

## **Partnership for Healthier Rural Communities**

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## **Abstract**

The purpose of this project was to assess the health status of residents of a small rural community with limited health resources while providing a teaching-learning environment that increases students' knowledge and skills relative to nursing in a rural community. Twenty-two men, 45 women, and six children participated in a one-day health fair sponsored by a school of nursing. Results indicated that participants need assistance with health promotion in several areas: weight loss/obesity, blood sugar control, lowering cholesterol levels, vision and hearing follow-up, and further screening and possible treatment for depression. Students who conducted the health fair were asked to complete a short questionnaire examining their beliefs related to the usefulness of the health fair. Responses were generally positive; however, some students rated the health fair negatively. Recommendations are given for concentrated follow-up with the study participants as well as suggestions for increasing student assessment of the usefulness of this activity.

**Keywords:** rural nursing, health fair, health promotion, nursing clinics, health risk appraisal

## **Partnership for Healthier Rural Communities**

The influence of health care reform and the emphasis on access to primary health care in rural communities can provide a unique opportunity for partnership development between universities and communities. Rural communities often need assistance in identifying their health care needs in a formal and systematic method. Traditionally, concepts of community as client and community assessment have been core components of undergraduate nursing curricula. It stands to reason that involvement in planning and conducting a community assessment can provide an excellent learning opportunity for students while addressing the needs of a community (Bayne et al. 1994). This article describes a collaborative community health assessment project implemented by a university school of nursing and a rural Alabama community. The partnership arrangement, the project, and project outcomes are described, along with recommendations for improvement of the process as well as student learning.

### **Background**

The purpose of this project was to assess the health status of residents of a small rural community with limited health resources while providing a teaching-learning environment that increases students' knowledge and skills relative to nursing in a rural community. The health status of the community, based on objective data and the perceptions of those living in the community, was an important first step in determining desirable health resources.

Walker County, Alabama, is located in the foothills of the Appalachian Mountains and compares poorly with state and national levels of poverty, education, infant mortality, and teen pregnancy. Using the federal definition of poverty, 20.1% of Alabama's population was below poverty level compared to 13.8% at the national level in 1995. In Walker County 17.8% of residents were below the poverty level (Remington, 1998). The percentage of adults who did not

graduate from high school in Alabama was 33%, while in Walker County, where 72.8% of the population is rural, that percent reached 44%. In 1995, the U.S. infant mortality rate was 7.3 per 1,000 live births while Alabama's rate was 9.8, and Walker County's was 10.2. The teenage pregnancy rate for Walker County at 65.9/1,000 was higher than the U.S. (54.4) and Alabama (57.6) (Center for Business & Economic Research (CBER), 1997). Mortality rates for cancer, motor vehicle accidents, pneumonia/influenza, and suicide are higher in Walker County than in Alabama and the U.S. (Alabama Department of Health & Community Affairs, 1997).

The recent establishment of the Capstone Rural Nursing Center (CRNC) in Walker County was the impetus for the recent project and is currently the first nursing practice arrangement developed by the faculty at the University of Alabama, Capstone College of Nursing (CCN). The center focuses on a) improving the health of rural Alabamians in Walker County, many of whom are medically underserved and b) enhancing the educational mix and utilization of the basic nursing workforce. A positive impact is anticipated for the recipients of service, students, faculty, cooperating disciplines, systems, agencies, and the health care of the state (Dunkin, 2000).

## **Literature Review**

### **Rural Health**

The past decade has seen numerous changes that have negatively impacted the provision of health care services in rural areas. The Balanced Budget Act (BBA) of 1997 created drastic cuts in health care services. Coupled with hospital closures, home care cut-backs, deficits in community health service funding, decreases in numbers of physicians, inadequate emergency services, lack of insurance and transportation problems, disparities in healthcare are readily

evident in rural areas (Bushy, 2000; Caffry & Williams, 1999; Henderson, 1992; Weinert & Long, 1993).

