

## Report from the CDC

# Seeds of HOPE: A Model for Addressing Social and Economic Determinants of Health in a Women's Obesity Prevention Project in Two Rural Communities

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### ABSTRACT

Socioeconomic status (SES) and income disparity are strong predictors of health, and health promotion interventions that address them are more likely to be meaningful to participants and to sustain positive effects. Seeds of HOPE is an innovative project that is the result of a long-standing collaboration between the University of North Carolina (UNC) Center for Health Promotion and Disease Prevention, a Centers for Disease Control and Prevention (CDC) Prevention Research Center, and communities in rural North Carolina. Initial formative work, including key informant interviews, community surveys, and focus groups, strengthened our understanding of the link between hope and health and the importance of addressing social and economic issues as part of our health promotion interventions. A Seeds of HOPE strategic plan was developed using a community-based participatory process and led to the idea to start Threads of HOPE, an enterprise that will serve as a business laboratory where women will produce and market a unique product and also learn business skills. Threads of HOPE will be a health-enhancing business and will serve as a training program for a new cadre of women entrepreneurs in two rural communities.

### INTRODUCTION

#### *Social determinants of health*

**S**OCCIOECONOMIC STATUS (SES) is a strong predictor of health. The social determinants of health, including income, education, occupation,

and neighborhood and community characteristics, play a greater role in health than individual behaviors or access to healthcare.<sup>1,2</sup> Income disparity, or the gap between those at the highest and lowest levels, also predicts health,<sup>3</sup> and this disparity is increasing within North Carolina,

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particularly between urban and rural areas of the state.

The intervention described in this paper takes place in Sampson and Duplin Counties in southeastern North Carolina. The economy in rural North Carolina has been experiencing a steady decline since the mid-1990s.<sup>4-6</sup> Compared to urban areas, the rural counties of North Carolina have fared worse in terms of all the major indicators of economic well-being, including employment, income, and poverty rate. Unemployment, for example, was two percentage points higher in the rural areas from 2000 through 2003.<sup>4</sup> Furthermore, between 1996 and 2002, total employment increased by only 16% in rural areas compared with a 28% increase in urban areas.<sup>4</sup> The urban-rural disparity in unemployment is especially pronounced in the eastern region of the state, where job losses due to structural changes in the economy (loss of manufacturing plants and tobacco revenues) have been most apparent and drastic. In 2000, the median income for North Carolina was \$39,184. The median income in Sampson and Duplin Counties was about \$30,000, and just two counties west in the more affluent Wake County, the median income was about \$55,000. Whereas the poverty rate in North Carolina is 12.3%, it is 17.6% in Sampson County and 19.4% in Duplin county, but only 7.8% in Wake County. Urban counties in North Carolina have more than double the households with incomes over \$100,000 compared with rural households.<sup>4</sup> In North Carolina, it is common to hear comments such as “the sad truth is that we are increasingly becoming two North Carolinas—the growing, prosperous and thriving urban areas, typically identified as the I-85 crescent, versus the expanding depressed rural areas east of I-95 and the far western parts of our state.”<sup>7</sup>

Health promotion interventions that address social determinants of the health of communities, including socioeconomic factors, are more likely to be meaningful to participants and to sustain positive effects. Economic segregation within a community can have profound effects on the health and well-being of community members. Community health interventions that address social and economic issues will be more likely to impact the health of the community in a more long-term and meaningful way.<sup>8</sup> In many eastern North Carolina counties, the socioeconomic reality is high unemployment, poverty, ongoing recovery from a natural disaster, immigration is-

issues and racism, depression, and lack of hope for the future. This paper discusses the development of an innovative project, Seeds of HOPE, which specifically targets economic improvement for rural, low-income women through starting and operating a small business.

