



A Civic Engagement Approach to Encourage Healthy Eating and Active Living in Rural Towns: The HEART Club Pilot Project

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Abstract

Purpose: To assess the feasibility and effectiveness of a civic engagement curriculum (encouraging Healthy Eating and Activity in Rural Towns [HEART] Club) designed to engage rural residents in improving their local food or physical activity environment.

Design: Pre–post surveys and focus groups.

Setting: Three rural Northeastern towns in the United States.

Participants: Twenty-six rural residents (7-12 per town) recruited by local extension educators.

Measures: Online surveys were used to assess outcomes related to feasibility (satisfaction) and effectiveness (knowledge, awareness, motivation, self-efficacy, and group efficacy for community change). Feasibility was also assessed through attendance logs, benchmark achievement records, and post-implementation focus groups.

Analysis: Participant characteristics and feasibility measures were summarized using descriptive statistics. Pre–post changes in effectiveness outcomes were assessed using Wilcoxon signed rank tests. Focus group data were thematically examined to identify barriers to and facilitators of HEART Club progress.

Results: Meeting attendance and program satisfaction were high (88% and 91%). Participants reported improvements in awareness; however, no other significant changes were observed. All HEART Clubs accomplished 3 or more project benchmarks after 6 months of implementation. Despite competing priorities and limited finances, groups effectively leveraged existing resources to achieve their goals. Important facilitators of success included stakeholder support, effective leadership, and positive group dynamics.

Conclusion: These findings suggest that resident-driven initiatives that build upon local resources and establish feasible goals can successfully foster environmental change in rural communities.

Keywords

civic engagement, culture change, rural areas, built environment, healthy eating, physical activity, qualitative research

Introduction

Despite overall advances in public health, rural populations in the United States continue to experience higher rates of obesity and related chronic diseases than their nonrural counterparts.¹⁻⁷ Residents of rural areas are also less likely to be physically active and consume nutritionally adequate diets, making them an important target group for prevention efforts.^{3,8,9}

Although disparities in health behaviors and outcomes have been mainly attributed to individual lifestyle behaviors, growing evidence suggests that these are largely influenced by sociocultural and environmental conditions.¹⁰ Recent health promotion initiatives in the United States have focused on building a “culture of health,” defined as shifting the values, practices, and structural conditions that influence health and

well-being to ensure that all residents can lead healthier lives.¹¹ According to the Robert Wood Johnson Foundation (RWJF), one key strategy to achieving this vision is creating healthier and more equitable community environments.¹¹ Of particular importance is the built environment, which encompasses all “physical features that have been constructed or modified by people” (eg, food stores, sidewalks, streets, parks, and bike lanes).¹²

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Existing research suggests that built environment features are linked to obesity and related health behaviors, including physical activity and eating patterns.¹³⁻¹⁷ However, most built environment interventions to promote healthy eating and active living have focused on urban and suburban settings.¹⁸⁻²² Applying existing intervention strategies to rural contexts can be challenging due to the unique sociocultural norms and environmental characteristics of these areas.^{8,23-28}

Rural communities tend to have fewer food stores and food service places with healthful options, limited recreation facilities, and insufficient active transport infrastructure (eg, walking paths, bike lanes, safe street crossings).²⁹⁻³² Residents of rural communities often face additional challenges such as geographic isolation, high poverty rates, and limited employment opportunities.³ As a result, people must travel further to utilize available facilities and may be unable to afford those to which they have access.^{33,34} Given the geographic disparities in access to healthy food and physical activity resources, rural-specific intervention approaches are needed.

Civic engagement, defined as the “collective actions designed to identify and address issues of public concern,” is one promising strategy for improving rural built environments and reducing health disparities.³⁵ For the purpose of this study, we refer to this approach as civic engagement for built environment change (CEBEC). CEBEC integrates resident-led data collection through community assessments with stakeholder engagement and collaborative efforts to catalyze and monitor community-level change. This approach aligns with RWJF’s second key strategy of fostering collaboration to improve well-being.¹¹ CEBEC initiatives build upon the positive aspects of rural life including long-standing social ties, shared life experiences, and norms of self-help and reciprocity.³⁶ By acknowledging location-specific resources and challenges, these resident-led initiatives are likely to achieve greater success than efforts to replicate existing intervention strategies developed for urban settings.³⁷

CEBEC initiatives, as defined above, parallel the practice of community organizing and coalition building with the addition of resident-led data collection and project monitoring. Community organizing refers to the process of mobilizing community residents to “identify common problems or goals and develop strategies for reaching these collective goals.”^{38(p. 1)} This approach to health promotion has been adopted by several US public health organizations, such as the African American Collaborative Obesity Research Network, which emphasize the importance of engaging local residents in community interventions.³⁹ Organizing efforts frequently involve building coalitions or partnerships between “people and organizations to influence outcomes on a specific problem.”^{40(p. 141)} Reviews of health-focused coalitions suggest that collaborative partnerships hold potential in facilitating environmental change and improving population health outcomes and may rely on several factors (eg, group cohesion, leadership, membership diversity, and agency collaboration) to function effectively.^{41,42}

