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Title: Evaluation of community-academic partnership: Lessons from Latinos in a Network for Cancer Control

J. Hope Corbin, Maria E. Fernandez and Patricia D. Mullen

Abstract:

Established in 2002, Latinos in a Network for Cancer Control (LINCC) is a community-academic network supported by the Centers for Disease Control and Prevention and the National Cancer Institute. LINCC includes >130 individuals from 65 community and academic organizations committed to reducing cancer-related health disparities. Using an empirically derived systems model—the Bergen Model of Collaborative Functioning—as the analytic frame, we interviewed 19 partners to identify challenges and successful processes. Findings indicated that sustained partner interaction created “meaningful relationships” that were routinely called upon for collaboration. The leadership was regarded positively on vision, charisma, and capacity. Limitations included over-reliance on a single leader. Suggestions supported more delegation of decision-making, consistent communication, and more equitable resource distribution. The study highlighted new insights into dynamics of collaboration: Greater inclusiveness of inputs (partners, finances, mission) and loosely defined roles and structure produced strong connections but less network-wide productivity (output). Still, this profile enabled the creation of more tightly defined and highly productive sub-groups, with clear goals and roles but less inclusive of inputs than the larger network. Important network outputs included practice-based research publications, cancer control intervention materials, and training to enhance the use of evidence-based interventions, as well as continued and diversified funding.
Keywords: Community-academic partnership, collaboration, leadership, roles, sustainability, Bergen Model of Collaborative Functioning

Culturally responsive health promotion and disease prevention practices aimed at reducing health disparities requires linkage between academics and the community organizations serving marginalized groups (Schwartz & Goodman, 2000). A mechanism for this linkage is the community-academic partnership (Norris et al., 2007). Understanding the functioning of these arrangements is crucial to the success of these partnerships and, thus, the promotion of health and prevention of disease. However, it is important that assessments of functioning not be limited to one perspective (Rubin, 2000). Studies are needed to provide a holistic and balanced look at these arrangements from both the community and academic points of view. Thus, the purpose of this study was to apply a systems model, the Bergen Model of Collaborative Functioning, to evaluate a long-standing community-academic partnership and examine its positive and negative processes.

A recent study of a community-academic partnership with the aim of disseminating evidence-based programs (EBPs) found that success was facilitated by a history of positive interaction between the community and university partners, leaders who recognize the long-term benefit of sharing responsibility and planning, and academic partners with knowledge and skills for implementing EBPs (Teal, Moore, Long, Vines, & Leeman, 2012). Tensions arose as a result of a lack of common definitions for discussing EBPs and disagreement about the importance of fidelity in implementing EBPs (Teal et al., 2012). Another study from urban planning found that the varying incentives and agendas of community and academic partners can at times be in conflict, and that even when agendas are well-aligned either party may lack capacity or institutional space to deliver on their objectives (Ferman & Hill, 2004). Bringle and Hatcher (2002) examined an array of community-academic partnerships (including research, outreach, extended education, service learning) and described them as
a series of interpersonal relationships. They underscored the importance of examining these relationships and the dynamics of interactions across phases of development. One weakness of the literature described here is the lack of a standardized approach that would enable comparison with other community-academic partnerships, as well as other partnerships generally.

The present study addresses this weakness by evaluating a community-academic partnership using a standardized and empirically derived framework— the Bergen Model of Collaborative Functioning (BMCF)—to guide the inquiry and analysis (Corbin & Mittelmark, 2008). The BMCF (see Figure 1) is a systems framework that focuses on the examination of partnership functioning according to inputs, throughputs, and outputs, identifying key elements within each to provide a holistic view of partnership processes while preserving context. Inputs are mission, partners, and financial resources (what, why, who, and how much). Throughput involves input interaction, leadership, communication, roles, and procedures (how). The throughput section also recognizes that positive (indicated by the “+” arrows) and negative (“−” arrows) cycles of interaction are created by the interaction of these factors as well as by the feeding back of outputs. Outputs are additive results (2+2=4), synergy (2+2=5), and antagony (2+2=3 or 0). The model also recognizes and examines interactions between these elements within the context in which the partnership takes place (where and when). The benefit of using this model as an analytical frame for qualitative research is that it suggests system-level interaction of individuals’ experience by allowing the examination of multiple factors simultaneously and dynamically—acknowledging that antagony is always present in collaborative work (Corbin, Mittelmark, & Lie, 2011).

