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Evaluating Coalition Capacity to Strengthen Community– Academic Partnerships Addressing Cancer Disparities

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Abstract

The Arkansas Cancer Connection Program is a community–academic partnership between the University of Arkansas for Medical Sciences and nine community-based coalitions designed to address cancer health disparities through community-based participatory research. In 2005, a survey measuring coalition capacity was administered to 51 Cancer Council members to assess training needs and increase coalition capacity. The highest scoring components were leadership and member engagement while the lowest were development and capacity effectiveness.

Effectiveness correlated with aspects of coalition capacity. The evaluation identified training needs, which were met by projects leveraging the coalition's strengths to advance community-based participatory research addressing cancer disparities.

Keywords

Community-based participatory research; Coalitions; Survey; Cancer disparities

Introduction

Disparities in cancer have persisted in underserved communities, in part because of the lack of local community involvement in the decision-making, policy-making, and research agendas carried out by professionals without the input of community members. Community-level participation in decisions that directly affect the health and well-being of community members can no longer remain optional. Community-based participatory research (CBPR) is a collaborative process that utilizes an equitable approach to community-based program development, implementation, evaluation, sustainability, and research. It is a synergistic approach that brings together the academy (researchers) and the community (priority population) in order to develop a process for shared decision-making and ownership. Co-learning, mutual benefit, and long-term commitment are valued.

The aims of CBPR are to create social change and enhance the influence of community-based interventions. CBPR approaches are based on the assumptions that (1) underserved communities can develop the capacity to deal with their own problems, (2) people should participate in decisions that affect their communities, and (3) changes in quality of life that are initiated within the community have greater impact than changes imposed from outside the community. It is through this culturally relevant understanding that underserved communities can take action to improve the health and well-being of their own residents [1].

The mission of the Cancer Connection Program of the Winthrop P. Rockefeller Cancer Institute at the University of Arkansas for Medical Sciences is to address cancer disparities and specific community problems that may lead to cancer mortality in Arkansas. The Arkansas Cancer Connection Program is a 10-year (2000–present) community–academic partnership between the University of Arkansas for Medical Sciences and nine community-based coalitions organized as regional Cancer Councils representing ten of Arkansas's 75 counties. Localized cancer control programs, in the form of Cancer Councils, provide a means of offering effective interventions rapidly and inexpensively, making them available to underserved populations. The collaborative approach that CBPR offers allows local communities, represented through Cancer Councils, to contribute unique strengths and share responsibility for the understanding of cancer health disparities. Thus, the Arkansas Cancer Connection Program emphasizes CBPR principles related to community participation, coalition building, and the development and implementation of cancer control strategies that directly increase localized cancer screenings, early detection, and early treatment of cancer within high cancer mortality communities. In providing communities with the tools and technical assistance they need to develop practical solutions to their unique cancer problems,

the Arkansas Cancer Connection Program collaborates with the Cancer Councils through a participatory approach in assessing the assets and needs of the coalition, and in developing a research agenda responsive to community interest and priorities.

This paper describes how the Arkansas Cancer Connection Program engaged Cancer Councils through a coalition capacity instrument with the purpose of developing training protocols that leveraged community strengths to address cancer disparities. The process through which Cancer Councils were engaged in a community-based participatory manner and how the partnership addressed identified training needs are discussed. Given the importance of understanding coalition effectiveness to facilitate coalition capacity for health promotion [2], correlations were also conducted between coalition effectiveness and aspects of coalition capacity hypothesized in the literature to be associated with effectiveness (structure and processes, membership engagement, leadership, development, and ownership) [3].

Methods

Participants

The target population for this study was Cancer Council members involved in the Arkansas Cancer Connection Program. In 2005, there were ten counties involved with Cancer Connection initiatives. These counties have community coalitions in the form of local Cancer Councils that actively engage in developing and implementing cancer control projects and events. Their charge is to identify cancer-related problems in their local community, establish local cancer control priorities, identify and fill gaps in local service and delivery, improve communications between community members and local health care providers, and develop interventions that fit their respective community's unique needs. The inclusion criteria for participation in the study included being affiliated with the Arkansas Cancer Connection Program for at least 12 months. Out of the nine Cancer Councils, seven met the inclusion criteria and were invited to participate in the study through completing the survey instrument. Two counties did not participate because of scheduling conflicts and changing of leadership. Thus, five Cancer Councils met the inclusion criteria and accepted the invitation to complete the survey instrument.