Community coalitions and organizing approaches have been used to address a range of public health concerns (eg, substance abuse)³⁸; however, few initiatives have focused on improving

obesity-related health behaviors through built environment change. In some promising studies, CEBEC initiatives have led to meaningful community environmental and policy changes (eg, sidewalk repair programs, addition of shade trees to encourage walking, installation of pedestrian signals), including in rural areas.^{37,43-48} CEBEC initiatives allow residents to engage in community assessment, advocacy, and partnership development, thus taking more ownership over community change efforts.⁴³ This comprehensive approach also helps to foster the development of more relevant, feasible, and sustainable interventions.^{37,43,44} However, existing initiatives have relied primarily upon facilitation from academic institutions, required significant funding to implement, or targeted broader regions (eg, counties) encompassing both urban and rural communities.^{37,43,44}

To address these limitations, we designed a CEBEC curriculum—encouraging Healthy Eating and Activity in Rural Towns (HEART) Club—to promote resident-led changes in rural food and physical activity environments. This project was first developed in 2010 by the lead author and colleagues in collaboration with long-standing community partners. The HEART Clubs (formerly known as change clubs) were subsequently formed in rural communities in 7 US states. At 12 months, all groups demonstrated success in engaging residents to identify an issue of concern, advocate for improvements, and create positive community change.³⁷ These original groups relied on researcher facilitation; to increase the potential for broader reach and sustainability, we adapted the HEART Club approach by training local health educators to guide residents through the curriculum. The purpose of this pilot study was to assess the preliminary effectiveness and feasibility of this modified CEBEC approach.

Methods

Conceptual Framework

Adapted from Brown and colleagues,⁴⁵ the study conceptual framework (Figure 1) outlines the pathways through which civic engagement may affect behavior change using a socioecological lens.⁴⁹ At the individual level, civic engagement enhances knowledge and awareness of built environment conditions and self-efficacy for community change. At the social/collective level, civic engagement fosters group efficacy through goal setting and enacting and monitoring changes.¹⁰ At the community level, civic engagement promotes improvements in access to healthy food and opportunities for physical activity. Changes at each level (ie, individual, social, community) reinforce one another to support changes in lifestyle behaviors.¹⁰

Design and Sample

To assess the feasibility of implementing the HEART Club curriculum, the research team partnered with county extension educators in 3 rural Northeastern towns (2 in New York and 1 in Pennsylvania) in 2014. These individuals were chosen as project leaders based on their extensive health education

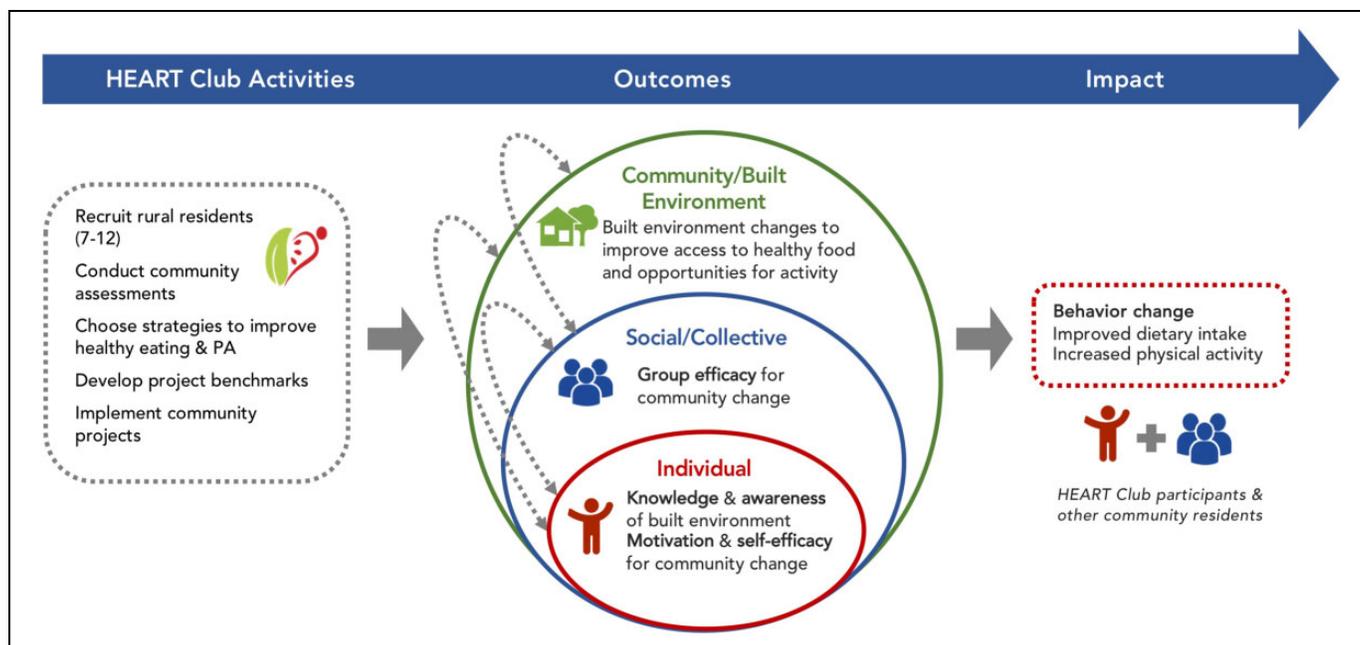


Figure 1. Healthy Eating and Activity in Rural Towns (HEART) club conceptual framework. Seguin-Fowler, Cornell University, 2017 © rs946@cornell.edu

experience, strong local networks, and active community involvement. All leaders ($n = 3$) attended a 1-day training session conducted by the research team during which they received instruction on leadership roles and responsibilities. During the session, leaders participated in several curriculum activities (eg, community assessment, team-building) and were offered techniques for effective facilitation. Overall project deliverables and timelines were discussed in-depth (see Figure 2), and leaders were asked to fill out a post-training evaluation.