The BMCF was created to explain the data collected in a case study of a health promotion partnership (Corbin, 2006) and has been subsequently employed to examine numerous collaborative arrangements (Corbin, Mittelmark, & Lie, 2012, 2013; Corwin, Corbin, & Mittelmark, 2012; Endresen, 2007; Kamau, 2010).
The BMCF encompasses and accounts for multiple aspects of partnership functioning and has been demonstrated to apply to a wide range of partnerships, including the IUHPE Global Programme on Health Promotion Effectiveness (Corbin & Mittelmark, 2008); the Norwegian ACTIS alcohol policy partnership (Endresen, 2007); a pan-sector, hospital-based nutrition improvement project (Corwin, Corbin, & Mittelmark, 2012); a North-South partnership for HIV/AIDS (Corbin et al., 2011); a health-promotion partnership in Kazakhstan (Dosbayeva, 2010); a community-based health-monitoring partnership in Kenya (Kamau, 2010); as a model for practice in the IUHPE Student and Early Career Network (Corbin, Fisher, & Bull, 2012); and as an evaluation tool for a five-year European research project involving over 100 scientists from more than 25 countries and 29 different disciplines.

This is the first study that applies the model to examine a community-academic partnership in the U.S. We chose this analytical model to examine Latinos in a Network for Cancer Control (LINCC) to guide the evaluation, analysis, and description of LINCC collaborative functioning and compare the findings to the general health-promotion literature. We expect that these findings will contribute to the literature on maximizing these relationships. This frame helped to directly answer the following research questions: 1. What linkages and interactions between input, throughputs, and outputs contribute to positive functioning (resulting in synergy)? 2. What linkages and interactions between input, throughputs, and outputs contribute to negative functioning (resulting in antagony)?

Latinos in a Network for Cancer Control

The community-academic partnership evaluated in this study is Latinos in a Network for Cancer Control (LINCC). LINCC was established in 2002, funded by the Centers for Disease Control and Prevention through the Prevention Research Centers Program and the National Cancer Institute. The
grant funded the development of LINCC as a Cancer Prevention and Control Research Network (CPCRN) (LINCC, 2013). Recently, LINCC activities have increased and expanded largely due to additional funding of another community-network research initiative, the National Cancer Institute’s Community Network Program (CNP). LINCC currently represents over 130 individuals from 65 organizations in academic and community settings.

Methods

Study design

The study followed participatory evaluation and action research approaches involving stakeholders at each stage of research and intending to improve the practice of the network as well as study it (Green & Thorogood, 2009). The external evaluator (first author) conducted the interviews and performed the data analysis with input from stakeholders who also assisted with interpretation of the results. The study was approved by the Institutional Review Board for the University of Texas School of Public Health.

Data collection and purposive sampling

The external evaluator conducted 19 interviews between September 2012 and January 2013. The interviews lasted between 20 and 75 minutes, with the majority lasting 60 minutes. Eleven interviews were conducted via telephone and eight interviews were conducted face-to-face. Of the 19 interviewees, four were project staff at academic institutions; six were researchers from academic institutions (5 current, 1 former partner); nine were community partners (8 current, 1 former partner). The interviewees were selected in an emerging process with a starting sample of a few initial participants suggested by the leadership and subsequent interviewees suggested by other partners. Partner suggestions were taken up
according to the purposive selection criteria. That is, we selected the sample to reflect a breadth of partner experience, representing different levels of engagement, lengths of involvement, and location.

