

Rural Public Libraries as Community Change Agents: Opportunities for Health Promotion

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Rural residents are at a disadvantage with regard to health status and access to health promotion activities. In many rural communities, public libraries offer support through health information provision; there are also opportunities for engagement in broader community health efforts. In a collaborative effort between an academic researcher and a rural public library director in North Carolina, pedometers and an individualized online health self-assessment program were made available to library users. The activities were adopted enthusiastically. Feedback included encouragement for more such opportunities; some claimed the activities improved awareness and supported healthy behavior change. With minimal investment, rural public libraries can support healthy lifestyle activities. They also afford a unique environment where library staff can collaborate with researchers to introduce, assess and evaluate community health initiatives. As we train future practitioners, we should embrace the opportunities that rural public libraries can provide for collaborative initiatives to invoke positive community change.

Keywords: public libraries, health promotion, rural health, online health assessment, pedometers

Introduction

Public libraries throughout the United States are responding to communities' needs for information and resource provision in many areas. As longtime educational institutions and literacy enablers, they are continuously adapting to expand their repertoires to account for new types of literacy skills and training in areas such as information, technology and health. Concomitant with this expansion is an increasing number of all types of programs in all sizes and types of libraries. A majority of libraries now offer some type of health programming (Bertot, Real, Lee, McDermott & Jaeger, 2015). These can range from training on evaluating health information and talks by providers

to health screenings, vaccine clinics, and health fairs (Malachowski, 2014).

As public libraries become increasingly involved in health promotion activities, the need for systematic evaluation and assessment as well as opportunities for collaboration around these activities will also increase. In this way, public libraries can serve as community incubators for understanding ways to enhance individual well-being and overall community health.

Rural Communities and Public Libraries

Nearly one in five Americans lives in a rural area (U.S. Census Bureau, 2014). With regard to health status, rural residents can be at a serious disadvantage.

They are more likely to be obese, be uninsured, have lower incomes, suffer from a chronic illness, and be older than those residing in metropolitan areas (Befort, Nazir & Perri, 2012; Gamm, 2010; U.S. Census Bureau, 2010). Many small communities are lacking when it comes to support for health care, they are often devoid of access to hospitals and clinics. Ten per cent of rural counties have no primary care physician (Gamm, 2010). The ubiquitous nature of public libraries in rural areas can help with these deficits; more than half of all U.S. public libraries serve populations of fewer than 10,000 (Pearlmutter & Nelson, 2011). Public libraries that serve rural populations can make a positive impact not only on their communities' needs for health information; but they also have the opportunity to provide activities that promote individual and community health and well-being.

The maker space movement, increasing varieties of program provision, and all types of literacy (e.g. digital, financial, etc.) training are examples of initiatives underway as public libraries evolve from repositories to community centers. As public libraries evolve and adapt, there is a greater emphasis on programs and activities for patrons. In fact, numbers for program attendance in all types of libraries (large, small, rural and urban) increased more than 30% nationwide since 2004 (Institute of Museum and Library Services, 2014). Some public libraries support community health and health promotion through program offerings, such as health fairs, while others have embedded staff to support health activities (Malachowski, 2014). In Pima County, Arizona a public health nurse is on staff at the public library (Malkin & Feingold, 2014). While the overall majority of public libraries offer health and wellness programs, distribution is uneven, nearly three-fourths of suburban libraries offer health and wellness programs, but less than half of rural public libraries have this service (Bertot *et al.*, 2014).

North Carolina

According to the North Carolina Institute of Medicine (NCIOM) Task Force on Rural Health (2014), one in three North Carolinians (almost 3 million individuals) lives in a rural area and nearly one in four rural resident lives below the poverty line. These individuals have less access to health care services, have a higher likelihood of engaging in risky health behaviors (e.g. smoking) and a higher mortality rate than those living in urban areas. Rural residents in North Carolina are more likely to die from diabetes, lung disease, heart disease, unintentional injuries and suicide (NCIOM, 2014). A recent assessment by the Task Force calls for better investment strategies and collaboration among public agencies to address health disparities in rural communities. As community resource providers, public libraries are well positioned to contribute to these efforts.

Farmville Public Library

The Town of Farmville is located in mid-eastern North Carolina and was founded in 1872. It became known as a tobacco town in the early 20th century, thanks to the A.C. Monk Company, a major international tobacco dealer located there. The success of A.C. Monk helped the town prosper by attracting many businesses and people to the area. The Farmville Public Library (FPL) was established to serve the citizens of Farmville, a population of close to 5000, though all residents of Pitt County (population 175,000; United States Census Bureau, 2014) are eligible for a library card and use the library's services on a consistent basis. The population of Farmville is 48.1% White and 49.7% Black or African American; 28% of all families were classified as below the poverty line in the past 12 months; over 18% of all residents did not have health insurance in 2013 (United States Census Bureau, 2014).

