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Instrument for evaluating dimensions of group dynamics within community-based participatory research partnerships

Amy J. Schulz*, Barbara A. Israel, Paula Lantz

School of Public Health, University of Michigan, 1420 Washington Heights, Ann Arbor, MI 48109-2029, USA

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Abstract

We describe the development, adaptation, and use of evaluation approaches assessing key dimensions of group partnerships. A review of relevant literature describes the rationale for the evaluation of partnership dynamics, and the selection of relevant dimensions for evaluation and assessment. Three case studies are presented to illustrate the use of this evaluation instrument in community-based participatory research partnerships to assess key dimensions of partnership process. The use of evaluation results in self-assessment and partnership development are described and lessons learned in the application of these results are discussed. Finally, we discuss the potential, challenges, and areas for further development of evaluation tools to assess group dynamics in partnership efforts.
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1. Introduction

As attention to racial and ethnic disparities in health has burgeoned, researchers, funding agencies, and community groups have sought strategies to address these differential health outcomes. One such strategy involves engaging representatives from service providing, community-based, and academic organizations who pool expertise, resources and energies to address the complex public health problems that contribute to health disparities. Funding agencies, participants and evaluators have shown considerable interest in assessing such partnerships and their effectiveness in addressing public health problems (Butterfoss, Goodman, & Wandersman, 1996; Florin, Mitchell, & Stevenson, 1993; Francisco, Paine, & Fawcett, 1993; Green & Krueter, 1992; Lasker, Weiss, & Miller, 2001; Sofaer, 2000; Steckler, Orville, Eng, & Dawson, 1992; Tarlov et al., 1987). While our focus in this article is on evaluation partnership process to address public health concerns, the methods and instruments discussed may be readily applied to community-based participatory research (CBPR) partnerships addressing housing, environmental, or other issues.

While evaluation of the partnership process itself (e.g. the extent to which partnerships adhere to key principles of collaborative inquiry and action) has been advocated (Lasker et al., 2001; Sofaer, 2000), less attention has been given in the field to how to conduct such evaluations. More specifically, evaluators interested in evaluating partnerships find few assessment instruments available to them. In this manuscript, we describe the development and adaptation of an instrument for evaluating dimensions of group dynamics within CBPR partnerships. We present three case studies of evaluations designed to assess these group dynamics. Each evaluation focused on a participatory research partnership that sought to engage communities of identity in health promotion and disease prevention activities. We discuss the development and adaptation of the evaluation instruments to assess key aspects of the partnership process (e.g. relationships among group members, leadership), and the use of evaluation results as a tool for self-assessment, discussion and partnership development. We close with a discussion of the potential, challenges, and areas for further development of such instruments for evaluation.

* Corresponding author. Tel.: +1-734-647-0221; fax: +1-734-763-7379.
E-mail address: ajschulz@umich.edu (A.J. Schulz).

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2. Community-based participatory research partnerships for health promotion

2.1. Community-based participatory research partnerships

Coalition approaches to intervention and research bring together partners with diverse perspectives and areas of expertise to promote health and prevent disease, often within a defined geographic area, e.g. a region or city (Butterfoss et al., 1996; Lasker et al., 2001). CBPR partnerships are one form of coalition, in which representatives from communities of identity, professional researchers and public health service providers work together to analyze and take action to address prioritized health concerns (Israel, Schulz, Parker, & Becker, 1998).[1] Communities of identity may coincide with geographically defined areas (e.g. an urban neighborhood), or may transcend physical locations (e.g. the Black community). The point is that members share an identity or sense of connection that provides the basis for analysis of collective concerns and generation of potential actions to address those concerns (Chaskin, 1997; Steuart, 1975).

Participatory approaches to research link the partners involved in both the development of knowledge and in efforts to address mutually identified concerns. Thus, within CBPR partnerships, representatives from communities of identity are actively engaged in and influence all aspects of the research process; and public health professionals (including researchers) are part of the problem solving and action components (Hatch, Moss, Saran, Presley-Cantrell, & Mallory, 1993; Israel et al., 1998; Schulz, Israel, Selig, Bayer, & Griffin, 1998). Such partnerships share the underlying assumptions that (1) diverse partners contribute different perspectives, expertise and resources in identifying and understanding community health concerns, and (2) these multiple perspectives and resources can be effectively engaged to develop solutions to those community health concerns.