The interviews incorporated a mix of open-ended questions (intentionally allowing participants to present their perceptions of the most important information)\(^2\) and more guided questions\(^3\) addressing the major elements of the theoretical framework described above (Kvale & Brinkmann, 2008). The interview guide was developed by the external evaluator based on elements of the BMCF, using interview guides from other BMCF research to guide its creation. The interview guide was presented to three network partners for input and approval.\(^4\) All participants were asked about their role in LINCC and to provide a description of their activities, perceived benefits, challenges, communication, leadership roles, and the interaction of partnership inputs. The exact content of the interviews varied depending upon the role and level of engagement of the partner. The interviewer took notes during the interviews and audio-recorded discussions for transcription.

**Data Analysis**

During initial interviews and examination of notes, the first author coded the data and identified themes. During the interviews, emerging themes were presented back to subsequent interviewees to increase validity through member-checking and to allow them to participate in the interpretation of findings (Creswell, 2003). Since this was done during the course of the interview, this interpretation and validation became a part of the data itself. The external evaluator examined the interview transcripts for emerging themes and categorized them according to the BMCF framework. Emerging patterns were noted. Preliminary findings were presented back to some members of the network for feedback at a

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\(^2\) Example of an open-ended question: “Tell me about your involvement with LINCC.”  
\(^3\) Example of more structured questions: “What is the Mission of LINCC?” and “Are there formal roles and procedures?”  
\(^4\) The interview guide is available by request from the first author.
presentation in November 2013. As a final step, the original quotes were reconnected to themes for reporting.

**Results**

The results present the functioning of LINCC according to the elements of inputs (partners, financial resources, mission), throughputs (input interaction, leadership, roles/procedures, communication, and context), and output (synergy and antagony) as presented in the BMCF.

*Partners*

Depending upon their level of involvement, partner contributions varied greatly. Some committed partners invested significant time, skills, and knowledge to LINCC activities, while other more peripheral members were less involved. Contributions to LINCC varied depending upon the type of partner—for instance, community partners brought access to community members, insights and knowledge of local practice and context-specific problems, and networks of *promotoras* (community health promoters), while academic partners brought funding opportunities, expertise in grant writing, evaluation, and, most importantly, state-of-the-art evidence-based practice recommendations.

*Financial Resources*

LINCC both received and distributed financial resources and relied on funding from large national funding agencies. The uncertainty of such funding resulted in some anxiety among the academic leadership who were concerned about the sustainability of the network and preserving the staff positions that kept LINCC going.

> It’s very stressful because (we have) a big team and they all have families and (we want) to keep them employed.
The uncertain fiscal context led LINCC to become creative and broaden, expand, and combine funding sources and activities to support the infrastructure of the network, helping it to weather some difficult times.

**INSERT TABLE 1**

*I think the whole arrangement with (another academic institution) has really paid off both ways.*

*We offer resources they can’t provide and vice versa so that’s been pretty successful.*

However, while this flexibility enabled LINCC to continue operating, multiple projects and missions also created confusion among partners about the mission and their role. When funding came from new sources, some partners had trouble recognizing what activities were “LINCC” and what had to do with other projects.

*The partners-- I’m sure they’re confused. I can’t imagine they wouldn’t get confused.*

The financial support LINCC provided to its partners was critical to their ability to engage in network activities. LINCC was often able to support community partners’ travel to meetings around the state. Networking in such meetings has also resulted in spin-off projects that applied for separate, but related grants.

LINCC provided some direct funding in the form of mini-grants. Although mini-grants have not done much to motivate larger, bigger-budget community partners, they have meaningfully supported some smaller organizations and they provided a mechanism through which other projects could readily fund mini-grants.

*The LINCC grant was small—we got only $XXXX, but it came in very handy... I think it helped us with things that we would not be able to afford.*

**Mission**
When asked about LINCC’s mission, partners gave multiple answers that ranged from the broad notion of bringing together people in Texas working on cancer in Hispanic/Latino populations, to a more specific mission of accelerating the adoption of evidence-based programs in underserved populations. One academic partner described some of the local LINCC activities s/he was doing and how s/he tried to engage partners in a variety of different activities to appeal to their interests.