### *The Community Guide*

The Community Guide’s Model for Linking the Social Environment to Health, developed by the Centers for Disease Control and Prevention (CDC) Task Force on Community Prevention Services, provides a framework for Seeds of HOPE.<sup>9</sup> The Task Force reviewed the evidence and recommended seven intervention targets, including: (1) neighborhood living conditions, (2) opportunities for learning and developing capacity, (3) community development and employment opportunities, (4) social cohesion, civic engagement, and collective efficacy, (5) prevailing community customs, norms, and processes, (6) health promotion, disease and injury prevention, and (7) healthcare opportunities. Seeds of HOPE specifically addresses five (2, 3, 4, 6, and 7) of these targets through training and education for developing a business, providing jobs, promoting healthy behaviors, building social support, increasing empowerment and hope, and increasing community resources, capacity, social capital, and community involvement.

### *Community-based participatory research*

Community-based participatory research (CBPR) is a

collaborative approach to research that equitably involves all partners in the research process and recognizes the unique strengths that each brings. CBPR begins with a research topic of importance to the community, has the aim of combining knowledge with action and achieving social change to improve health outcomes and eliminate health disparities.<sup>10</sup>

Through a Prevention Research Center Cooperative Agreement with the CDC, the core demonstration research projects of the University of North Carolina (UNC) Center for Health Promotion and Disease Prevention (HPDP) have a long history of collaboration and partnership with rural communities in North Carolina.

The Community Advisory Committee (CAC) has been meeting regularly with us for 8 years and comprises about 20 members. The CAC is

involved with every aspect of Seeds of HOPE, and the seven members of the community-based staff plan and implement the program along with UNC staff. CAC members are from community health centers, domestic violence agencies, the Coharie Tribal Center, African American churches, Hispanic outreach organizations, local health departments, Healthy Carolinians, and community colleges and include women who have been laid off from manufacturing plants, women who have started their own businesses, and grass roots community members. Seeds of HOPE is an example of how the process of CBPR can be effective. The history and evolution of our projects at times have been challenging and difficult, but the long-term relationship between community and university and the trust we have built bring us to an exciting crossroads of public health and economic empowerment. Seeds of HOPE was inspired by previous community interventions: the idea, design, implementation, and benefits are all community based.

### HISTORY AND EVOLUTION OF SEEDS OF HOPE: HOW CBPR CAN BE SUCCESSFUL

To understand the process that led to Seeds of HOPE, it is important to follow its evolution starting in 1993 with Health Works for Women (HWW), a workplace intervention for low-income women that was conceptualized, implemented, and evaluated by university staff and researchers, with minimal input from community members. In the 14 years since HWW was funded, there have been five related grants that have moved closer toward true CBPR with each iteration.

#### *Health Works for Women (HWW) (1993–1998)*

HWW was funded by the CDC through the HPDP Center. The project targeted rural, blue-collar women in nine eastern North Carolina workplaces. The HWW intervention focused on physical inactivity, unhealthy diet (high fat and low fruit and vegetable intake), smoking, and breast and cervical cancer screening. The major intervention components were (1) individualized computer-tailored women's magazines that targeted specific health behaviors and provided personalized feedback and strategies for change and

(2) a social support intervention that identified and trained lay health advisors in the workplace to encourage healthy behavior changes. Published results showed intervention effects on fruit and vegetable consumption, as well as significant reduction in fat intake and improvements in strengthening and flexibility exercise compared with women in delayed intervention worksites. Process evaluation indicated the need for a more environmental and community-focused intervention approach and the addition of stress as an added focus.<sup>11,12</sup>

#### *Health Works for Women/Health Works in the Community (HWW/HWC) (1998–2003)*

HWW/HWC was implemented with the CAC and built on the successful intervention strategies of HWW, expanding an ecological model to include community and organization levels of change. In addition to a continuing focus on diet, physical activity, and smoking, HWC included new health issues (stress and health interests of Hispanic women) and was implemented in 12 eastern North Carolina workplaces. Employee wellness committees were presented with summaries of baseline data for their workplace, then chose and implemented a workplace-wide intervention to address a health issue at the environmental/workplace level. The CAC participated in workplace activities by linking community resources with workplaces; when plants began laying off workers, the CAC implemented Health Works Lives On in collaboration with a local domestic violence program. Follow-up results indicated that the HWW/HWC combined intervention (tailored newsletters, lay advisors, plus organizational community intervention) resulted in lowered fat intake compared with HWW or HWC alone or a control group.