### **Health Promotion**

The rural environment poses singular challenges for health promotion and maintenance. Because agriculture, forestry, mining, and fishing are major economic supports, increased work-related injuries and exposure to pesticides/herbicides tend to be more prevalent in rural areas (Bushy, 2000; Stanhope & Lancaster, 1999). A lack of specialist and mental health services in rural communities coupled with attitudes of resistance towards substance abuse and mental illness often hinders effective treatment (Bushy, 2000; Weinert & Burmen, 1994). Among rural residents, illness tends to be labeled as illness only when individuals are unable to carry out their regular work duties (Bullough & Bullough, 1990; Bushy, 2000). Rural residents tend to be self-reliant, although they will rely on family, friends and neighbors during illness (Henderson, 1992; Weinert & Long, 1993). Health care providers and educators are often viewed as outsiders and may not be trusted initially unless they are from the local area (Bushy, 2000; Lee, 1993).

Historically, health activities have emphasized primarily treatment of disease with little or no attention to prevention or wellness promotion. However, health is not merely the absence of disease. It is also the prevention of illness and a focus on wellness. The American Nurses' Association Social Policy Statement (1980) has moved the promotion of a wellness model forward by defining health as "a dynamic state of being in which the developmental and behavioral potential of an individual is realized to the fullest extent possible" (p.5).

Today disease prevention and health promotion are at the forefront of health care policy. The U.S. government publication, *Healthy People 2010: Understanding and Improving Health* (2000), focuses on goals of health promotion, health protection and disease prevention.

Specifically these goals were to help individuals of all ages: 1) To increase life expectancy and improve their quality of life, and 2) eliminate health disparities that result from gender, race or ethnicity, education or income, disability, geographic location or sexual preference. The Pew Commission Report (Shugar et al. 1991) indicated that health care will be increasingly directed toward health promotion and focused on populations at the community level. If these goals are to be realized, health care must focus on wellness.

A healthy lifestyle is brought about by both health-protecting behavior and health-promoting behavior. According to Pender (1996) health promotion is any activity that maintains or enhances well-being or self-actualization. Rather than looking at a particular response to a specific health problem, health promotion focuses on healthy human development. Health prevention addresses risk factor identification and reduction to prevent chronic illness. Health promotion uses approach behavior (eating a healthy diet, regular exercise, managing stress, adequate rest, etc.), while health prevention uses avoidance behavior or the avoidance of negative events (immunizations, reducing risk factors, control of pollution, screening or education to detect early disease, and minimizing residual disabilities).

### **Rural Partnerships**

Other schools of nursing have collaborated with communities in an effort to provide service while providing learning experiences for students (Bayne et al. 1994; Caffrey & Williams, 1999; Doerr, Sheil, Baisch, & Vogtsberger, 1998; Feenstra, 2000; Hall-Long, 2000; Kulig & Wilde, 1996; Lutz, Herrick, & Lehman, 2001; Perkins, Vale, & Graham, 2001; Schaffer, Mather, & Gustafson, 2000; Tanner & Lethbridge, 1998). Faculty, students, community residents, and agencies benefit from collaborative efforts designed to meet the needs of communities. Traditionally, universities often have been viewed as separate from the

practicalities and realities of the everyday world (Cavanaugh, 1993) producing graduates who are protected from the actuality of low-income rural experience. More collaborative efforts between universities and communities are needed to prepare graduates who are reality based. An added benefit of the current partnership is that the arrangement meets the University of Alabama's mission of teaching, research, and service. Oakman was chosen as the site for this project because it is a rural area and CCN students have ready access to area residents through the CRNC.

## **Method**

### **Preliminary Work/Procedures**

Plans for the health fair began during a "brain storming" session in which the second semester faculty generated ideas for student participation in the Capstone Rural Nursing Center. The idea for a community health fair surfaced where all the second semester students would have a clinical day that would involve activities in health screenings and health promotion. The planning phase for the health fair began the first week in January 2001, with a target date of April 2001 for the health fair. The CRNC Project director met with the project advisory committee and Oakman community leaders to present the idea for the health fair. The response was remarkable as a local pastor offered the church Family Life Center as the site for the health fair and a Sunday, after church, was selected as the date for the health fair. The rationale for choosing a Sunday was the possibility that many people would be in attendance at one of the local church services, making the fair easily accessible. The health fair was conducted from 12:30 – 5:00 p.m. and a free lunch was provided for workers and participants. The University public relations chair handled publicity for the project.