*We do some tangible things that anybody can get their brain around, which is good when you’re working with communities. Research is a little less tangible. How long do we have to study before we get an outcome? So we have a mix of things. There’s the more obvious and demonstrated kinds of interventions and then there’s our longer term... It can live through the length of time it takes to do that kind of research because we’re doing a mix of things.*

As described earlier, the combining of divergent revenue streams resulted in some ambiguity among partners in understanding LINCC’s mission. One participant discussed the issue of network sustainability, noting that an important LINCC activity was securing funding to maintain the network. This was seen as necessary because the infrastructure of the network made so much other work possible; yet the effort of seeking funding to support the infrastructure detracted from the primary mission.

*Input interaction*

There was a wide diversity of engagement among partners within the network. Some academic partners had small portions of their salaries paid by LINCC funds; some community partners were “sub-contractors” who received direct funds; and others were mini-grant recipients who also had financial ties. These financial commitments often translated into higher levels of accountability.

Changes in the primary funders’ priorities (mission) significantly affected the way partners engaged and the activities on which the leadership focused.
When [particular grant] first started, there was a lot of emphasis on both the research side and helping community partners use evidence-based practices. So there was a lot of encouragement to provide training and to talk about technical assistance that we’d done with our partners. Now, the emphasis is more on dissemination, implementation research. And we’re still expected to provide this infrastructure for the partners, but don’t get as much credit for it (from the funding organization).

Different partners had varying opinions of LINCC’s engagement with community partners. Interestingly, the community partners consistently described LINCC as participatory, whereas some academic partners, citing rigorous definitions of participation, were more critical.

It’s not really a full partnership. (The community) didn’t come to us with the idea, “this is our need”. You go through those criteria and lots and lots of people around the country are not doing [Community Based Participatory Research] even when they sort of talk the talk. It’s high standards. It doesn’t mean the partnerships aren’t well intended; they’re just not very equal.

In contrast, some community partners said they felt they had power to make things happen within LINCC. For example:

After that presentation I went up to (academic partners) and I (questioned the way they were doing an aspect of an initiative)....After that they really took it to heart and they said you’re right, let’s change it. They (substantially changed the initiative). Now it’s been transformed... That is the rewarding stuff that you get from participating because you do make a difference by speaking up and bringing the background you have already.

LINCC has operated as a network since 2002. During that time, partners had the opportunity to get to know and work together. Interviewees described this longevity and activity as a rich way to
engage with the resources in their field and described developing working relationships that they returned to year after year. One participant described this experience as follows:

“So, you're talking on the phone and you're e-mailing all of the time and you're sharing resources. So then you become great friends in the process. For example with this (one project), I participated, working closely with (LINCC partner) on that. But then I branch out and I work with the national group. It's ongoing work... It becomes very meaningful. It's a meaningful relationship.

Leadership

LINCC’s founder was considered the central leader of the network, with regional areas also having respected academic leaders. Community and academic partners spoke of the founder in highly positive terms, using phrases such as motivational, cutting-edge, charismatic, respectful, down-to-earth, knowledgeable, well-rounded, a born leader, visionary, professional, well-known, creative, ambitious, experienced with EBP, sympathetic, a mentor, good at making connections, and good at giving direction. One participant commented:

[She] tends to listen and sympathize and keep moving the conversation further.

More critically, there was also wide recognition among the interview participants that the leader had many competing demands on her time and that this at times negatively affected network functioning because questions could not be immediately answered or projects could not move ahead in a timely manner. Therefore, suggestions for improvement in leadership included ideas for sharing decision-making among a leadership team, delegating some responsibilities and functions to others, and surrounding the leader with additional organizational support.
Roles and Procedures

LINCC had an informal structure according to the study participants, including loosely defined roles, intermittent communication, and multiple missions. This allowed the network to be flexible in some important ways—incorporating new funding streams and including many diverse partners, for instance. The lack of clarity also caused some confusion, tension, and loss of productivity.