2.2. Why evaluate group process in community-based participatory partnerships?

Ultimately, evaluators and funders must be concerned with the outcomes of CBPR partnerships—that is, their ability to achieve their objectives related to categorical health outcomes or the underlying social determinants of health. Community-based participatory partnerships explicitly seek to bring together groups of people who can combine resources and ideas to create solutions to health problems. They are founded on the principle that groups that come together, develop effective working relationships, and have synergy—defined as the ability to 'combine the perspectives, resources, and skills of a group of people and organizations' (Lasker et al., 2001, 183)—can work effectively together to address commonly defined issues or concerns. Therefore, community-based participatory partnerships have explicit objectives related to partnership formation, dynamics, relationships among group members, and collective action that are considered integral to the effectiveness of the group in attaining its outcomes (Israel et al., 1995).

Comprehensive evaluation of community-based participatory partnerships, therefore, includes attention to *how* a partnership functioned as a group to work toward those outcome objectives (e.g. *whether* and *how* multiple perspectives were engaged in the analysis and development of solutions) as well as the contributions of those working relationships to the ultimate outcomes or objectives (Israel et al., 1995). In other words, evaluation of process objectives (e.g. characteristics of the implementation process) and impact objectives (e.g. intermediary goals considered essential to the attainment of the outcome) (Rossi, Freeman, & Lipsey, 1999) are essential if we are to understand the contributions of the partnership itself to the attainment of the outcome objectives of the group. A challenge for evaluators is to design evaluation plans, processes and tools that offer insights into these processes and their ultimate implications for the group and the outcomes of interest.

In this article, we focus on the development and use of a tool for *evaluation of the partnership process* (process evaluation), assessing the extent to which the group guiding a CBPR effort adhered to principles or characteristics associated with effective groups (Johnson & Johnson, 1982, 1997), and the impact of those processes on group members' perceptions of the group (impact evaluation). We describe the use of such evaluations as mechanisms for participants to discuss, analyze, and take action to address concerns related to the group's working relationships (e.g. groups that identify ineffective leadership or lack of trust among members may take steps to address these problems and strengthen their ability to reach long-term goals).

In the following section, we describe a conceptual framework for assessing community-based participatory partnerships. This framework draws on a review of the literature on effective groups, as well as conceptual and empirical research on coalition and partnership models, to describe relationships between a group's dynamics (process objectives), perceptions of members of the partnership itself (impact objectives) and improved community health outcomes (outcome objectives) (Israel et al., 1995; Sofear, 2000).

2.3. Conceptual framework for assessing group dynamics as an aspect of CBPR partnerships

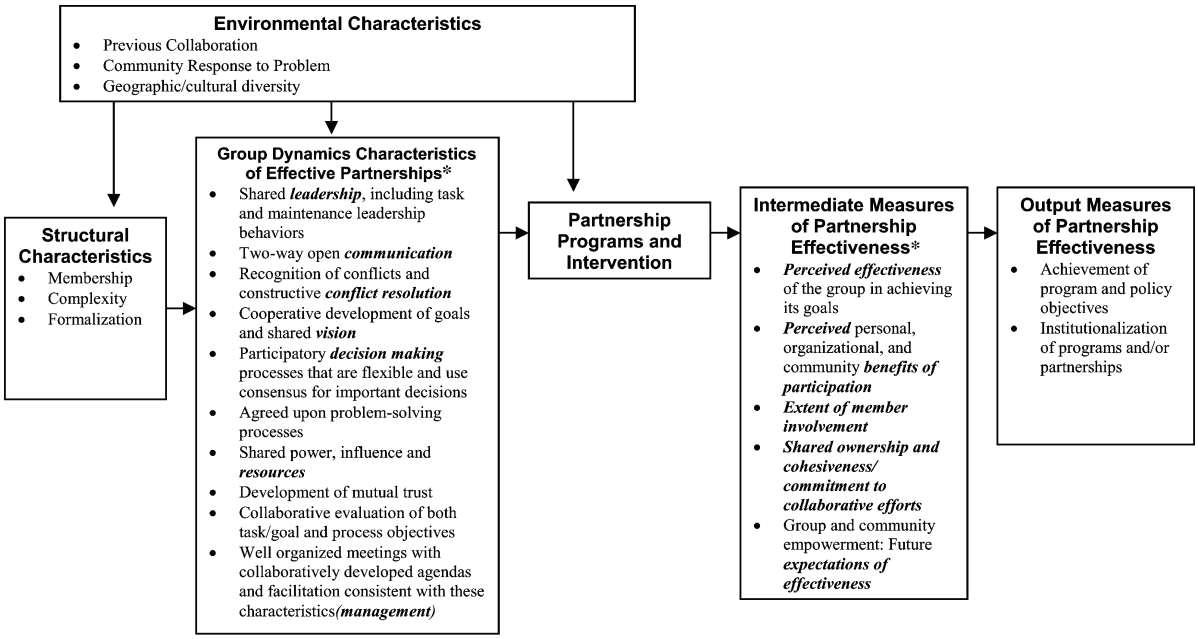
The guiding framework for the development of the evaluation instruments described in the following case