Survey Instrument

In 2005, we developed a survey assessing five domains of coalition capacity, coalition effectiveness, level of Cancer Council participation, and demographic characteristics. The survey consisted of the following:

We used the Community Coalition Action Theory [3] and the Coalition Technical Assistance and Training (CTAT) framework [4, 5] to develop the *Coalition Capacity Index*. We identified the following domains from the CTAT framework: leadership, members, structure, process, and stages of development [4]. We adapted validated scales developed by Butterfoss et al. [6, 7] and Kegler et al. [8] to assess coalition structures and processes, membership engagement, leadership effectiveness, and stages of coalition development. We adapted Israel et al.'s [9] perceived control scale items to create a scale measuring perceived

coalition ownership. Internal reliability analysis via Cronbach alpha was evaluated for each scale.

The *Leadership* items (15 items) assessed the degree that the coalition reflected a collaborative leadership model, resolved conflict, and provided guidance in Cancer Council activities.

The *Membership Engagement* portion (10 items) assessed the degree to which coalition members were active in the coalition and participated in coalition goals, plans, and activities.

The *Structures and Processes* section (10 items) assessed coalition members' perceptions of the organization and productivity of coalition meetings.

The *Development* (15 items) part of the inventory measured the coalitions' implementation of action plans, needs assessments, influence, and recognition in the community as an authority on issues related to cancer.

The *Ownership* section (8 items) assessed coalition members' perceived influence in partnership decisions.

We modified Taylor-Powell et al.'s [10] Impact on Group on Members Scale within the Community Group Member Survey to create a *Coalition Effectiveness* scale (15 items) that measured coalition capacity and efficacy to conduct asset and needs assessment, generate resources, work with others, and solve community problems. Responses were recorded on a 4-point Likert scale.

Level of Cancer Council participation (13 items) was measured based on members' length of service in the coalition, number of meetings attended in the last 6 months, time dedicated to the coalition, and events planned outside of coalition meetings.

Demographics (5 items) of coalition members were assessed, including age, gender, race, education, and type of organizational affiliation (e.g., law, health, religious organization).

We used the above-mentioned scales to create the Coalition Capacity Index and the Coalition Effectiveness Scale, and adapted the measures to the Cancer Councils. Validity of the survey items and constructs were evaluated under a two-tier system. Validity refers to the appropriateness, meaningfulness, and usefulness of inferences drawn from the use of the instrument [11]. Tier 1 consisted of the evaluation of a rough draft of the survey by academic investigators. After consensus related to content importance, readability, and understandability of the survey items, each local Cancer Council chair was informally interviewed (tier 2). Input was solicited from all nine Cancer Council chairs in regard to content importance, readability, and understandability of the survey and how it directly applied to their local situations. After the modifications and improvements of the survey as suggested by Cancer Council chairs, the survey was finalized.

Survey Administration

Data collection took place during local Cancer Council meetings scheduled during an 8-week period in October 2005. The chair and co-chair of each eligible Cancer Council were contacted to coordinate the administration of the survey during a Cancer Council meeting. Once the date was scheduled, the survey was administered at the Cancer Council meeting. The survey was administered to each Cancer Council once. The paper and pencil survey was distributed to members of each eligible Cancer Council who volunteered to complete the survey. The survey took approximately 10 to 20 min to complete, and participants were given a \$20 gift certificate for their effort and support. The study was approved by the University of Arkansas for Medical Sciences Institutional Review Board.

Results

Characteristics of the Sample

Fifty-one Arkansas Cancer Connection program participants completed the survey, representing five Cancer Councils. Participants completing the survey comprised 59% of members from Cancer Councils ($n=84$) that were eligible to participate in the study and represent members that actively participate in Cancer Connection program processes and events. Demographic characteristics of Cancer Council members who completed the survey are listed in Table 1. About half (53%) were between the ages of 45 and 64 years, with the majority being female (69%). Nearly half (45%) were college graduates. A large proportion of members surveyed were White (69%), and a third (29%) were African-American. The Cancer Council members who took the survey primarily represented organizations in the areas of health and medicine (21%), social service (22%), education (16%), and individual citizen groups (15%).

Coalition Capacity Index and Coalition Effectiveness

Means and standard deviations for each domain within the Coalition Capacity Index administered to members of the Arkansas Cancer Councils are reported in Table 2. Low scores on a domain indicate low levels of coalition capacity; high scores indicate high levels of coalition capacity.

The reliability of the adapted scales was comparable to the reliability of previously validated scales, with adapted scales having Cronbach alphas ranging from 0.88 to 0.95 and validated scales reporting Cronbach alphas ranging from 0.71 to 0.92.