I wasn’t quite sure what my role was supposed to be, which may have made me less involved than I might have been. There were many times that I’d wished that I knew more about what I was supposed to do.

One participant also recognized a need to formalize the procedure for community partners to seek capacity-building and/or grant-writing assistance from academic partners. In the past, the process was informal; this informality had the potential to be unfair, such as when one community partner gets intensive assistance in writing a grant and others who may have desired the same level of assistance do not. This participant thought formal procedures would facilitate more equity for this type of collaboration.

Communication

Communication within LINCC most often took place through email and face-to-face meetings. Some of the highly involved academic partners met regularly via conference calls or the University of Texas video conferencing system. Communication was hindered by some of the confusion of roles, mission, and the merging of different funding streams. Many recommendations for the network centered around improving communication, including ideas such as labeling all email subject lines “LINCC” so they are clearly identifiable, using the LINCC logo more routinely, creating a regular newsletter, and updating and expanding the website.
Context

The competitive environment of academic funding and promotion caused some tensions between academic partners and created conflicts in terms of serving the community.

[Junior faculty member] needs to get more grants. So, there’s that struggle-- how much can we use [this person’s] time or how much can we demand [grant writing for community partners] where somebody else is going to be the Principal Investigator... really what’s going to help [him/her] succeed... It is tricky.

Context also appears to have influenced the responses of participants in this study. Participants from different areas and fields seemed to have similar feedback about the network. For instance, many interviewees from the Brownsville area (a rural, impoverished, oft-neglected area in the Rio Grande Valley) characterized LINCC as inclusive. As mentioned earlier, academic respondents who study community-based participatory research methods were less apt to describe LINCC as sharing power.

Synergy

Synergy is achieved when the inputs of collaboration create a greater impact that what any of the individual partners and resources could have achieved on their own. Over its 12-year history LINCC has facilitated numerous synergistic products. Among these were the development and evaluation of several interventions to address cervical cancer prevention and screening (Fernandez, Savas, Lipizzi, Smith, & Vernon, 2014); the development of a system of referral and navigation through the United Way 211 call service (Hall et al., 2012; Lairson, Huo, Ricks, Savas, & Fernández, 2013; Purnell et al., 2012; Savas, Fernández, Jobe, & Carmack, 2012); the dissemination of effective breast and cervical cancer
interventions (Harris et al., 2004); and the development of training to increase partner capacity to find, adapt, and implement evidence-based cancer-control interventions (Fernandez et al., 2009; Hannon et al., 2010). Other products included grant funding for member organizations, such as the Cancer and Chronic Disease Consortium of El Paso who received a large grant to implement a breast and cervical cancer screening program built on preliminary work completed through an LINCC mini-grant.

Antagonism

Antagonism is defined as a negative result of collaborative functioning where something is lost in the process, rather than gained (Corbin & Mittelmark, 2008). Antagonistic results are an absence of output and can erode the network by leading to either a willing or imposed withdrawal of partner and/or financial inputs. As described above, LINCC has experienced some negative processes that can be defined as antagonism. For instance, the lack of secure financial resources threatened to cut (paid) partners out of the network and caused an atmosphere of anxiety for the leadership. Confusion about mission led some partners to lack clarity about their role and potentially diminished their contribution, as indicated by the partner comments above.

Discussion

Given that connections to community are essential in the development and dissemination of evidence-based practice, learning how to foster relationships is of utmost important to the fields of health promotion and disease prevention. Thus, the purpose of this research was to examine the processes within LINCC that contribute to the production of synergy as well as antagonism. The results of this study confirm a number of the findings of Teal et al. (2012), who found that success was facilitated
by a history of positive interaction between community and university partners. LINCC has successfully created and sustained meaningful relationships with community providers for 12 years (with some natural turnover). The findings of this study also show that the authentic commitment to community-academic work and appreciation of its value by the leadership strengthens the partnership. Several participants in the study spoke positively about LINCC’s leader and she was seen by all as committed and as a strong driver for connecting people and hearing their points of view. Questions about “sharing responsibility” elicited divergent responses from partners. While some of the academic partners expressed doubt about LINCC’s involvement of community partners in decision-making (relating this to periodic reorientation in response to the demands of the funding institutions), community partners spoke positively about feeling included and having their voices heard.