Following this training session, leaders were provided with a copy of the HEART Club curriculum, recruitment materials, and a checklist of data collection items (eg, consent forms, baseline surveys, attendance logs). Curriculum activities were divided across four 90-minute meetings with additional action items to be completed before or after each meeting. Leaders were encouraged to schedule these meetings 1 week apart to allow sufficient time to complete action items without losing momentum. Each meeting included a detailed agenda of activities and action items, as well as materials needed for facilitation. Table 1 outlines the specific activities and action items for each meeting.

In each of the 3 towns, leaders recruited 7 to 12 community members to form a HEART Club. Leaders were advised to seek out individuals who desired to lead healthy lives and were motivated toward improving their community, regardless of gender, race, or ethnicity. The majority of participating members were identified through personal networks or existing contacts with local community organizations (eg, 4-H, Rotary, local college). Additional recruitment strategies included posting flyers at local venues (eg, community center, public library) and e-mailing community listservs, although these were found to be less effective.

Prior to the curriculum meetings, groups completed community assessments to identify environmental barriers to healthy eating and active living in their town. These assessments were conducted in the form of facilitated walking and driving tours, using a rural community audit tool developed by the research team.⁵⁰ This tool was designed to comprehensively capture built environment features that could influence healthy eating and physical activity in rural settings. Leaders led HEART Club members on a 1-mile walking route around town and then split up into smaller groups for the driving tours (approximately 3.5 miles). Groups were provided with maps and written directions for both tours by the research team.

During the curriculum meetings, leaders guided participants through a stepwise process of prioritizing, planning, and implementing built environment changes in their community. Groups began by reflecting on the community assessments and identifying an issue related to the local food or physical activity environment that they could feasibly address. Each HEART Club then defined an overall project goal (called a “noble purpose”), developed an action plan, and established benchmarks for self-monitoring of progress. Briefly, these benchmarks encompassed: (1) choosing a strategy, (2) identifying stakeholders, (3) pilot testing, (4) implementing, (5) monitoring and evaluation, and (6) planning for expansion. Participants completed the following activities to assist with project planning and execution: (1) personal and community asset mapping (documentation of individual strengths and community resources),⁵¹ (2) stakeholder engagement (identification of local leaders and influential groups), and (3) team building (Table 1).

To monitor progress, leaders were required to submit attendance logs after each curriculum meeting and provide