In an effort to create an interdisciplinary approach to this fair, several groups were invited to participate. In addition to second semester nursing students, two other semester groups from the nursing college were involved. First semester nursing students created health promotion handouts on a variety of topics (i.e. hypertension, exercise, smoking, nutrition, etc.). A fourth semester student designed the participant evaluation tool and contacted various community agencies to provide information booths at the fair (i.e. poison control, water safety, fire safety, bicycle safety, ident-a-kid, immunizations, etc.) and organized children's activities (face painting, cartoons, coloring, fire truck, etc.).

Several other University groups assisted in the project as well. The Rural Medical Scholars (RMS), a group on campus who plan to enter medical school once they complete their undergraduate degree, nutrition, pharmacy, and audiology students requested to be involved in the health fair. Since RMS students routinely conduct health fairs they were able to provide numerous posters, models, and videos for health education purposes. Frequent meetings were held between Semester II faculty, the project director, and the nurse practitioner assigned to work with the Rural Medical Scholars. A graduate nursing student was assigned to contact businesses to obtain food donations for the free lunch. Two second semester faculty assumed major responsibility for planning and coordinating the fair. Student pre/post evaluation forms, data collection instruments, and a request for Institutional Review Board approval to conduct a descriptive study of the health status of a rural community were prepared and submitted. University vans were scheduled to transport materials/equipment, students, and faculty. A training session was scheduled for demonstration of cholestek machines for faculty and students. All of the second semester students were required to participate in the health fair because it was counted as a clinical day.

## **Purpose**

The purpose of the CCN Health Fair was to do a basic community assessment of health care needs involving a multidisciplinary team of faculty and students. The findings from the assessment would then be used to design health promotion activities, which CCN students would implement with community residents.

## **Sample**

The sample was composed of 22 men, 45 women, and six children. Participants ranged in age from 10-79. A majority were low-income individuals with an average educational level of 12th grade. Sixty-seven were Caucasian and six were African American. Individuals were Christian, represented by Church of God, Church of Christ, Pentecostal, and Baptist denominations.

Prior to conducting the health fair Institutional Review Board approval was obtained from the University of Alabama. Community members were invited to participate in the health fair by community leaders and through a variety of media e.g. newspaper, radio, church announcements, and posters in the pharmacy and local clinic. Prior to participation and screening each participant was informed of the purpose of the health fair and signed a health screening consent and liability waiver form. Each was informed that all data collected would be kept confidential and used only in aggregate form. Individuals were informed of their right to participate in all or only portions of the health fair.

A total of 62 nursing students participated in the health fair; 30 first semester students in the design of postures and brochures, and 32 second semester students in the actual conduct of the fair. Second semester students also participated in a pre and post-health fair evaluation.

## **Data Collection**

The CCN health fair was conducted by students and faculty in the fellowship hall of one of the larger churches in Oakman. Measures of blood pressure, height/weight, hemoglobin and hematocrit, vision and hearing were obtained from participants and fed into a computerized health risk appraisal program. Participants received a health assessment “report card” detailing screening results, indicating abnormal findings, and recommendations for further evaluation as deemed appropriate by the screening party. Depression screening, using the Center for Epidemiological Studies Depression Scale (CES-D), was also available as an adjunct service of the health fair.

## **Instruments**

The CES-D (Roberts & Vernon, 1983) is a well-established 20-item scale that measures the major symptoms of clinical depression. Alpha coefficients were .84 for the general population and .90 for a patient sample. Test-retest correlations of .48 (n=378) were moderate but appropriate as the CES-D was designed to measure the current level of depression.

The Health Risk Appraisal is a software package, available from a variety of medical software providers that allows health risks to be assessed by an interviewer and directly inputted into a computer file via laptop computer. This software rates the health risks for each subject and provides direction for decreasing health risks. In addition, to providing direct information for each subject the software develops a database that can be used to provide epidemiology data for future studies for selected populations.