Ferman and Hill (2004) found that varying incentives and agendas of community and academic partners caused conflict for engaging in community-academic partnership. One participant in our study described how LINCC goes to great effort to vary their activities so that there is a balance of initiatives catering to the diverse agendas of both categories of partners. An example of how agendas and motivation for participation vary even among community partners is that bigger organizations had no need for the small amounts of money offered by LINCC’s mini-grants (a significant motivator for smaller organizations), but were instead motivated by access to cutting-edge information on EBP and developing relationships.

According to the findings, LINCC is a valuable forum for community voices to be heard by academic partners to strengthen EBPs and increase their relevance to underrepresented populations. However, structures within academia and funding institutions don’t necessarily reward these partnerships and may actually impede their development or sustainment. Time spent engaging with the community is not rewarded by funding institutions or in promotion within universities. Indeed,
traditional metrics of academic success (grants and publication) may actually take longer when the community is authentically engaged. In this way, the academic context—even within professional schools such as a school of public health—works against authentic engagement with community partners and thus dampens the potential relevance and cultural insights that could be provided by deep collaboration.

The results of this study and its application of the Bergen Model of Collaborative Functioning as an analytical frame provide new insight into the effect of formalized roles and structure in a community network. LINCC does not have rigorous requirements for joining the network—anyone with an interest in the broad mission can join and be a member. Similarly, this broad and inclusive mission also enables multiple funding streams to be included. The broader the mission, the more people and funders can see how their goals fit within those of the network. So with regard to inputs, LINCC is quite open and therefore inclusive. Other research using the BMCF has observed that collaborations with narrower missions and clearly defined roles spur production activities (Corbin, 2006; Endresen, 2007). Indeed, this can also be seen in LINCC when working groups spin off and work on projects with more short-term goals and defined products. Therefore, the formality of roles and structure can be conceived of as a dial: if the dial is loosened to include a broader mission and less clearly defined roles, you open the collaboration to more input but get less production; if you tighten the dial to focus on a specific mission, assigning roles to partners and providing financial support for specific products, you close the collaboration to some inputs but the findings suggest this may increase the output (see Figures 2 and 3).

**INSERT FIGURES 2 and 3**

The findings of this evaluation point to some factors that may be relevant to practitioners seeking to strengthen their community-academic partnerships; however, it is important to recognize that the findings here may not be generalizable since they convey data from a single case. It should also be noted
that the external examiner might have been seen by community partners as an “academic” and that this may have impacted the responses they gave. The analysis was performed by the external reviewer to ensure that personal impressions of functioning from “insiders” were limited. It is possible, however, that limiting the analysis to a single coder may have biased results in a different direction. To preserve anonymity of our participants, we have not connected demographic detail or counts to specific statements; we recognize that this may limit readers’ ability to assess the findings. A last limitation of this study was the use of a particular analytical framework, which might have limited the information collected and the interpretation of findings. Special care was taken to note and report outliers, but it is still possible that the application of the model introduced bias.

Conclusions

From the evaluation of LINCC’s 12-year history the following recommendations for practice can be suggested: 1. Long-lasting, informal, inclusive networks provide a steady, fertile soil from which smaller, production-oriented partnerships can blossom. 2. Long-term interaction of this kind creates meaningful connections where partners can see people work consistently over time and know who to go to when projects or funding opportunities arise. 3. This kind of network is valuable, and funding needs to be available to support the infrastructure enabling the cultivation of such networks. 4. It is important to recognize the trade-offs in partnership in terms of formality, flexibility, and inclusiveness and to make thoughtful decisions about the benefits and drawbacks of making choices one way or the other.

References