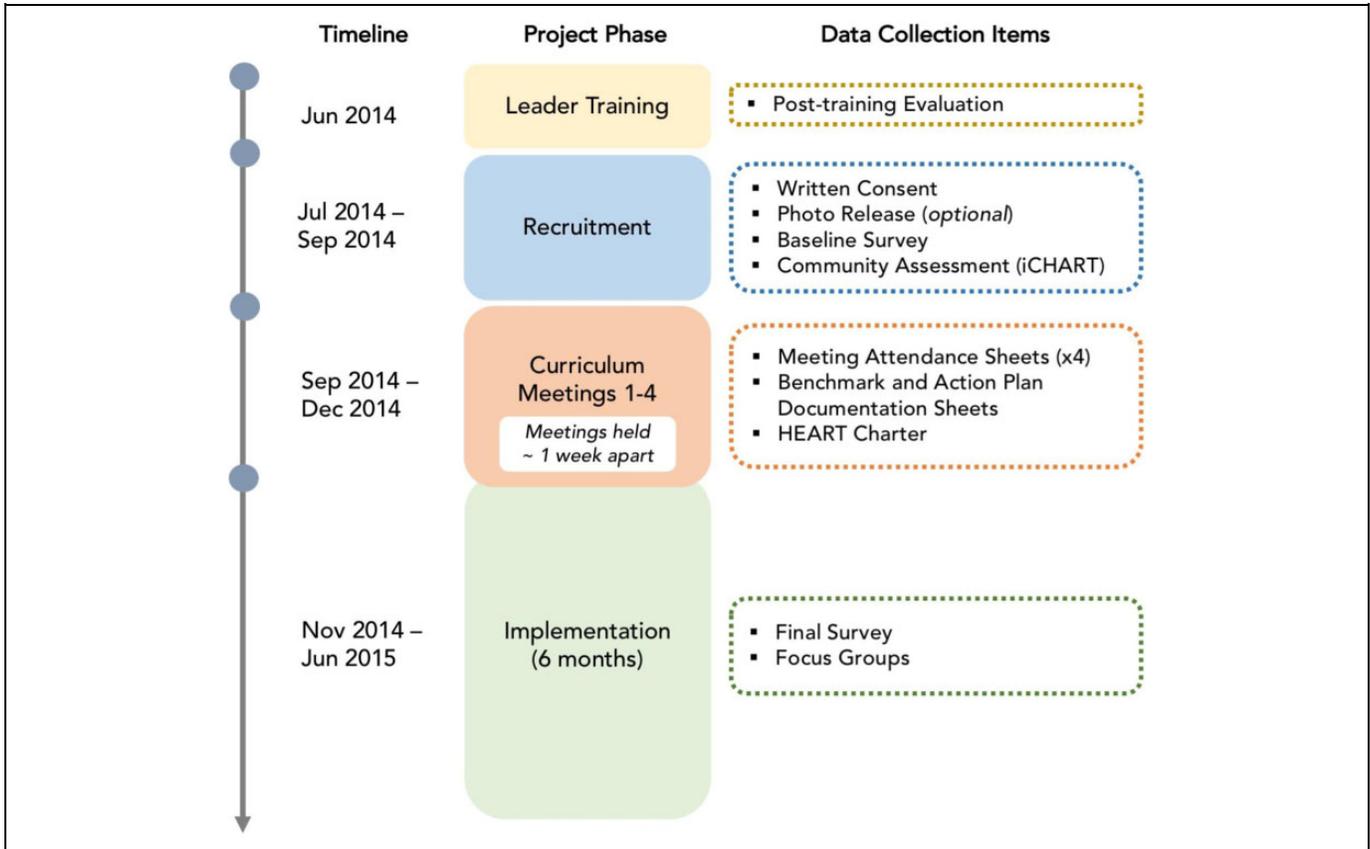


Figure 2. Healthy Eating and Activity in Rural Towns (HEART) club study timeline.

Table 1. HEART Club Curriculum Components.

Curriculum Session	Topics Covered	Action Items (Homework)
Introduction	HEART Club introduction Recruitment steps and strategies	Baseline survey Premeeting awareness activity Community assessment (iCHART)
Meeting 1	Welcome and introductions Group cohesion activity Community walk about issue selection	Brainstorm potential stakeholders
Meeting 2	Identify personal and community assets Identify community leaders/stakeholders	Brainstorm action items
Meeting 3	Develop group’s purpose Group cohesion activity Develop project benchmarks Develop action plans and delegate tasks	Define future success
Meeting 4	Group cohesion activity Create a unified message Develop a charter Closing and continuation plan	Schedule follow-up meetings Implement project

Abbreviation: HEART, Healthy Eating and Activity in Rural Towns; iCHART, Inventories for Community Health Assessment in Rural Towns.

documentation of their group’s noble purpose, benchmarks, and action plan (Figure 2). After completing all curriculum activities and action items, HEART Clubs spent the next 6 months working toward their project goals. Subsequent progress was determined by the specific project benchmarks developed by each group and was intentionally left unstructured. However, groups were encouraged to continue meeting on regular basis to monitor progress and stay on track. All groups were provided with \$600 in seed funds to help facilitate their efforts. The research team conducted monthly telephone calls with leaders during this period to address questions and provide support as needed.

Measures

Preliminary effectiveness and feasibility of the HEART Club curriculum were evaluated using a pre–post quasi-experimental design. Participants completed an online Qualtrics survey prior to starting the curriculum meetings (baseline) and 6 months after completing the curriculum (post-implementation). Survey questions are presented in Online Appendix A.

Outcome measures included knowledge and awareness of built environment barriers to healthy eating and physical activity as well as motivation, self-efficacy, and group efficacy for community change (Online Appendix A). Knowledge, awareness, and motivation were each assessed through 2 items on a

11-point Likert scale (from 0 to 10).⁵² Questions related to self-efficacy and group efficacy were adapted from Bandura self-efficacy scales.⁵³ Each efficacy measure was assessed through 6 items on a 5-point scale. Information on the following demographic characteristics was also collected: age, gender, ethnicity, marital status, occupation, employment status, educational attainment, and perceived health status.

Feasibility was assessed by attendance at curriculum meetings and achievement of project benchmarks. Six months after implementation, leaders were asked to report on their group's progress toward each benchmark (ie, accomplished, partially accomplished, or not accomplished). Additional measures of feasibility (satisfaction, group dynamics, participation benefits, and drawbacks) were adapted from the Partnership Self-Assessment Tool⁵⁴ and included on the post-implementation survey (Online Appendix A). Questions related to satisfaction ($n = 2$) and group dynamics ($n = 11$) were assessed on a 5-point Likert scale. Participation benefits and drawbacks were assessed through a series of dichotomous (yes/no) questions.

To gain a deeper understanding of the HEART Club implementation process, in-person focus groups were held with participants 6 months' post-implementation. We chose to conduct focus groups rather than individual interviews to facilitate discussion among participants and assess group dynamics. Sessions ranged from 45 to 60 minutes in length and were facilitated by a trained member of the research team at local community venues (eg, town hall). Attendees were offered a brief introduction (ie, interviewer's name, purpose of focus group discussion) and asked for permission to audio record the discussion. The semistructured focus group guide was divided into 5 main topics: (1) community assessment experience, (2) progress toward project benchmarks, (3) facilitators and barriers to project momentum, (4) successful qualities of HEART Club leaders, and (5) personal engagement and satisfaction. Probes were used to clarify attendees' responses and elicit more detailed information as needed. Once all topics had been addressed, attendees were invited to provide final thoughts and thanked for their participation.

