

Strong Hearts for New York: Reducing Heart Disease Risk among Rural Women

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The Need

A leading cause of death in the U.S., cardiovascular disease (CVD) disproportionately affects rural communities. Rural women have higher CVD rates than their nonrural counterparts, partially because of their social and environmental settings. With CVD risk factors such as obesity, high cholesterol, hypertension and diabetes on the rise, identifying effective measures to intervene in these trends is critical to our nation's public health. Strong Hearts, Healthy Communities (SHHC), an NIH-funded heart disease prevention and intervention study targeting rural midlife and older women, provides a wealth of insight on the complex factors contributing to this problem. However, there is still a major knowledge gap — in both research and public health practice — that better defines the relationship between CVD and the physical activity, dietary behaviors and built environments of rural women.

The Approach

This project leveraged existing SHHC data, partnerships and an intervention study to collect additional insights on the physical activity, nutrition and environments that women in rural communities experience. Implemented in five New York state counties spanning 11 communities, the study focused on rural, overweight, sedentary women over the age of 40. Intervention participants directly engaged in a 24-week program that incorporated aerobic physical activity, strength training, nutrition and a civic engagement, whereas the control group did not. The project team also conducted comprehensive qualitative and quantitative built environment audits to the data collection at multiple time points across 48 weeks, allowing for data triangulation across study measures. The triangulation included physical activity measures utilizing validated self-reported activity questionnaires, accelerometry, perceptions of the built environment, and built environment audits. It also accounted for dietary data collection, utilizing multiple validated fruit and vegetable self-reported questionnaires, 24-hour dietary recalls, a carotenoid skin scan measure, perceptions of the food environment and food environment assessments. The environmental assessments documented the physical activity and healthy eating resources available in each of the rural intervention communities with audio narration and photos.

The Impacts

Overall, the intervention study participants experienced positive changes across biometric, physical activity and diet, improving their body mass index, weight, waist circumference and body fat percentage, as compared to control participants. They also decreased their cardiovascular risk score and improved in various fitness test metrics. Beyond that, they reported making healthier dietary choices and observing more social support from family and friends for living more active lifestyle. Longer term impacts of this project include helping rural communities identify barriers and facilitators to physical activity, healthy eating and lifestyle choices for their residents — findings that can scale to improve national public health.