#### *Health Works After the Flood (HWATF) (2000–2003)*

HWATF was initiated and largely designed by the CAC in response to the devastation and flooding wrought by Hurricane Floyd (September 1999). CAC members predicted a dramatic increase in stress and intimate partner violence (IPV) in the months following Floyd and requested assistance from HPDP to enhance the existing HWW/HWC project to address these anticipated problems. We applied for and received additional funds to develop an intervention and

study to address these expressed needs, resulting in increased trust from community members and an important shift in the relationship between researchers and community members.

HWATF focused on assessing perceived and objective stress, assessing and raising awareness of IPV, and developing and testing interventions to address these issues. Of the 1266 women who completed a baseline survey, 36% said they were personally affected by Hurricane Floyd. Physiological stress was assessed using salivary cortisol, a biomarker of physiological response to stress, among a subsample of 200 women. Results show a strong relationship between abnormal cortisol patterns and obesity.<sup>13</sup> Study data also revealed IPV prevalence and incidence rates significantly higher than national surveys, and IPV victims reported higher levels of perceived stress, psychological distress, and somatic complaints and greater flood impact compared with their coworkers. Findings suggest that IPV victims may be at higher risks for chronic illnesses due to greater stress and lack of effective coping behaviors.<sup>14</sup>

HWATF exemplifies how an established, trusting relationship with a community can lead to research that meets community-identified needs and capacity and also builds important research knowledge.

### *Women's Empowerment Days*

During the HWATF and HWW/HWC interventions, the CAC and community members identified several major issues affecting quality of life in the communities, including layoffs and unemployment, the need for education and job training, and concerns about family and community health and well-being in the changing economic environment. To begin to address these concerns, the CAC organized two successful Women's Empowerment Days in 2002 focused on women who recently lost their jobs or whose jobs were insecure. Evaluation results indicated the topics of most concern to women were weight control (69%), educational opportunities (66%), fiscal management (58%), exercise/fitness (52%), job opportunities (44%), and mental health (41%). As one participant explained, "I would like for my life to be well [and] to better myself for my kids and me. It would take me finishing school and getting a better job." The Women's Empowerment Days were the impetus for our projects to

move toward addressing economic empowerment and focusing on the social determinants of health. They were the first activities that combined health and wellness issues with economic empowerment for women and that ultimately led to the development of HOPE Works and Seeds of HOPE.

### *HOPE Works (2004–2009)*

HOPE (Health, Opportunities, Partnerships, and Empowerment) Works is a community-based participatory research project to examine the links among obesity, hope, and empowerment among low-income women in Sampson and Duplin Counties. It is the core demonstration research project of the UNC HPDP Center, a CDC Prevention Research Center. Figure 1 shows the conceptual model for HOPE Works. This project is designed to improve the economic status, weight, health, and sense of hope among low-income women (African American, Native American, Latina, and white). HOPE Works recognizes that obesity occurs because of complex interactions among poverty, race, culture, environment, housing, education, and employment in addition to unhealthy eating habits and lack of physical activity. Women from the community are recruited and trained to be leaders of HOPE Circles that are composed of 8–12 low-income, overweight/obese women. Circles meet regularly to provide information, skills, and support for health improvement, weight loss, and goal setting. Circles provide training and support to empower women to set goals for health as well as economic and educational improvement.

### *Seeds of HOPE*

Seeds of HOPE, a spinoff project of HOPE Works, specifically addresses economic development/empowerment goals and was developed through a participatory, community-led process. The Multi-Cultural Business Association (MBA), a nonprofit community-based organization, is the community contract site and HOPE Works' primary community partner. The CDC's Prevention Research Centers Program, recognizing the highly innovative nature of HOPE Works, provided support to MBA (2005–2006) for developing a strategic plan to incorporate economic development/empowerment knowledge, skills, and support into HOPE Works. With MBA tak-