All participants provided written informed consent upon enrollment, and oral consent was obtained prior to recording all focus groups. Study procedures and materials were approved by the institutional review board of Cornell University.

Analysis

Quantitative data from the baseline and post-implementation surveys were analyzed using SAS, version 9.4. Wilcoxon signed-rank tests were used to assess pre-post changes in knowledge, awareness, motivation, self-efficacy, and group efficacy, among all participants. Demographic characteristics and feasibility measures (attendance, benchmark achievement, satisfaction, group dynamics, participation benefits, and drawbacks) were summarized using means (standard deviations) for continuous variables and frequencies (%) for categorical variables.

Table 2. Characteristics of HEART Club Participants.^a

Characteristic ^b	
Age, mean (SD)	55.7 (19.0)
Gender	
Female	21 (80.8)
Male	5 (19.2)
Ethnicity	
Non-Hispanic white	24 (92.2)
Hispanic	1 (3.9)
Not reported	1 (3.9)
Marital Status	
Married	22 (76.9)
Cohabiting	1 (3.8)
Widowed	1 (3.8)
Divorced	0 (0.0)
Separated	1 (3.8)
Single	2 (7.7)
Not reported	1 (3.8)
Employment status	
Full-time employed	9 (34.6)
Part-time employed	1 (3.8)
Retired	11 (42.3)
Student	2 (7.8)
Out of work/unable to work	3 (11.5)
Educational level	
High school graduate/GED	5 (19.2)
Associate's degree	3 (11.5)
Bachelor's degree	9 (34.6)
Graduate degree	8 (30.8)
Not reported	1 (3.9)
Self-rated health status	
Excellent	0 (0.0)
Very good	1 (3.5)
Good	6 (23.1)
Fair/poor	16 (61.5)
Not reported	3 (11.5)

Abbreviations: HEART, Healthy Eating and Activity in Rural Towns; SD, standard deviation.

^a $n = 26$.

^bContinuous data are expressed as means (SD) and categorical data are expressed as n (%).

Qualitative data were thematically examined to identify barriers and facilitators to HEART Club progress. Focus groups were transcribed verbatim, cross-checked, and coded using NVivo version 11. Descriptive codes were created around main focus group topics and iteratively adapted to reflect emergent themes related to project implementation. Coding decisions were discussed by 2 members of the research team and revised until agreement was reached. All analyses were conducted in 2016.

Results

Each HEART Club consisted of 7 to 12 individuals ($n = 26$), ranging in age from 23 to 84 years. The majority of participants were female (81%), non-Hispanic white (92%), and married (77%). Additional demographic characteristics are presented in Table 2. Town comparisons showed no observable differences in demographic characteristics except age. On average,

Table 3. Pre–Post Changes in HEART Club Outcomes.^a

Outcome Measure	Number of Items	Scale Range	Overall (n = 15)			Town 1 (n = 5)			Town 2 (n = 4)			Town 3 (n = 6)		
			Pre ^b	Post	P Value ^c	Pre ^b	Post	P Value ^c	Pre ^b	Post	P Value ^c	Pre ^b	Post	P Value ^c
Knowledge	2	0-10	12.1 (5.2)	15.2 (4.1)	.1	11.4 (6.5)	15.6 (1.1)	.4	11.0 (6.6)	15.8 (5.1)	.5	13.5 (3.6)	14.5 (5.4)	1.0
Awareness	2	0-10	12.1 (5.8)	16.1 (2.6)	.004	12.0 (6.0)	15.4 (3.0)	.2	9.5 (9.0)	17.5 (3.0)	.5	13.8 (3.1)	15.8 (2.1)	.1
Motivation	2	0-10	15.8 (3.1)	14.6 (2.5)	.4	17.2 (2.6)	14.2 (0.8)	.2	14.5 (4.4)	12.0 (2.3)	.6	15.5 (2.3)	16.7 (1.8)	.2
Self-Efficacy	6	1-5	20.4 (7.7)	21.1 (5.9)	.7	22.6 (8.6)	18.0 (5.1)	.06	13.8 (4.5)	18.5 (4.1)	.2	23.0 (7.0)	26.4 (4.4)	.6
Group Efficacy	6	1-5	22.8 (3.3)	23.2 (3.9)	.3	23.6 (3.6)	20.5 (3.8)	.5	22.7 (2.3)	23.0 (4.8)	.7	22.0 (3.9)	25.6 (1.8)	.1

Abbreviation: HEART, Healthy Eating and Activity in Rural Towns

^aData are expressed as means (SD). **Boldface** indicates statistical significance ($P < .05$)

^bMean values based on scores of participants who completed both the baseline and post-implementation surveys.

^cBased on Wilcoxon signed rank tests for mean difference between pre- and post-outcome measures.

Table 4. HEART Club Accomplishments at 6 Months.