[1] Again, although our focus here is on CBPR partnerships to address health concerns, similar approaches may be applied to housing, transportation, the environment, or any number of other complex issues. The composition of the partnership and, particularly the service providers involved, may vary accordingly. However, the group dynamic principles and general framework presented here are applicable across a broad range of outcomes.

studies was the recognition that long-term partnership objectives would depend in large part on the effectiveness of the group in using its individual and collective resources to reach its goals and to satisfy the needs of group members. The areas selected for inclusion in the evaluation tool were based upon an extensive review of the group process literature at the time the first instrument was developed in 1985 (Blumberg, Hare, Kent, & Davies, 1983; Bradford, 1978; Johnson & Johnson, 1982; Shaw, 1981), and on a synthesis of the characteristics of effective groups developed by Johnson and Johnson (1982) that was used to prioritize the specific aspects of the group to assess. These components of effective groups (those that exhibit synergy) include, for example, shared leadership, open two-way communication, recognition of and constructive mechanisms for resolving conflicts, and high levels of trust and cohesion.

Fig. 1 shows these characteristics of effective groups within the context of a conceptual framework for assessing coalitions adapted from Sofaer (2000). Briefly, the ability of a partnership to reach its outcome objectives is seen as shaped by intermediate measures of partnership effectiveness, influenced by the partnership's programs and interventions. These are, in turn, shaped by the group dynamics characteristics of the partnership (called functional characteristics by Sofaer, 2000), as well as characteristics of the environment. The group dynamics characteristics are also shaped by the structural characteristics of the partnership, including the members, and the environmental characteristics. The characteristics of effective groups that guided the development of the evaluation instruments described in this paper can be seen in Fig. 1 under the 'Group Process Characteristics of Partnership'. In addition, the instruments described here also assessed 'Intermediate Measures of Partnership Effectiveness', such as members' perceptions of the effectiveness, benefits, and costs of participation in the partnership, the extent of member involvement, and the extent to which members perceive the partnership to be able to be effective in the future.

The central characteristics of effective groups identified through the above review of the literature were used to guide the construction of the evaluation instruments. Specifically, items corresponding to each central characteristic (e.g. leadership, participation, communication) were drawn from existing questionnaires (Alexander, 1985; Burns & Gragg, 1981; Johnson & Johnson, 1982; Seashore, Lawler, Mirvis, & Cammann, 1983) or were developed to operationalize these characteristics of effective groups (Appendix A). These items are intended to enable partnerships to evaluate themselves in light of characteristics of effective groups (Green & Kreuter, 1992; Israel et al., 1998, 2001; Mertens, 1999; Schulz et al., 1998). More recently, the literature on assessing coalitions or partnerships has confirmed the importance of many of these group process characteristics. For example, Butterfoss et al. (1996) have shown that community leadership and



* From Johnson and Johnson 1982, 1997. Italicized and bolded items were derived from Johnson and Johnson, and also included in Sofaer 2000. Other items were derived from Johnson and Johnson, and are not included in Sofaer's model.