Like many small, rural towns in eastern North Carolina, access to health care

and information is limited and a culture of healthy habits is difficult to find. While there are medical offices in Farmville, statistics show they do little to jumpstart a healthy lifestyle. For example, obesity is a major problem for Farmville and Pitt County; in fact, 72.7% of adults are obese or overweight, and more than one in three children in Pitt County are obese or overweight (U.S. Centers for Disease Control and Prevention, 2015). While there are trained medical professionals employed in Farmville, it is clear that an annual visit to one's general practitioner does not always change years, and generations, of unhealthy lifestyles.

In a collaborative effort between an academic researcher at The University of North Carolina at Chapel Hill School of Information and Library Science and the FPL, health promotion efforts have been introduced and are being evaluated in this rural community.

Methods

Two different health promotion initiatives were undertaken at the FPL over a 20-month period: pedometer lending and access to an online health assessment tool provided by the library. Methods employed for each of the initiatives are described separately below.

Pedometer Lending

To recruit research partners, the author gave a presentation at the North Carolina Public Library Directors' Association annual meeting and described activities for involvement in potential research projects in public libraries. As a result, the director of the FPL volunteered to participate in a feasibility study to test the use of pedometers for health promotion. Thirty-five low-cost pedometers were supplied to the library in April 2014. Administration and logistics for lending was left to the discretion of FPL staff, and is described in the re-

sults section. Five months after the library received the pedometers (Sept. 2014), the author visited the FPL and interviewed the library director to elicit information on how the project was implemented and community members' reactions.

Online Health Assessment Tool

Based partly on the communities' positive reaction to the pedometer program, the FPL agreed to pilot test access to an online health assessment tool, the Carolina Health Assessment Research Tool (CHART). The CHART tool was designed by researchers at The University of North Carolina at Chapel Hill Gillings School of Global Public Health to: assess behavioral risk factors for cancer and other chronic health conditions; to improve participant/patient awareness and motivation to modify behavioral risks; and to aid in launching interventions to reduce behavioral risks (chart.unc.edu). CHART consists of a number of modules with questionnaires that result in a health summary with tips and suggestions for behavior change. The modules offered during this study included: physical activity; eating; alcohol use; tobacco use; and weight. The library director used strategic recruiting to include varying gender, ages and ethnicities to identify 10 participants for the study. Those participants were given access to the CHART tool; all 10 completed the assessment on their own computers, though they were made aware that they could use the library's computers to complete the assessments. The initial or baseline assessments were completed in April–May 2015. Approximately six months later, follow-up assessments were completed by nine of the same ten individuals (one participant was lost to follow-up) in November–December 2015. Participants were given a \$25 Amazon gift card upon completion of each of the initial and the follow-up assessments.

Both of these research project initiatives were determined to be exempt by The University of North Carolina at Chapel

Hill Institutional Review Board (March 5, 2014; Jan. 21, 2015).

Results

Pedometer Project

The pedometers were introduced to patrons in May 2014 with the project name: “Get Walking at Your Library” to patrons with a press release in the local newspaper (*The Farmville Enterprise*). Posters (Figure 1) were also displayed throughout the library and community.

The Get Walking at Your Library campaign supplied pedometers to 30 patrons over a three-month period. To circulate the pedometers, the staff used a sign-out sheet with the patron’s name, number, and email so they could contact them for feedback. The checkout period for the pedometers was 30 days.

Feedback on the pedometer program from patrons included:

- “I was encouraged to walk more”
- “very good”
- “great idea”
- “positive experience . . . I would use the service again”
- “a definite incentive to take more steps during my day”

Patrons also gave positive encouragement for the library to offer more health and wellness programs.

Negative feedback was related to the quality of the pedometer and difficulties with using it:

- “Only used one day—pedometer kept going off and I had to continually reset it”
- “I was disappointed that I kept having the pedometer reset without my knowledge . . . I was, however, encouraged to walk more.”
- “I plan to buy a higher quality one with a guard so it doesn’t fall off so often.”