Site	Noble Purpose	Project	Progress	Total No. of Benchmarks	No. of Benchmarks Achieved
Town 1	Encouraging healthy living through increased physical activity for the community	Promoting on-going community walking events on a local trail	Increased publicity via newspaper, word of mouth, and other organizations Scheduled regular walks on trail and indoor track	8	4
Town 2	Increase physical activity of residents by communicating about what exists in the area	Develop a brochure and map highlighting physical activity opportunities (“Get Out, Get Active, Discover”)	Partnered with Keystone College to create brochure of places to exercise Distributed brochure to schools and displayed map in the town hall	7	4
Town 3	Increase physical activity year-round of all individuals in the community	Installing new play equipment and fitness stations at a local village playground	Created long-term plans to build a Fun and Fitness Area Began intensive fundraising campaign	7	3

Abbreviation: HEART, Healthy Eating and Activity in Rural Towns.

participants from town 3 were significantly older than participants from towns 1 and 2 ($P < .05$, data not shown).

Pre–post changes in HEART Club outcomes were only assessed among individuals who completed both surveys ($n = 15$). Participants reported significant improvements in environmental awareness ($P < .01$); however, no significant differences in knowledge, motivation, self-efficacy, or group efficacy for community change were observed (Table 3). There were no significant demographic differences between participants who did and did not complete both surveys.

Overall meeting attendance was high (88%), and all group members completed the community assessments and attended at least 2 meetings. On average, 87% of group members were present at each meeting. At 6 months, all HEART Clubs had accomplished 3 or more benchmarks and reported successful progress toward their project goals (Table 4). Groups focused on improving their community’s physical activity environment using varied strategies. Two HEART Clubs chose to increase awareness of existing resources by promoting group walking events on a local trail (town 1) and developing a map of places to be active in the community (town 2). The third group chose to revitalize a local village playground by

installing new play equipment and adding fitness stations for adults (town 3).

Overall, participants were very satisfied with their group’s progress and their experience in the HEART Club (mean score 9.1 of 10, Table 5). Participants rated their HEART Clubs as highly effective at communicating and working together (mean score 48 of 55, Table 5). Individuals reported multiple benefits as a result of participating in the HEART Club, such as building valuable relationships, utilizing personal expertise, and making positive contributions to their community. Although few drawbacks to participation were mentioned, some people felt that their time was diverted away from other priorities and obligations (eg, family, work).

Survey findings were confirmed through the focus group discussions. Participants described having a greater awareness of the available resources and barriers to healthy living in their community. Many felt that the community assessments were an important strategy for building awareness. After completing the assessment activity, groups were better able to identify potential areas for improvement and find inspiration for their projects. Through the HEART Club process, participants built camaraderie with fellow group members and developed a

Table 5. Post-implementation Feasibility Measures.^{a,b}

Feasibility Measure	Number of Items	Scale Range	Maximum Score	Overall (n = 15) Mean (SD) ^a	Town 1 (n = 5) Mean (SD) ^a	Town 2 (n = 4) Mean (SD) ^a	Town 3 (n = 6) Mean (SD) ^a
Satisfaction	2	0-5	10	9.1 (1.3)	7.8 (1.5)	9.8 (0.5)	9.7 (0.5)
Group dynamics	11	0-5	55	48.3 (8.0)	41.0 (10.4)	52.8 (2.6)	51.3 (3.0)
Participation benefits	11	0-1	11	9.0 (2.2)	8.0 (3.3)	9.0 (0.8)	9.8 (1.6)
Participation drawbacks	5	0-1	5	0.6 (0.8)	1.2 (1.1)	0.5 (0.6)	0.2 (0.4)

Abbreviation: SD, standard deviation.

^aData are expressed as means (SD).

^bMean is based on scores of participants who completed the post-implementation surveys.

Table 6. Facilitators of and Barriers to HEART Club Progress: Emergent Subthemes and Selected Quotes.

