Purpose: To describe how community service activity can evolve as a way to identify and initiate community-based, participatory research projects in healthy eating and healthy weight.

Background: The Delta Nutrition Intervention Research Initiative (NIIRI) is sponsored by the United States Department of Agriculture, Agricultural Research Service, to address nutritionally responsive problems of Lower Mississippi Delta communities in Arkansas, Mississippi, and Louisiana. The community-based, participatory research (CBPR) model is the guiding framework for carrying out the Delta NIIRI mission. Partnerships between academic institutions, community organizations, and the Cooperative Extension Service in each state are conducting intervention research to address eating patterns, physical activity, nutritional health and chronic disease risk in rural communities. CBPR requires a strong academic-community partnership and, in particular, active involvement of the community in all phases of the research process. As part of initial efforts, the Arkansas NIIRI initiated healthy eating service activities as a strategy to benefit the community, broaden outreach and increase community awareness.

Methods/Key Points: Service activities identified by community partners around healthy eating afforded shared learning, community capacity building, the identification of mechanisms for sustainability and a platform to initiate community-wide nutrition education efforts. Taken together, the service activities also provide foundation for community engagement and empowerment in nutrition research—including the design, implementation and dissemination of culturally appropriate, evidence-based nutrition interventions in the community.

Conclusions: In the context of CBPR, service-related activities can help build requisite support for nutrition intervention research which can be translated to benefit community health. Support: USDA, ARS #5862-51-3. Support: USDA, ARS #8821-53000-004-00D.

Background
Community-based, participatory research (CBPR) involves scientific investigation conducted through partnerships between researchers and communities. The approach is an active process whereby communities and organizations gain influence and control in addressing endogenous problems. CBPR is structured so that those affected by the condition studied serve as full partners in every phase of the research—including conceptualization, design, implementation, analysis, interpretation and communication of findings. CBPR is rooted in the traditions of grassroots activism and community empowerment and its principles and methods have effectively addressed an array of social and public health issues, including nutritional deficiencies, infant mortality, needs assessment, after-school care, community development, and capacity building. The CBPR approach utilizes community and academic partners equitably in collaboration, drawing on the unique strengths of each in addressing health disparities, community problems and social change.

The Lower Mississippi Delta (LMD) Nutrition Intervention Research Initiative (Delta NRRI) is a USDA-supported project using the CBPR approach in three rural communities (Marvell, Arkansas; Franklin Parish, Louisiana; and Hollandale, Mississippi). The research team is comprised of the three communities, six universities, USDA-Agricultural Research Service-USDA, and the Cooperative Extension Service, working in partnership to address nutritionally responsive disease conditions (Figures 1 and 2). Four of ten leading causes of death in LMD are potentially preventable or managed through healthy eating. As such, obesity, hypertension, diabetes, cardiovascular disease and food insecurity are major threats to health in LMD communities. These problems are precipitated and aggravated by numerous factors, including poverty, unemployment, lack of access to healthy foods, lack of physical activity and poor quality of fruits and vegetables available. The academic-community partnerships (working groups) in each community address nutrition and health-related problems identified and prioritized by the community through the Comprehensive Participatory Planning and Evaluation (CPE) process—a dynamic, participatory approach to problem-solving used by individuals and organizations on national, state, regional, and grassroots levels. Projects can also be initiated by collaborating with other community groups or by working group members.

Information on eating patterns and obesity from FOODS 2000, a cross sectional survey of the population 3 years and older in 36 Delta Counties data showed that consumption of dairy, fruit and vegetables was less than national averages in the Arkansas Delta (Figure 3). Meat and added sugar consumption, on the other hand, were higher than the national average (Figure 4). Rates of adult obesity and childhood overweight were also higher in the Arkansas Delta compared to national data (Figure 5).

The Marvel NIIRI organizational structure is illustrated in Figure 6. Community residents and researchers are members of working groups, intervention and planning committees. Here we summarize the process by which community service activities in Marvell provide a platform for engaging in broader community research to address healthy eating, healthy weight and hypertension risk reduction.

Food Demonstration and Healthy Eating Working Group
Through the CPE process, Marvell community members prioritized food preparation skills and healthy eating as major areas that needed to be addressed. Subsequently, the Food Demonstration and Healthy Eating working group was formed. The working group expressed concern about how to increase motivation and engage the community in adopting a healthy lifestyle. The group identified additional pressing concerns that included lack of knowledge and awareness about healthy eating, low availability of healthy foods and the high prevalence of obesity and hypertension in the community.

The working group selected objectives and service activities consistent with CBPR principles to promote healthy eating: the DASH (Dietary Approaches to Stop Hypertension) eating pattern was selected as an evidence-based approach to address research questions on obesity and hypertension risk in the community. The working group is conducting service and publicity events as a framework for increasing awareness and engaging the community in intervention research. The working group and CBPR objectives, service activities along with preliminary research topics are provided in Table 1.

Conclusions
In the context of CBPR, service-related activities can build requisite support for nutrition intervention research. Service activities can provide a foundation for research questions and projects that ultimately provide endogenous solutions to nutritionally responsive health problems in the community.

References:

An organized sequence of activities lead to research, service and outreach projects in the Marvell NRRI. The activities begin in working groups, where ideas and plans are developed collaboratively by community members and academic and Cooperative Extension partners. Once developed, the plans are reviewed by the intervention and planning committees (comprised primarily of community members) for final approval and implementation (Figure 6).

Methods
CBPR requires a strong academic-community partnership and, in particular, active involvement of the community in all phases of the research process. As part of initial efforts, the Arkansas NIIRI initiated healthy eating service activities as a strategy to benefit the community, broaden outreach and increase community awareness.

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