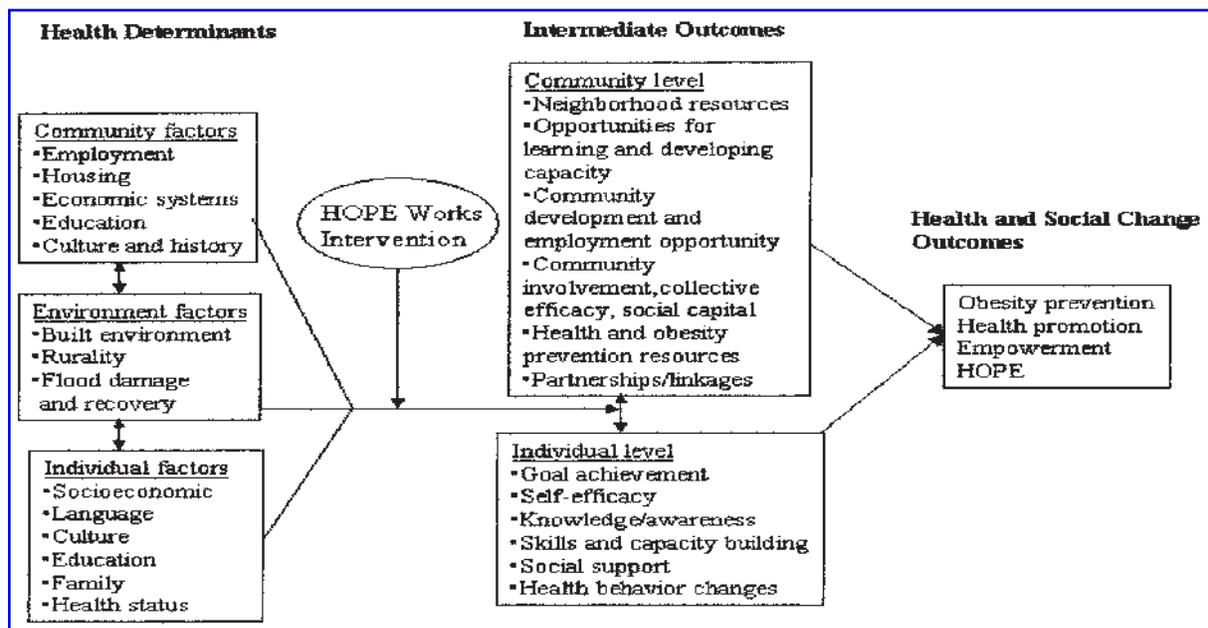


FIG. 1. HOPE Works conceptual model.

ing the lead, a strategic plan was developed collaboratively with multiple community members from Duplin and Sampson Counties along with experts from UNC-Chapel Hill, Good Work—an agency that provides assistance for starting businesses to low-income individuals ([www.good-work.org](http://www.good-work.org))—and the North Carolina Rural Center ([www.ncruralcenter.org](http://www.ncruralcenter.org)). Planning activities included a 2-day kickoff Seeds of HOPE Conference to educate community members about community economic development, microenterprise development and resources, and the relationship between health and poverty; an evening keynote presentation about women and hope; and a session to initiate the strategic planning process. Follow-up activities during the year included meetings with Good Work and the NC Rural Center, a Super Circle meeting with members of all HOPE Circles to discuss the community’s needs for new businesses and women’s interest in entrepreneurship, a CAC retreat to work on the strategic plan, and a day-long community meeting using a participatory process to finalize Seeds of HOPE goals and priorities and to develop plans for reaching the goals.

**Seeds of HOPE FORMATIVE RESEARCH**

Formative research for HOPE Works and Seeds of HOPE, including key informant interviews,

community surveys, and focus groups, strengthened our understanding of the importance of addressing social and economic issues as part of our health promotion interventions.