Fig. 1. Conceptual framework for assessing group dynamics as an aspect of effectiveness of community-based participatory research partnerships (Adapted from Sofaer, 2000).

shared decision-making are linked to member satisfaction and participation in coalitions. In a review of the literature on community partnerships, Lasker et al. (2001) also describe leadership (Alter & Hage, 1993; Lasker & Committee on Medicine and Public Health, 1997), administration and management (Chaskin & Garg, 1997; Israel et al., 1998; Lasker & Committee on Medicine and Public Health, 1997), trust (Goodman et al., 1998; Himmelman, 1996; Kreuter, Young, & Lezin, 1998), conflict and power differentials (Alter & Hage, 1993; Forrest, 1992; Israel et al., 1998; Kegler, Steckler, McLeroy, & Malek, 1998) as critical aspects of the ability of a coalition to develop synergy. Similarly, partners' perceptions of the relative benefits and drawbacks of participation have been cited in the recent literature on coalitions as linked to partnership dynamics, and a key to understanding partners' level of commitment to, and willingness to invest resources in, the work of the coalition (Alter & Hage, 1993; Butterfoss et al., 1996; Lasker et al., 2001; Wandersman, Florin, Friedman, & Meier, 1987).

3. Application of evaluation instrument: three case studies

Collaborative or participatory evaluation is a form of participatory research that involves 'systematic inquiry by collaborative, self-critical communities' to assess their process and progress toward intermediate and outcome objectives (King, 1998, 59; see also King & Lonnquist, 1992; Nunneley, Orton, & King, 1997). Like other forms of research, evaluation has the potential to create shared knowledge, which can then be acted upon to improve both process and outcomes. Evaluations can assist CBPR partnerships or other collaborative efforts as a component of "a cyclic process that includes problem framing, planning, acting, observing, and reflecting in order to improve practice" (King, 1998, p. 59). In keeping with this emphasis, each of the evaluation case studies presented here included a formative approach to evaluation, seeking to provide information in a timely manner that could lead to improvements (Patton, 1997; Rossi et al., 1999). This formative approach is an essential component of participatory approaches to evaluation, offering opportunities for those trained in evaluation to work in partnership with practice-based decision makers, and to use applied social research to strengthen the groups' relationships and ability to collaborate effectively (Cousins & Earl, 1992).

The three case studies presented here describe the use of an instrument designed to evaluate intermediate objectives related to group dynamics in three participatory research interventions. Developed first within the context of a worksite participatory action research (PAR) effort, the instrument was subsequently adapted and implemented in two distinct CBPR efforts. Our emphasis is on the development and use of these instruments as a formative evaluation component in each partnership (rather than the results). We also describe the process used to share and discuss evaluation results within the partnerships, to contribute to a participatory process of self-reflection and action.

Stress and wellness project.

> I liked everything from the agenda to everyone's involvement in everything. The whole thing was set up so that everyone had a say and everyone was in agreement pretty much by the time we made any moves. All decisions were made by the group rather than just one person or a couple of people saying this is what we will do. I liked that no one was the boss. We agreed to disagree. Everyone's idea was listened to, talked about, and either accepted or rejected. It was teamwork in the true sense of the word. We were all headed in the same direction. The most important thing to do is to work as a team. (Member, Stress and Wellness Committee)

Project description and objectives. The Stress and Wellness Project was a PAR project that began in the fall of 1985 and was completed in the spring of 1992. It was conducted in an automobile component parts manufacturing plant located in south-central Michigan, and was funded by the National Institute on Alcohol Abuse and Alcoholism, and by joint funds from the United Auto Workers/General Motors National Joint Committee on Health and Safety. The overall aim of the project was to understand and reduce sources of occupational stress and to strengthen the psychosocial factors thought to mediate the relationship between these stressors and health (e.g. social support, control). In accordance with the PAR design, hourly and salaried employees were actively involved in all aspects of the project, such as, data collection, interpretation of findings, program implementation, and evaluation (Israel, House, Schurman, Heaney, & Mero, 1989a; Israel, Schurman, Hugentobler, & House, 1992). The self-named Stress and Wellness Committee represented the different constituencies in the plant (e.g. hourly, salaried, skilled trades, men, and women). The Committee was established and worked in partnership with researchers from the University of Michigan throughout the research and action phases of this project. Over the six-year project period, the Committee met twice a month and held periodic day-long planning sessions.

