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# Utilizing health ambassadors to improve type 2 diabetes and cardiovascular disease outcomes in Gadsden County, Florida

Sandra Suther [a,*], Arrie M. Battle [b,1], Felecia Battle-Jones [c,2], Cynthia Seaborn [d,3]

[a] Florida A&M University, Institute of Public Health, 207 C FSH Science Research Center, Tallahassee, FL 32307, USA
[b] Mother Care Network, Inc., 919 Hardin Street, Quincy, FL 32351, USA
[c] Mother Care Network, Inc., 919 Hardin Street, Quincy, Florida 32351, USA
[d] Florida A&M University, College of Pharmacy & Pharmaceutical Sciences, 520 FSH Science Research Center, Tallahassee, FL 32307, USA

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ABSTRACT

Minority racial and ethnic groups are at higher risk for developing type 2 diabetes. These groups also experience more severe complications from diabetes and have higher mortality rates as a result of the disease, such as cardiovascular disease, amputation and kidney failure. Underserved rural ethnically disparate populations benefit from health education outreach efforts that are conveyed and translated by specially-trained community health ambassadors. Project H.I.G.H. (Helping Individuals Get Healthy) was developed to target the priority areas of type 2 diabetes and cardiovascular disease. Utilizing trained community health ambassadors, CDC's *The Road to Health Toolkit* as well as *New Beginnings: A Discussion Guide for Living Well with Diabetes* was used as a model for a community-based educational program. The overall goal of Project H.I.G.H was to implement and evaluate: (1) a coordinated, behavior-focused, family-centered, community-based educational program and; (2) a client service coordination effort resulting in improved health outcomes (BMI, Glucose Levels, BP) for individuals with type 2 diabetes and cardiovascular disease in Gadsden County, Florida. Overall, Project H.I.G.H. was very successful in its first year at motivating participants to delay or prevent diabetes and/or cardiovascular disease or at the very least to start taking better care of their health.



## 1. Introduction

The disparity in the prevalence of type 2 diabetes among African Americans, Latinos, and other minority racial and ethnic groups is well documented. In addition to being at higher risk for developing the disease, these groups also experience more severe complications from diabetes and have higher mortality rates as a result of the disease, such as cardiovascular disease, amputation (such as having a toe or foot removed), and kidney failure (American Diabetes Association, 2011; Campbell, Walker, Smalls, & Egede, 2012; Narayan, Boyle, Thompson, Sorenson, & Williamson, 2003). One in four African American women is diagnosed with diabetes (Office on Women's Health, U.S. Department of Health and Human Services, in press).

According to the Centers for Disease Control and Prevention (2011) risk of being diagnosed with diabetes is 77% higher among non-Hispanic Blacks compared to non-Hispanic Whites. It has been predicted that Type 2 Diabetes will increase 3.0-fold in African Americans, and 1.2-fold in non-Hispanic Whites by 2020 (Hogan, Dall, & Nikolov, 2003). The higher levels of diabetes among African Americans has been attributed to several factors which include higher levels of overweight/obesity, lower levels of physical activity, and family history (Office on Women's Health, U.S. Department of Health and Human Services, in press). Type 2 diabetes incidence and self-care has also been examined in relationship to socioeconomic position.

## 2. Background

### 2.1. Project setting

Gadsden County is the only county in Florida with a predominately African American population. This predominately rural county is adjacent to the seat of state government and tremendous educational resources, yet has remained economically depressed with numerous health and quality of life disparities. The

* Corresponding author. Tel.: +1 850 412 7879.
*E-mail addresses:* sandra.suther@famu.edu, sandia8@aol.com (S. Suther), arriebattle@comcast.net (A.M. Battle), battlejones43@yahoo.com (F. Battle-Jones).
[1] Tel.: +1 850 570 1296.
[2] Tel.: +1 850 599 3108.
[3] Tel.: +1 850 524 2477.

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County has the widest gap in the state between the extremely wealthy and the extremely poor. Out of 67 counties in the state, Gadsden County ranks 62nd in factors that impact overall health, 55th in health behaviors such as smoking (18.0%), obesity (38.0%), and physical inactivity (57.5%) (University of Wisconsin Population Health Institute, 2015).

According to the 2015 County Health Rankings, 15.0% of Gadsden County, Florida's adult population have diabetes compared to the state rate of 11.0%. Diabetes is the 5th leading cause of death in Gadsden County (Florida Department of Health, 2013a,b). The average age at which diabetes is diagnosed in Gadsden County is 43 years old, compared to 50 years old overall in the state (Florida Department of Health, 2013a,b). Foot disorders are a major source of morbidity and a leading cause of hospitalization for persons with diabetes. Ulceration, infection, gangrene, and amputation are significant complications of the disease, estimated to cost billions of dollars each year (Frykberg et al., 2006). Over fifty-seven percent of diabetic hospitalizations in Gadsden County are from complications due to amputations. Self-care behaviors that may not be directly linked to the quality of physician care have consistently been shown to greatly impact diabetes outcomes, such as monitoring and taking medication (Salanitro et al., 2011).