Subtheme	Selected Quotes
Facilitators of HEART Club Progress	
Support from local stakeholders	<p>“We had incredible support, because we were able to take our idea, keep it local by going to . . . the college that’s in our town, and having the graphics design class volunteer to actually come up with different versions of what we were looking for . . . And then having our local printer, again in town, be able to print the map for us . . . everybody was wonderful in helping us stick to our timeline and what our goal was and our project idea.” (Town 2)</p> <p>“And I got a lot of support from the [director] of the retired senior volunteer program. And so he would send out all the flyers to the churches in the county . . . all the volunteers in the county. (Town 1)</p>
Effective leadership	<p>“[Leader] helped keep our focus. Everybody was allowed to . . . get their suggestions or offer ideas, she helped us bring those ideas to a focus. Because that’s what sometimes gets difficult in a group . . . people have different ideas that they want to do maybe as a goal, versus maybe someone else. And she was able to sort of take . . . a group collectively, and . . . focus all of our opinions and ideas.” (Town 2)</p>
Collective effort	<p>“We all know we have individual talents, but when you put them together, it blossom[ed] into [a] combined group that’s . . . a strong network of people.” (Town 3)</p> <p>“You have such a diverse . . . experience from the people that are involved . . . and it pulls it all together very well . . . and everybody does what they’re comfortable with, and it works. And no one is feeling overwhelmed by any particular part, because everything is shared. (Town 2)</p>
Positive group dynamics	<p>“The more positive people you can bring together, the more positive your focus, and the more things you get done that are going to have a positive impact on people . . .” (Town 3)</p> <p>“You give me your ideas and your energy, and then I think of something else and it’s like ‘My gosh, that’s pretty cool’ . . . I like that . . . the energy of the group.” (Town 1)</p>
Barriers to HEART Club progress	
Competing priorities	<p>“It was very difficult [forming the HEART Club] because we had to be here for like a month every single Monday [for meetings], and that is very hard, especially if you have a family.” (Town 1)</p> <p>“It all comes down to balancing. So, you know, working full-time, being a mom, and this being one project . . . so it’s finding that time to be able to commit to another project . . . being able to fit that into all of the other things.” (Town 2)</p>
Lack of community engagement	<p>“We haven’t had a whole lot of community outpouring of support or participation.” (Town 1)</p> <p>“We’re going to do more work to feed [our project] out into our community and neighboring communities . . . communication is the hardest thing” (Town 2)</p>
Limited financial resources	<p>“We’re a very poor area . . . people don’t have a hundred dollars right off the top of their hat to . . . give.” (Town 3)</p> <p>“When you’re trying to start something, you need a large advertising budget . . . you can’t just say ‘Come to a walk!’ and expect everybody in the community to say, ‘Oh of course, I’ll be there.’” (Town 1)</p>

Abbreviation: HEART, Healthy Eating and Activity in Rural Towns.

renewed connection to their communities. Most participants were satisfied with the environmental changes they were enacting and hoped to embark on other community change initiatives in the future.

Key themes related to HEART Club progress that emerged from the focus groups are presented in Table 6 along with

supporting quotes. Important facilitators of success included local stakeholder support, effective leadership, collective effort, and positive group dynamics. Many participants attributed successful project implementation to the ease of networking and accessing resources within a small community setting. Groups found local stakeholders to be particularly

receptive toward their efforts, which helped catalyze progress. Leaders were also admired for their enthusiasm, dedication, and ability to guide group efforts without dominating the decision-making process.

The diverse talents and experiences of fellow members allowed groups to achieve more than they could have accomplished individually. Being part of a group allowed for an efficient division of tasks to suit each person's skills and facilitated information-sharing to solve problems or generate new project ideas. Participants also felt a sense of accountability to fellow group members that helped keep momentum going. The positive atmosphere experienced in meetings allowed for constructive discussion, productive involvement of members, and ultimately, positive group outcomes.

Barriers to group progress included competing priorities, lack of more widespread community engagement, and limited financial resources. Balancing HEART Club activities with existing commitments to family members, work, and other local organizations was a notable struggle for many participants. Although the diversity of group members was highly valued, it was more difficult to schedule meetings and ensure consistent attendance, which ultimately detracted from project momentum.

Despite strong support from local stakeholders, several participants found it difficult to encourage community participation in their projects. This lack of engagement was often attributed to the challenge of publicizing HEART Club initiatives. Although groups advertised through multiple channels (eg, flyers, newspapers, Facebook), they still struggled to draw sufficient interest.

Lastly, securing the necessary funding to support project goals was a common barrier to HEART Club progress. Projects often cost more than anticipated and exceeded the seed funds allocated to each group. Several participants reported compromising on certain project components due to limited budgets. One group began an intensive fundraising campaign but found it difficult to recruit donors from the community.

Discussion

The HEART Club curriculum provides a stepwise process for rural residents to improve their food and physical activity environments under the guidance of extension educators who serve as the leaders of these groups. This approach is based on the principles of community organizing and emphasizes the importance of active community involvement in creating sustainable environmental change.³⁸ Given the limited evidence from rural settings, the present pilot study was designed to evaluate the feasibility and preliminary effectiveness of this CEBEC approach. Our findings suggest that resident-led CEBEC initiatives that build upon local resources and establish feasible goals can foster environmental change in rural communities.

Extension educators successfully engaged individuals from 3 rural towns to form HEART Clubs and work toward a local environmental issue of concern. Interestingly, all 3 groups

focused on improving aspects of the physical activity environment. Although several barriers to healthy eating were identified during the community assessments and curriculum meetings (eg, limited availability of fresh produce), participants felt that these issues were more challenging to address. Incorporating examples of food environment changes and strategies for implementing successful initiatives (eg, working with store owners to highlight healthy options rather than adding new products) may give groups more confidence to tackle these issues in the future.

Participants reported improved awareness of local environmental conditions as a result of HEART Club participation. As with previous studies, we found community assessments to be a successful strategy for building awareness and setting priorities for action.^{37,43} Despite encountering several barriers, groups effectively leveraged existing resources and individual assets to achieve project goals. Involving members who were connected to local organizations was a key factor in ensuring success. Other facilitators of project success included local stakeholder support, effective leadership, and positive group dynamics. Competing responsibilities (eg, childcare, work), lack of community support, limited financial resources, and some pushback from stakeholders were cited as barriers to project implementation. These factors may have contributed to the slight decline in motivation observed among participants. In particular, town 1 faced several roadblocks to implementing their project (eg, walking permit delays, unsupportive stakeholders), which led to feelings of discouragement and low self-efficacy.