Evaluation questions. During the course of the project, both quantitative and qualitative data were collected for the multiple purposes of (1) addressing basic research questions (e.g. to what extent are social support and influence negatively associated with levels of stress and adverse health outcomes?), (2) evaluating the outcomes of the interventions (e.g. to what extent do varying degrees of exposure to the intervention result in different impacts on occupational stress, job satisfaction and health outcomes?), and (3) evaluating the extent to which the Stress and Wellness

Committee met its group process objectives (e.g. to what extent were group interactions characterized by trust and openness?). It is this latter purpose that is the focus of this case description. (For additional information on the Stress and Wellness Project see, e.g. Baker, Israel, & Schurman, 1996; Heaney et al., 1993; Hugentobler, Israel, & Schurman, 1992; Israel et al., 1989a; Israel, Schurman, & House, 1989b; Israel et al., 1992; Schurman & Israel, 1995).

Data collection and analysis. Multiple data collection methods were used to evaluate the PAR Committee's efforts, i.e. field notes that were as close to verbatim as possible descriptions of all meetings of the Stress and Wellness Committee; in-depth exit interviews of PAR Committee members assessing the project; and five annual close-ended questionnaires examining the group's process. As described earlier, the selection of key components to assess in this survey instrument were determined based on a review of the group dynamics literature (Fig. 1), and questionnaire items were drawn from previous instruments where available, or developed specifically for this project (Appendix A). In accordance with the principles of PAR, the final decisions regarding whether to conduct this evaluation, how to collect the data, the specific items to be included in the questionnaire, and how the data would be fed back to and used by the Committee were all made in partnership by the members of the Stress and Wellness Committee (SWC) over a series of committee meetings.

During the initial meetings when the idea of conducting the survey was discussed, the researchers raised the importance of the issue of confidentiality, and asked SWC members whether they were interested in examining differences in responses based on, for example, gender, hourly and salaried employees; recognizing that such reporting might be problematic because of the small numbers of respondents (between 15 and 25 participants). After considerable discussion, the SWC decided that ID numbers should be used, that would allow the researchers to analyze the data by hourly and salaried employees' responses, with the understanding that the results would not be presented in a way that any one or few individuals' responses might be identifiable. As it turned out, after examining the results separately by hourly and salaried status, there were no major differences between the two groups, and hence the results were subsequently presented for the Committee as a whole.

The SWC decided to conduct the survey on an annual basis, and that the best response rate would be achieved by having committee members complete the questionnaire during a regularly scheduled meeting. (For members who were not present at these meetings, copies were given to them by another member of the Committee along with a stamped return envelope to the university researchers. The use of the identification number allowed the researchers to know which questionnaires were not completed and to follow-up with committee members accordingly.) The average time it took to complete the questionnaire was 30 min. The survey was administered each December over a 5 year period, with response rates ranging from 53 to 88%. Given that the SWC was interested in overall assessment of the group's functioning, not in tracking individual assessments, a decision was made to analyze the data as a group, and not track individual responses over time. In addition to the group process questions asked in the initial survey administration and in subsequent years, specific questions were also included that asked about the extent to which different activities that the SWC had implemented had helped meet the goals of the project, e.g. daily newsletter, information centers, wellness project.

Presenting and discussing results. The researchers were responsible for compiling and feeding back the results from the questionnaires on an annual basis (within 3 months of their completion). A copy of the survey instrument was distributed with the results presented (numbers and percentages) for each question, along with a listing of the number of persons that comprised the percentages presented (e.g. 50% = 10 persons). Over the years, this document included the responses for each previous year, hence allowing for a comparison of results over time. In addition to this document, a summary report was distributed each year that explained in text format the major findings for each category of questions.

At the SWC meeting in which these reports were distributed, the researchers presented a summary of some of the key results, and engaged the Committee in discussions about their reactions to the findings, e.g. agreement, disagreements, surprises, interpretations. The Committee members used this critical reflection on their process to identify areas in which the group needed to make changes in the way they work together. For example, the results of the first year in which the survey was administered indicated that approximately one-fourth of the Committee felt 'somewhat' pressured to go along with decisions of the group even though they might not agree. This finding resulted in a discussion about the group's earlier decision to use consensus decision-making, and the Committee agreed that they needed to continue to discuss and revise decisions until a true consensus was reached. In addition, in 1989, about one-third of the committee members indicated that they felt that it was 'somewhat true' that decisions that the Committee made did not get implemented. Based on this finding, the Committee discussed the lack of ongoing involvement of and support from top management on the Committee and adopted strategies to try to address that issue.

The Genesee County (broome) Team.