With the momentum from the pedometer program and positive feedback re-

Get Walking at Your Library Project

Farmville Public Library, in partnership with the School of Information and Library Science at UNC Chapel Hill, Gaston County Public Library and Fontana Regional Library, is embarking on an exciting endeavor that will focus the public’s attention on the benefits of walking and living a healthy lifestyle.

The project is simple. Check out one of our pedometers for 1 month. When you check it back in, tell us what you thought of it. Did you discover that you take less steps each day than you thought? Was your actual step count exactly where you thought it was at? No matter the feedback, we want to hear it!

This project is in no way a contest, rather a way to encourage walking on a daily basis, which will hopefully return healthy outcomes for everyone.



Figure 1. Promotional poster for pedometer project.

ceived from it, FPL spearheaded a 5K road race and one-mile fun run in May 2015 in partnership with the Town of Farmville Parks and Recreation department. Out of the 125 participants in this event, at least 10% had participated in the pedometer program.

Online Health Assessment Tool

In April 2015, the FPL made an online health assessment tool, the Carolina Health Assessment Research Tool (CHART), available to 10 patrons. Those 10 individuals completed baseline assessments during April–May 2015. There were four men and six women, with ages ranging from 19 to 63 years. Nine participants identified as White; there was one Black/African American. Four were college graduates; five had some college, and one was a high school graduate. Six were employed, two were self-employed, one was out of work, and one was unable to work. Eight had health insurance; one did not know and one did not. For household income range of par-

ticipants, two made more than \$75K; three were between \$50–\$75K; three made less than \$35K, and two did not answer.

Anecdotal feedback on the CHART assessment included:

“I found the initial assessment website very easy to navigate . . . it really served to acknowledge to me that I am headed in the right direction.”

“it was easy to navigate . . . it nudged me to open my eyes to my excuses as to why I had gained 10 lbs . . . I had to really pay attention to what works for me . . . I stopped breakfast and felt a lot better . . . and ‘Wa-La’ 5 lbs. thinner!”

“The use of the site was very easy. I liked that I could see my standing with others that are involved. For me, it validated information I already knew and validated changes I need to make. Yes I would say I felt encouraged to be healthier . . . I’m glad to be apart of this study.”

“I would like to Thank You for letting me participate in the joint health and wellness project. Everything worked perfectly. It was a breeze going thru the website. I am even more encouraged to eat better and exercise more. Any information that you may have concerning good health and better living please send to me, I would enjoy reading.”

Approximately six months after the baseline CHART assessment, the same 10 participants were invited to complete a follow-up assessment; nine of the ten did so. Overall, most categories remained similar between baseline and follow-up. However, for the question on weight for the follow-up assessment (six out of nine answered), four reported having lost weight (5 lbs.; 7 lbs.; 16 lbs. and 20 lbs.); the other two reported having stayed within one pound of their weight between the two assessments. In addition, reports of engaging in moderate physical activity increased across the sample.

The nine who completed the follow-up

Table 1. More Attention to Health.

Response	Number of Participants
Yes	5
No	4

assessment also completed a short survey, which included the following two questions on their experiences using the CHART tool.

1. Did finishing the first assessment make you pay more attention to your health (for example, did you pay more attention to your diet, or physical activity levels)? Table 1 shows results for answers to the first question.

For those who answered positively, the following details were provided:

“Yes, became more thoughtful about activity and increasing it when I can. More thoughtful about healthy eating habits and changes I can make.” (*Note:* this individual reported having gone from 215 to 210 lbs.)

“My weight, I weigh too much for my height.”

“Somewhat, tried to do more fruits and vogs.”

“Trying to pay more attention to diet; certainly have increased activity.”

“Yes more careful on food purchases.”

One participant, who answered no, supplied the following: “Not really, I had started an improved diet and exercise program about 1.5 years ago and am happy with that.”

The second question on using CHART was:

2. Did finishing the first assessment have any effect on your health behaviors (for example, diet, physical activity,

Table 2. Effect on Health Behaviors.

Response	Number of Participants
Yes	5
No	4

interaction with health care provider)? Table 2 shows results for answers to the second question.

The health behaviors that participants identified were either physical activity or diet:

“Increased my activity level.”

“I now have a basic UP (Jawbone); I am biking 20-30 mins. daily and walking has increased to at least an hour—average 15-17000 steps daily.” (Note: the UP is a personal activity tracking device.)

“Yes started paying attention to pedometer.” (Note: this individual reported having gone from 180 to 160 lbs.)

“I eat more fruits and vegetables.”

“Yes—diet.”

