. Project Corazón a Corazón was a heart disease and diabetes prevention program formed between the LLUSPH Office of Public Health Practice and the AHA of the Inland Empire, CA. Moreover, an extensive year-long health education program entitled "Working For and With Seniors" was formed for The Plaza Senior Living Complex. The "Diabetes SMILE" project was presented at the 2002 American Public Health Association (APHA) Conference and feedback was enormously positive. As a tribute to their success, all of the above projects were also accepted for presentation and publication at the 2003 and 2004 APHA conferences.

Lastly, the Office of Public Health Practice, which was enhanced with funding from this grant, has received additional funding from outside sources to support its efforts to increase community partnerships. Specifically, the office is continuing its efforts to address the needs of those individuals living with diabetes in the Latino community in the inner city of San Bernardino; we are also documenting an historical partnership between the SBCDPH and LLUSPH in the hope of providing a path for the future.

CONCLUSIONS

Community/university collaboration models for chronic disease prevention work toward assuring that many public health needs are met. These models serve to provide a portal through which the community has direct access to the resources of the university, and vice versa. In addition, it provides the opportunity for future public health professionals to gain real life experiences through service learning opportunities.

Although the project provided mainly health education focusing on type 2 diabetes self-management, it did much more. It established relationships in the community that continue to flourish and grow. Given trusting and collaborative relationships, any community health issue can be addressed, e.g., heart disease, hypertension, teen pregnancy, and type 2 diabetes.

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On behalf of LLUSPH, The Diabetes SMILE Project would like to thank the program participants and advisory boards' community members, for without their involvement none of our success would have been realized.

Our program participants came to us with open ears and hearts, eager to gain information and experiences. We, too, gained from them—lessons on patience, bravery, determination, and honesty. To our seniors at The Plaza Senior Living Complex, thank you for always making us appreciate living fully and for accepting our project's shortcomings. We thank the SBCDPH for the value gained by the experience with the Monterey Parenting Group, especially Sonia Vega and Eddy Jara for introducing us to such a wonderful group of women (and for some great tamales!). We are inspired by their tenacity to care for themselves and their families; we truly learned that type 2 diabetes is a *family* condition.

We offer a heartfelt acknowledgement to the IECAAC for allowing us to be a part of your efforts at tackling these issues within your own community, and for trusting us to be a part of your solutions.

Moreover, we are grateful to our community advisory board members who took the time to meet frequently to assure the project remained on track. The transition out of the funding for Diabetes SMILE and into the continued programs is a true testimony to the collaborations that we have made and continue to strengthen. Thank you to Eddie Martinez of the American Diabetes Association, who provided many of the project's incentives, books, and pamphlets for the project.

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