*Key informant interviews*

Ten in-depth interviews with community members, community development practitioners, and researchers were conducted to provide qualitative data on the current status of women’s economic well-being in Sampson and Duplin Counties. The interviews attempted to gain an understanding of the economic constraints and opportunities available to women in these counties. The key informants indicated that the economic situation in Sampson and Duplin Counties is bleak. The participants describe a situation of economic downturn and job loss where the majority of the jobs available for low-skill workers are part-time, low-wage jobs in the service sector that offer limited or no job benefits. The community members, in particular, emphasized the lack of well-paying employment opportunities and the proliferation of jobs in the service industry and chicken or hog processing plants that offer minimum wage with no benefits. The key informants also pointed out the high level of stress, depression, and hopelessness engendered by the economic decline experienced in rural North Carolina in the past two decades. One summed up

the general mood of women in her community by saying, "I think that there are a significant number of folks who have just given up. They don't know how to get out and there are very few choices."

### *Community survey*

Using a random sample of women drawn from North Carolina Division of Motor Vehicles records, we mailed 2500 surveys to women across a four-county area. Surveys were sent in Spanish to women with Hispanic surnames. Informed consent was obtained, and women received a phone card as a thank you. A total of 526 surveys were returned (21%), of which 15 were ineligible due to out of county residence. Analyses ( $n = 511$ ) were performed to assess relationships among hope, body mass index (BMI), and demographic, health, economic, and social factors. Weight and height were assessed using self-report measures. Women averaged 46 years of age, 63% were white, 38% had some education beyond high school, and 61% had household incomes below \$35,000 per year.

An open-ended question at the end of the survey asked respondents what they believed to be the single most pressing issue facing their community today. Of the 511 surveys returned, 425 women wrote comments. They cited job loss and the economy as the biggest issue in their community, followed by drugs/alcohol, social change/loss of social capital, poverty, Hispanic immigration, cost of healthcare and prescriptions, and the community environment (hog farms, poultry farms, proposed landfills). Health issues, including obesity and lack of health insurance, were often mentioned in the context of poverty and unemployment, as illustrated by the following comments.

No jobs. Most of the factories are closing—send the work overseas. . . . Depression is hitting everyone because they cannot afford what they've been having. No jobs, no pay increase, but everything keeps going up. Yes, everything was better years ago. So obesity and health problems are on the rise. This problem will continue to increase as long as there are no jobs and depression from losing everything grows.

Lack of job placement. In Duplin Co., you either have to be a nurse or drive a truck to make a reasonably good income. Not all people are directed

to these careers. I honestly believe we need more readily available jobs in our area.

Our county lacks the industry to attract our educated youth, therefore, many of them move away leaving a less educated population. Lack of education has a tremendous impact on job skills, attitudes and self-discipline as well as health issues.

Working so hard and not making enough money, because everything has gone up.

### *Focus groups*

Two focus groups with women interested in entrepreneurship were conducted to gather ideas and information about women's perceptions of work, the relationship of work and health, and entrepreneurship opportunities for women in Duplin and Sampson Counties. The focus groups helped us to understand how women conceptualize economic empowerment and elicited ideas for the feasibility of grass roots sewing and boutique-quality stitchery projects or other small businesses.

One focus group was conducted in Spanish with 11 low-income Latina women. Women averaged 10 years living in the United States; 6 were unemployed and looking for work, 4 were employed full-time, and 1 was not working due to disability. Seven reported total household yearly income before taxes of under \$10,000; 3 reported total household yearly income of \$10,000–\$19,999, and 1 reported income of \$20,000–\$29,999. Women in this focus group equated having jobs with being active and having energy and said that when they are not working they are sad and depressed and that their friends who work are healthy and energetic. They expressed interest in working and starting a variety of businesses, including child care, raising chickens for eggs, and sewing bridal gowns, but said that lack of money and resources to teach them skills prevent them from doing so.

The second focus group was with two African American business owners; although 9 women committed to participating, only 2 were able to come because of the time constraints associated with owning a business. The 2 participants, both in their mid to late 50s, talked about the time and energy commitment required of women business owners and said that it takes someone who is passionate about being an entrepreneur. They said

they had been naïve about what was needed to start a business and that there is a real need for resources to encourage and help women entrepreneurs; they would like to mentor other women in the community.

Overall, we found that the women needed resources to help start and maintain a business. There was also a need for women entrepreneurs to be mentored by other women who had been successful in starting businesses in the community.