It is also important to note that we conducted extensive and regular discussions with our leaders to assess the community-wide impact of each HEART Club project. As a result, we learned that town 1 acquired a permit to host community walks shortly after the focus group discussions, which helped restore group morale. We also learned that the extent to which each initiative reached local community residents varied according to the nature of the initiative. For example, town 1 typically engaged 10 to 15 residents to participate in their bimonthly community walks. Town 2 distributed approximately 1000 brochures highlighting local physical activity opportunities at the town elementary school and community events. Town 3 began fundraising for a new community playground/fitness area designed for residents of all ages and abilities to use. To date, they have raised more than \$80 000 in funds and hosted a community build to install new playground equipment and a series of "smart" exercise stations, a significant accomplishment for this small, underserved community.

Some limitations of this research should be noted. To evaluate feasibility and preliminary effectiveness, HEART Clubs were implemented in 3 rural towns within a specific geographic region. The small sample size limited our ability to detect significant pre-post changes, and results should be interpreted with caution. However, the positive trends observed for most measured outcomes provides support for larger controlled studies. Although our sample consisted primarily of non-Hispanic white individuals, this was reflective of the racial/ethnic

composition of our study towns. The limited enrollment of male residents may have been due to the fact that our program leaders were women and more likely to know other female residents in the area. Alternatively, it may have been due to gender differences in community participation in our study towns (ie, women more commonly involved in volunteer/community services). Given the diversity of rural areas, additional studies are needed to assess the wider acceptability of this approach.

Secondly, HEART Club groups varied in size based on community interest and success of recruitment efforts. However, the groups did not differ with respect to demographic characteristics, except age. In addition, the main comparisons for this study were pre–post changes among HEART Club participants as a whole. Although pre–post changes were presented for each town (Table 3), between-group comparisons were not conducted due to insufficient sample size. This suggests that the risk of selection bias was relatively low.

Despite lower than expected response rates on the post-implementation survey (58%), we had high attendance rates across all 4 curriculum meetings (88%). This suggests that the majority of HEART Club members completed all curriculum activities and contributed to their group’s project. Additionally, no significant demographic differences were observed among participants who completed and those who did not complete the post-implementation survey. Finally, we did not formally document the reach of HEART Club initiatives across each community or assess changes in health and behavioral outcomes among residents. Determining the potential beneficiaries of community environment changes would be a valuable component of future HEART Club evaluations.

This study adds to the small but growing body of literature on built environment interventions to improve physical activity and healthy eating in rural areas. Our findings are consistent with civic engagement efforts in other rural settings.^{37,43,44} For example, the Central California Regional Obesity Program mobilized residents to conduct community assessments and help develop interventions in partnership with county public health departments.⁴³ Future improvements to the HEART Club curriculum include increased flexibility (eg, meeting structure and frequency) and inclusion of outreach or community engagement strategies. Integration with existing community groups emerged as an important strategy for broader reach and sustainability. In particular, HEART Club recruitment efforts should focus on individuals from local organizations or those with strong connections to community stakeholders. By leveraging existing infrastructure and local partnerships, groups may achieve greater success in creating built environment change and engaging residents in these efforts. Finally, creating an online support platform for HEART Club groups to share challenges, brainstorm solutions, and document positive achievements could further enhance project sustainability.

By promoting environmental changes through civic engagement, the HEART Club approach can contribute to building a culture of health in underserved rural communities. Previous studies in urban settings have shown CEBEC initiatives to be effective at shifting perceptions related to local built and social

SO WHAT?

Implications for Research, Policy, and Practice

This study highlights the potential of CEBEC initiatives to promote built environmental change in rural areas. In particular, engaging rural residents in a stepwise process involving community assessment, issue prioritization, action planning, and team-building led to successful achievement of project goals. Future studies should assess the reach of HEART Club initiatives to determine community-wide impact and evaluate the implementation of revised curricula across multiple geographic regions. Policies that support ongoing assessment and documentation of built environment resources and promote collaboration between local stakeholders and residents could further benefit these initiatives. Health educators in rural settings should consider utilizing the HEART Club curriculum to facilitate improvements in local food or physical activity environments. Additional dissemination efforts could inform new curriculum adaptations to enhance the sustainability of this approach.

environments.⁴⁵⁻⁴⁸ For example, the Food Environment Assessment using the Stanford Tool (FEAST) project engaged senior citizens from San Mateo county in documenting their food environment and advocating for changes in the prices of healthy foods. Participating members reported increased usage of community services (eg, Supplemental Nutrition Assistance Program [SNAP] benefits) and information sharing with friends, and later formed an advocacy group to improve the quality of affordable senior housing.⁴⁷ Although future studies are needed to formally evaluate the sustainability and community-wide impact of HEART Club initiatives, evidence from previous studies and our discussions with HEART Club leaders and participants suggest that this approach has the potential to shift health-related values and practices over the long term.

Authors’ Note

Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the view of the National Institute of Food and Agriculture or the USDA. Ashley E. Silver would be completing bachelors of science in May 2018.

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Supplemental Material

Supplementary material for this article is available online

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