Nursing students who participated in the health fair completed pre-health fair and post-health fair surveys. The surveys consisted of three items: 1) Health screenings are useful, 2) participation in community health fairs is a valuable experience, and 3) as a nursing student, I

have the responsibility to help educate society in health promotion and disease prevention. The items were rated by students using a five-point scale (1 strongly disagree to 5 strongly agree).

## **Findings**

### **Student Data**

Analysis of variance (ANOVA) was used to test for significant difference ( $p < 0.05$ ) between the pre-health fair surveys and the post-health fair surveys. On item one of the survey; students had a mean of 4.40 on the pre-health fair survey and a mean of 4.17 on the post-health fair survey. These scores were not significant ( $F = 0.091$ ,  $df = 3$ ). This indicates that students agree that health screenings are useful. Students had a mean of 3.93 on the pre-health fair and 3.67 on the post-health fair for item two. Again, not a significant difference ( $F = 1.025$ ,  $df = 3$ ). Although, this is a positive response that community health fairs are a valuable experience, it should be noted that 30% of the students rated this item as disagree or no opinion. The pre-health fair mean for item three was 4.28, while the post-health fair mean was 4.17. Item three also showed no significant difference ( $F = 0.645$ ,  $df = 3$ ) between the pre-health fair surveys and the post-health fair surveys.

### **Participant Data**

Data analysis revealed that 19% of the sample ( $n = 73$ ) exhibited an elevated serum glucose, 41% of the sample evidenced a cholesterol of greater than 200, 6% had an abnormally high heart rate, and 7% had an elevated blood pressure. Of those who engaged in vision and hearing testing ( $n = 35$ ), 74% were experiencing hearing difficulties and 7% were evaluated as having need for vision follow-up. Of those screened with the CES-D 75% ( $n = 33$ ) scored as acutely depressed.

Other findings indicated that obesity was a significant problem for 27% of the sample (n=73) and positively correlated with an elevated cholesterol (p=0.014). Additionally, an elevated glucose was positively correlated with obesity (p=0.014).

### **Discussion**

The Oakman Health Fair was a positive experience for residents, students, and faculty. As noted by Kulig & Wilde (1996) the concept of health promotion is inextricably linked with community development and primary health care. The process of engaging community members in assessing their health was a health promoting activity which enabled residents to verbalize health concerns and needs as well as to identify potential health problems. Results from Health Fair Data indicated that participants need assistance with health promotion in several areas: weight loss/obesity, blood sugar control, lowering cholesterol levels, vision and hearing follow-up, and further screening and possible treatment for depression. The fair was used as a means of identifying the health status of the residents, providing much needed health promotion materials on mental health, safety issues, and identification of health barriers, beliefs, and behavior from the perspective of the rural resident. Congruent with the conclusions of Glick, Hale, Kulbok, & Shetting (1996) this fair was an example of community development where residents actively participated in an attempt to control and manage their own resources. Residents requested future health fairs that would include chest x-rays, weight loss information, cancer screening, and dental screening.

Although students verbalized that conducting a health fair was a positive experience some students rated its usefulness negatively or simply did not respond to the survey question. Several reasons could account for such negative responses. The health fair was held on a Sunday, which meant students were expected to spend a weekend day in a school related activity

when normally they would have done a variety of other things. Some students were assigned “mundane” tasks such as taking vital signs, rather than the more complex and interesting tasks of interviewing, blood collection, or data entry. For future health fairs it might help students to “buy into” the idea of a health fair by exposing them to the economic, political, and social climate of the area to be assessed. It might also be helpful if students were more integrally involved in the planning process and thus more vested in the success of the fair. Second semester students in this fair had only to show up to receive credit for a clinical day and were not given choices about attending or their specific role in the health fair.

### **Conclusions**

Improving the health of rural communities with their unique needs and limited resources is a significant present day concern. The challenge now is to increase access to effective health promotion, health prevention, and health-related interventions for the Oakman community. Yearly health fairs, with concentrated follow-up, in collaboration with the Capstone College of Nursing will help to achieve those aims. Other communities could well benefit from health fairs such as ours. The challenge is to other schools of nursing, rural health care providers, and community leaders to replicate CCN efforts. Health promotion has and will continue to play a major role in the reduction and prevention of disease and mortality. Our best results can be brought about by those health promotional activities that are community-based.

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