### **FROM SEEDS TO THREADS: THE SEEDS OF HOPE STRATEGIC PLAN**

The first objective set forth in the strategic plan calls for what might be seen as a logical next step for our efforts: to start a business that will serve as a laboratory for women to learn and practice the entire constellation of skills required for planning and running a business and to develop a business plan for a socially responsible, sustainable, and healthy woman-run small business in Duplin and Sampson Counties. The business will produce a unique product that will showcase the talents and culture of community women from each ethnic group; the product will be marketed to women in more prosperous sections of the state and via the Internet. Based on fair trade practices, we will ask businesses to agree to purchase the products and to pay a fair price that will support living wages and health benefits. The business will be called Threads of HOPE and is an effort to work at the intersections of women's health and economic development. It embodies the belief that if women have economically sustainable work, are paid a living wage, and have more control over their lives economically, their health will improve.

In addition to the first objective, the strategic plan's other primary objectives are to increase financial education across all of our programs and to increase networking with organizations that support entrepreneurial activities.

Threads of HOPE will serve as an incubator model as women who learn business skills move on to start their own businesses, spinoffs, or businesses to support the original business. Threads of HOPE will be a training program for a new cadre of women entrepreneurs. Many women in these counties were formerly employed by textile and apparel manufacturing companies that have

moved operations overseas, and they have acquired skills in producing clothing. Women owners of Threads will have health insurance and earn a living wage, both assets to the economic health of the community as a whole. Threads of HOPE will be a locally owned, sustainable, and health-promoting enterprise and the model for future businesses. A successful small business creates local jobs and resources that stay in the community; creating locally owned small businesses is an important component of economic development in rural areas.

An innovative aspect of this plan is that women who participate will receive health education and group support for healthy behavior changes, such as increasing exercise and eating healthy, while simultaneously developing business and leadership skills. Threads of HOPE will incorporate health promotion and leadership development based on similar models used in developing countries and in HOPE Circles. Options will be offered for women to pursue educational goals without losing benefits. The Threads of HOPE business model will be developed and documented with the goal of sustaining itself and of replicating the model for groups of women in Sampson and Duplin Counties, rural North Carolina, and the South.

Grants from the UNC Office of the Vice Chancellor for Research and Economic Development the UNC Office of Economic and Business Development, are being used to take the strategic plan to the next step: we are continuing to conduct formative research with community women around the issues of economic development, completing a community economic assets inventory, and working with a consultant whose primary expertise is the development of small women-owned textile-related businesses. We are in the process of negotiation with a college of textile design to develop the Threads of HOPE product. Our goal is to have a product, a business plan, and an operating Threads of HOPE business within 18 months.

### **CONCLUSIONS AND RECOMMENDATIONS FOR PUBLIC HEALTH RESEARCH AND PRACTICE**

The past 14 years of evolving partnership between researchers and community members have taught us the importance of open communication

as well as the necessity of finding ways to address social and economic needs within the context of health-related practice and research. Economic issues, stress and health, and hope for the future are at the forefront of community concerns, and public health research and practice will benefit from addressing these concerns. There is new interest in addressing hope as a way to improve health and well-being,<sup>15</sup> and with improved job opportunities and the potential of moving out of poverty, we believe that hope, and health, will improve. To ignore these concerns would be unethical and we believe would also result in less effective interventions. Communities and researchers share the common goal of finding ways to improve health in the community. We believe that strategies for encouraging entrepreneurship in rural North Carolina must be part of the overall economic development plan for the region. Supporting the development of cottage industries and supporting and encouraging entrepreneurs, especially low-income, minority women, will be one of the driving forces of both economic development and improved health for women in this region. Mohammed Yunus, in his 2006 Nobel Peace Prize Lecture, said, "A human being is born into this world fully equipped not only to take care of him or herself, but also to contribute to enlarging the well being of the world as a whole. Some get the chance to explore their potential to some degree, but many others never get any opportunity, during their lifetime, to unwrap the wonderful gift they were born with."<sup>16</sup> Threads of HOPE may provide that opportunity.

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