Item constructs that scored the highest (ratio of actual score by the maximum score allowed) were *Leadership* (Cronbach $\alpha=0.95$) (84.4%), *Member Engagement* (Cronbach $\alpha=0.90$) (81.5%), *Structures & Processes* (Cronbach $\alpha=0.93$) (80.3%), and *Ownership* (Cronbach $\alpha=0.88$) (80.0%). Item constructs that showed the lowest was *Development* (Cronbach $\alpha=0.92$) (79.5%).

Arkansas Cancer Councils reported a mean coalition effectiveness score of 47.9 (6.9) out of 60. The ratio of the actual score by the maximum score allowed was 79.8%. The Cronbach α for the scale was 0.93.

Scales from the Coalition Capacity Index were used to assess the correlations between coalition effectiveness and structure and processes, membership engagement, leadership, development, and ownership. All aspects of coalition capacity were significantly correlated with effectiveness (Table 3).

Level of Cancer Council Participation

Results of the measurements of Cancer Council participation are shown in Table 4. Over half of the respondents (55%) reported that the partnership shared a common vision that linked diverse interests and worked collaboratively in sharing and controlling resources to meet group interests. A little less than half stated that although members worked together on group goals, there was little to no sharing of resources to accomplish agreed-upon goals.

A little over half (56%) of surveyed Cancer Council members had been members of the partnership for at least 2 years. The majority (90%) had attended partnership meetings within the past 6 months. Fewer responding members (61%) attended meetings regularly for more than 6 months. A large proportion of members participating in the survey (84%) reported active communication during meetings within the last 6 months, which was an improvement over the 55% who stated that they expressed ideas and made comments during partnership meetings in the prior past 6 months. Fifty-eight percent of members reported that they have served as part of an activity committee within the past 6 months, whereas 42% of members reported participation on an activity committee prior to the past 6 months. Activity and time dedicated to the Cancer Council outside of meetings were reported by 56% of participants within the past 6 months. Conversely, only 40% reported outside activity being performed prior to the past 6 months.

Participation in organizing Cancer Council events outside of meetings within the past 6 months was reported by 55% of the surveyed membership, whereas 40% reported organizing Cancer Council events prior to the past 6 months. Fifty-five percent of participants reported that they directed the implementation of a particular Cancer Council program/activity within the past 6 months, whereas 41% directed the implementation of particular programs/activities prior to the past 6 months.

Cancer Council activities and events confirm the Cancer Councils' active engagement in the community. In 2005, when the survey was administered, Cancer Councils organized ten community-wide cancer control events and screened 54, 173, and 75 community members for breast cancer, prostate cancer, and colorectal cancer, respectively.

Discussion

Information from the survey showed relatively high levels of Cancer Council participation and collaboration between partners. This result was consistent with the high levels of membership engagement, and structure and processes reported in the survey. Partners reported high levels of effective communication within the coalition, sense of shared mission, and broad-based participation from diverse stakeholders within the Cancer Councils' respective communities, which were reflected in the coalitions' demographics.

Areas of potential improvement within the Cancer Connection Program centered on coalition effectiveness and the *Development* domain of the Coalition Capacity Index, particularly in the areas of training protocols, program planning, and program implementation. Partners specifically reported lower capacity in providing training on emerging cancer initiatives, taking lead responsibility for Cancer Council tasks, influencing local policies, and effectively designing, implementing, and evaluating action plans.

Coalition effectiveness was positively correlated with coalition structure and processes, membership engagement, coalition leadership, coalition development, and coalition ownership, suggesting that these aspects of coalition capacity may be important to build the level of coalition effectiveness necessary to change health outcomes.

Translating Survey Results to Strengthen

Community–Academic Partnerships—In response to survey results, academic partners worked with community partners in developing a training curriculum (Arkansas Community Action Training) to address identified weaknesses within the partnership.

The Arkansas Community Action Training (ARCAT) is an adaptation of the San Francisco Department of Public Health’s Community Action Model. Specific topics within the original Action Model were adapted to meet the needs of the Arkansas Cancer Councils. Given the partnership’s expressed needs in developing and implementing programs and action plans, the ARCAT included topics related to issue identification, asset mapping and needs assessment, designing a community diagnosis, and development and evaluation of programs. The partnership’s diverse membership and strong collaborative relationships were built upon in adapting the materials. Collaborative creation of the ARCAT also met the group’s needs for training protocols and skills in training materials development, as identified in the survey. The training was conducted for all Cancer Councils at regular Cancer Council meetings from March 2006 to October 2006.

To facilitate application of materials and methods learned from the ARCAT training, the partnership implemented a series of three incremental activities: a planning project, a community development project, and a pilot research project. The projects served as a practical exercise in developing, implementing, and evaluating cancer control programs, and enabled members to establish skills in implementing action plans and program development. Each project led to the next project, to gradually exercise skills learned from the ARCAT training. The project also gave Cancer Councils the opportunity to train new members and apply previously established training protocols, an identified weakness in the partnership.