Of the people diagnosed with type 2 diabetes about 80–90% also diagnosed as obese. In Gadsden County, 38.0% of adults are obese compared to 26.0% in the state (2015 County Health Rankings). Obesity and the related illnesses of cardiovascular disease, hypertensive disorder and diabetes are significantly more prevalent among African American residents in Gadsden County. The incidence of obesity is 49.1% for African Americans and 24.9% for Whites (Florida Department of Health, 2013c). Almost 58% of Gadsden County residents are inactive, 37.4% are sedentary (Florida Department of Health, 2013c). High blood pressure and hypertensive disorder (56.1%) occur at alarming rates among African Americans in Gadsden County.

### 2.2. Provision of services

Mother Care Network Inc. is a non-profit 501 (c) (3) organization dedicated to providing assistance and support to address the compounded needs of Gadsden's residents through coaching, mentoring and family bonding. The mission of the organization is to encourage Gadsden residents to get involved in their community, assist them in acquiring the necessary skills to make healthy choices, aid families in utilizing community resources and guide them into action for healthy behaviors and/or lifestyle changes to better understand the nature of health disparities among ethnic and racial groups.

The American Association of Diabetes Educators promotes seven basic self-care behaviors which focus on measureable behavioral outcomes in the areas of healthy eating, being active, monitoring, taking medication, problem solving, reducing risks and healthy coping. We hypothesized that identifying resources such as transportation infrastructure and access to follow-up clinical care for treatment as well as a behavior-focused, family-centered, community-based educational program would help to improve type 2 diabetes and cardiovascular disease outcomes for those who have been diagnosed, as well as reduce the risk of developing the disease for others in the home or community.

Utilizing community health workers to be links between the community and health care workers has been shown to improve health behaviors and outcomes of community interventions (Quinn et al., 2008; Smedley, Stith, & Nelon, 2003; Spencer et al., 2011). Underserved rural ethnically disparate populations benefit from health education outreach efforts that are conveyed and translated by specially-trained peers from the respective cultural enclaves. Individuals who have the respect and trust of the community and who also live in the community are not only better equipped to understand the unique cultural needs of their communities, but are also eminently qualified to translate the mission of comprehensive health care to community peers. Other similar programs have documented that when community residents are trained as health advisors/ambassadors the community is much more prone to view these respected individuals as caring, credible and knowledgeable advice givers (American Association of Diabetes Educators, 2003). Trained residents from the community also understand the beliefs attitudes and behaviors of the informal social groups that historically exist in the community. This cultural knowledge and social consciousness uniquely equip community health advisors to be effective advice givers.

## 3. Community-based intervention

Project H.I.G.H. (Helping Individuals Get Healthy) was developed to target Gadsden County, Florida and the priority areas of Diabetes and Cardiovascular Disease. Utilizing trained community health workers, *The Road to Health Toolkit* (Centers for Disease Control and Prevention, 2008) is used as a model for the community-based educational programs. The curriculum (Table 1) was selected by the partners because of its focus on the desired health behavior outcomes and the involvement of community health workers. The Road to Health Toolkit consists of 17 activities that the Gadsden County Health Ambassadors (GCHAs) are able to utilize to lead the community-based group instruction.

Gadsden County residents are dealing with a number of daily stressors. Education opportunities, chronic illnesses, human relationships, work, or lack thereof, ongoing untreated medical conditions and lack of support are just some of the daily issues that are faced in rural communities. Public health agencies are shifting focus to interventions that modify behavioral as well as social risk. There are several agencies that work with families in Gadsden County, but unfortunately lack the necessary resources to address individuals that face multiple chronic disease illnesses such as type 2 diabetes and cardiovascular disease. Overlooked social determinants of Gadsden County residents have contributed to misdiagnosis of type 2 diabetes. In-home or a more hands-on solution-focused approach assists type 2 diabetes and/or cardiovascular disease patients to understand social and emotional factors as well as behavior associated with their own diabetes and/or cardiovascular disease management.

The program participants who are diagnosed with diabetes or have a family member who is diagnosed is offered the opportunity to receive a home-based intervention. The home based intervention is based on components of *New Beginnings: A Discussion Guide for Living Well with Diabetes* (National Diabetes Education Program, 2014). The intervention was adapted for those participants coping

**Table 1**
The road to health toolkit curriculum.

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| Making healthy food choices | Physical activity |
| Activity 1: Portion distortion | Activity 10: 10,000 steps club |
| Activity 2: Food detective | Activity 11: A journey of two |
| Activity 3: Food detective ii for fats and sugars | Activity 12: Neighborhood discovery |
| | Activity 13: Community garden |
| Activity 4: Community kitchen | Activity 14: Train like a super star |
| Activity 5: Sneak in nutrition | Activity 15: PAWS (Pets Are Wonderful Support) |
| Activity 6: Lunch exchange | |
| Activity 7: Community water log | Activity 16: 3-on-3 Adult soccer, kickball, basketball, frisbee, or softball games |
| Activity 8: The "gross value" of a meal deal | |
| Activity 9: Supper Clubs | Activity 17: Walk to Timbuktu |