The follow-up survey also included the question: *What types of health promotion activities would you like the library to provide, if any?* The answers to this question focused on programs or activities related to nutrition (sample menus, portion size, cooking demos; eating for healthy living) and increasing activity (exercise; 5K; workout videos; senior fitness).

One participant summarized her experience with the CHART tool in the following manner:

“I truly appreciate the opportunity to participate in this assessment. I had been procrastinating about getting serious about diet and exercise. This was definitely the nudge that I needed. I have become more

focused on proper diet and I am definitely more active. My UP provides unexpected motivation and encouragement. I am planning to remain focused and keep looking for more information so that I can continue to be challenged. The library has always been a great resource for me.”

Discussion

This pilot project, designed to explore how rural public libraries can engage in community health promotion, included two types of activities and demonstrated the potential for a rural public library to have a positive effect on individual health. The feedback from the community regarding the efforts was extremely positive, and according to library staff, patrons have come to expect health and wellness information and programs from the library. To respond to these expectations, the library has expanded their services, with offerings such as monthly on-site monthly blood pressure screening and instituting the 5K race as a regular activity.

Since the project began, the library director has been appointed the town's Wellness Coordinator. As such, he has already had an impact on imparting healthy behaviors during town functions by ensuring there are healthy food and beverage options at meetings. Previously the meal options were mainly red meat, potatoes, assorted desserts and sweet tea, now fresh fruit, vegetables and water are part of the regular fare. Besides making organizational menu changes, the library could offer complementary programs to promote nutritional literacy. Research shows those who accurately estimate portion sizes and use and interpret food labels have better health outcomes (Cha *et al.*, 2014). Four of 10 participants in the CHART assessment mentioned interest in nutritional programs, so this may be a logical trajectory for future health initiatives and programs. Another area for future consideration is the use of personal fitness tracking devices (two CHART participants mentioned us-

ing them: Jawbone UP and pedometer). The library could host workshops, institutionalize lending programs, organize walking groups, and if there is an interest, use social media to share progress.

Opportunities for Public Library Health Promotion Programs

The rural public library is not only a repository where patrons can find health information, but increasingly it can serve as a community organization with the potential for having a positive impact on community health. With minimal resources, rural public libraries can offer health programs and opportunities, guided by input and feedback from patrons. For example, nutrition workshops and healthy cooking demonstrations might be offered by collaborative efforts with cooperative extension agents, local public health department staff or graduate students from nearby universities. Some public libraries have found qualified community members who volunteer to teach yoga, Tai-chi classes, and other varieties of fitness classes (Flaherty, 2013). The library could help to organize walking groups and provide maps of local places of interest within walking distance of the library. Summer reading prizes might include pedometers and personal fitness tracking devices, and books on different types of physical activity. Storytime programs can incorporate books with active themes and activities such as dancing, marching, and stretching to jumpstart fitness with preschoolers (Woodson, Timm & Jones, 2011). If there is room and interest, an exercise bike in the teen area might inspire activity as well (Flaherty, 2014). Friends of the Library groups and volunteers may be likely partners in these endeavors to promote community health.

Implications for LIS practice and Education

Public libraries afford an opportunity for LIS researchers to collaborate with our

practitioner communities; this can happen directly and through student involvement. Training our students and future librarians to conduct research, from data collection and analysis to performing evaluations and community assessments, will guide our services and enhance our capability to measure their effectiveness. Creating outreach opportunities and partnerships for collaboration is a win-win proposition. For these relationships to be fruitful and effective, it is imperative to identify willing partners. This can occur by reaching out to and engaging with library practitioners in our communities, and providing opportunities for student involvement through class projects, field experiences and internships.

Limitations

There are limitations to this study. First, the sample size was small, and though purposefully selected to include a range of individuals was not random in nature, so generalizability is difficult. In addition, there may have been bias due to self-selection of participants. For example, those who were willing to participate may have been more attuned to their behaviors and life factors that affect health, such as diet and physical activity. Also, behavior change was self-reported, and so could have been over, under or misrepresented.

Conclusion

The overarching mission of public libraries is to provide access to information, educational opportunities and resources. These can all be leveraged to support individual and community health, especially in rural communities. Our preliminary efforts found that patrons are receptive to engaging in library-sponsored health promotion activities, even though they may not be what has been typically expected or historically offered. By investigating the use of public libraries as centers for health promotion and collaborating with

librarians as research partners, we can implement, assess and evaluate initiatives and activities to support and promote community health. As we train future library leaders, we should not overlook the collaborative opportunities that rural public libraries can provide to investigate initiatives to instill positive community change.

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