Implications

Evaluating a partnership through a simple survey was a practical and invaluable tool to assess partnership strengths and weaknesses and identify training needs. The processes of evaluation and implementing strategies to meet the identified needs also served to strengthen the group through collaborative interactions between community and academic partners. The survey identified tangible points for discussion and provided focus to develop detailed action plans for partnership advancement.

Results from the survey prompted efforts to strengthen the partnership in practical, tangible ways. In the case of the Arkansas Cancer Connection Program, a training curriculum (ARCAT) was developed, which included the implementation of several projects addressing cancer disparities through which the partnerships applied learning. Four Cancer Councils each received a \$1,000 planning project award to develop an application for the community development project. Academic partners met regularly with community partners of awarded Cancer Councils to develop projects to address cancer disparities within the Cancer Councils' local communities. In addition to the planning projects, three of the four Cancer Councils completed Community Development Project applications. Of the three, two Cancer Councils were awarded \$10,000 to implement a pilot project. The projects advanced community-based participatory research addressing cancer disparities and served as a stepping stone for large-scale community-based participatory research interventions.

Community-based participatory approaches have proven to be important tools to help eliminate disparities in health, and further examples of how to strengthen partnerships and implement collaborative approaches are needed. The experiences of the Arkansas Cancer Connection Program provide a practical example by which other community-academic collaboratives can strengthen their partnerships to address cancer disparities in a community-based participatory manner.

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Table 1Coalition members' demographic characteristics ($n=51$)

Variable	Sample no. (%)
Age	
Under 30 years	4 (8)
30–44 years	15 (29)
45–64 years	27 (53)
65 or older	5 (10)
Gender	
Female	35 (69)
Male	16 (31)
Education	
High school/GED	9 (18)
Some college	10 (19)
College graduate	23 (45)
Graduate school	8 (16)
Post-graduate school	1 (2)
Race/Ethnicity	
White	35 (69)
Black	15 (29)
Hispanic	1 (2)
Areas represented by members' organizations	
Business	4 (8)
Law/Judicial	4 (8)
Health/Medical	11 (21)
Education	8 (16)
Individual citizen group	8 (15)
Faith-based/religious	1 (2)
Social service (public/private non-profit)	11 (22)
Other	4 (8)

Table 2

Coalition Capacity Index

Domain	Mean (SD)
Structure and processes (out of 40)	32.1 (5.3)
Membership engagement (out of 40)	32.6 (4.2)
Leadership (out of 60)	50.5 (6.5)
Development (out of 60)	47.7 (7.9)
Ownership (out of 32)	25.6 (3.5)

Table 3
Pearson correlations of effectiveness with other domains from the Coalition Capacity Index

	CE	SP	ME	LEA	DEV	OWN
Capacity effectiveness (CE)	1					
Structures and processes (SP)	0.370 [*]	1				
Membership engagement (ME)	0.522 ^{**}	0.528	1			
Leadership (LEA)	0.633 ^{**}	0.578	0.512	1		
Development (DEV)	0.747 ^{**}	0.477	0.616	0.746	1	
Ownership (OWN)	0.680 ^{**}	0.333	0.525	0.632	0.752	1

^{*} $p < 0.01$

^{**} $p < 0.001$

Table 4Level of Cancer Council participation ($n=51$)

Variable	Sample no. (%)
Level of member interaction	
Exchange information and communication	1 (2)
Some joint planning and activity with separate resources	10 (20)
Work together on goals with some sharing of resources	12 (23)
Actions are jointly created and resources are controlled by group	28 (55)
Length of membership in Cancer Council	
Less than 12 months	12 (23)
12–23 months	11 (21)
24–35 months	14 (28)
36–48 months	14 (28)
Attended meetings within the past 6 months	46 (90)
Attended meeting regularly beyond 6 months	31 (61)
Active communication during meetings within the past 6 months	43 (84)
Active communication during meetings prior to the past 6 months	28 (55)
Served on the activity committee within the past 6 months	30 (58)
Served on the activity committee prior to the past 6 months	21 (42)
Activity and time dedicated to the Cancer Council outside of meetings within the past 6 months	29 (56)
Activity and time dedicated to the Cancer Council outside of meetings prior to the past 6 months	20 (40)
Organized Cancer Council events outside of meetings within past 6 months	28 (55)
Organized Cancer Council events outside of meetings prior to past 6 months	20 (40)
Implemented a Cancer Council activity/event within the past 6 months	28 (55)
Implemented a Cancer Council activity/event prior to the past 6 months	21 (41)