> We became able to put the cards on the table. 'Let's do some brainstorming. Let's do some green light thinking.' There are some tough questions that you can't resolve unless you have some really tough dialogues. (Member, Broome Team)

Project description and objectives. The Detroit-Genesee County Community-Based Public Health Consortium was one of the seven community-based public health consortia funded by the W.K. Kellogg Foundation between 1992 and 1996. The overall aim of the Community-Based Public Health Initiative was to link public health researchers and practitioners with community-based organizations in communities experiencing multiple health-related problems, and to increase the responsiveness of local health departments and schools of public health to communities with the greatest health-related needs (W.K. Kellogg Foundation, 1992). The Detroit-Genesee County Community-Based Public Health Consortium was made up of three teams: the Detroit Team, the Genesee County (Broome) Team, and the University of Michigan School of Public Health Team. Each team was comprised of representatives from community-based organizations, academic institutions, and health practice organizations, and met on a monthly basis to discuss Team and Consortium business. In addition, representatives from each of the three Teams meet every other month as part of the Collaborating Group, the communication and decision-making body for the Consortium as a whole.

This case study focuses on the evaluation of the Genesee County Broome Team, one of the three arms of the Consortium. The broad goals of the Broome Team were to (1) strengthen public health education and practice by linking academic and agency professionals with people from vulnerable neighborhoods, (2) to promote the public's health by enhancing the capacity of community members and community-based organizations. The evaluation questions for the project were guided by these broad goals, and several more specific objectives that were designed to address these goals.

Evaluation questions. After in-depth interviews were conducted to assess group members' objectives for the partnership, the evaluator drafted an evaluation plan that incorporated process, impact and outcome evaluation questions. This plan was presented and discussed by the Broome Team, and subsequently revised. Those objectives and concomitant evaluation questions most relevant to this case study were related to elements of group dynamics, including mutual trust among group members, the development of linkages or relationships among members of the participating organizations, group leadership and decision making, and the extent to which group members perceived the work of the group to benefit their organizations and the community as a whole.

In addition, in the second year of the project, a subgroup formed specifically to examine the Broome Team's group process and to make recommendations regarding ways to ensure equitable participation and influence of all team members. As a result of the work of that subgroup, in which the evaluator was an active participant, a number of modifications were made to the Broome Team Group Process questionnaire.

Data collection and analysis. Data collection for the evaluation of the Broome Team included the use of multiple methods. In-depth interviews were conducted with Broome Team members in the first year of the project to capture members' hopes and expectations for the intervention, and to begin to build the overall evaluation design. In-depth interviews with Broome Team members were repeated in the fourth year of the project to capture team members' assessments and reflections on the project as it had unfolded over the preceding 4 years. Field notes were kept from monthly Broome Team meetings over the life of the project, focus groups were conducted with community members participating in various initiatives sponsored by the Broome Team, and monthly documentation forms were completed by each member organization to record activities and events.

In addition, the closed-ended group process questionnaire was mailed to all members of the Broome Team annually to assess perceptions of group dynamics and working relationships among members. Response rates were 95% (1993), 75% (1994) and 95% (1995). This questionnaire was adapted from the worksite Stress and Wellness Project questionnaire described in the preceding case study, to address the specific objectives and dimensions of group dynamics identified within the Broome Team. Like the Stress and Wellness Project questionnaire, the Broome Team questionnaire assessed the extent to which members of the Broome Team felt that their interactions were characterized by mutual trust, equity, mutual respect, reciprocal influence, and effective and equitable decision making processes. In addition, the Broome Team Group Process questionnaire assessed members' perceptions of the extent to which the Team worked together effectively to influence community concerns (Appendix A).

Presenting and discussing the results. Data were compiled and presented in summary form each year (percentages and numbers) and, in 1994 and 1995, results from the previous years were included for comparative purposes. In each of these years, the Broom Team set aside a large portion of one monthly meeting to discuss these results and consider their implications for the group. In addition, summary reports of the Broome Team process questionnaire and other evaluation results were compiled in written form on an annual basis, and distributed to all team members.

As one example of this process, in the third year of the project the Broome Team discussed differences that appeared in the analysis of results comparing relatively new members of the Broome Team with those who had been members of the team over longer periods of time. Results indicated that representatives from larger organizations were more likely to have consistent participation over time, while representatives from smaller, community-based organizations often had less consistent participation, and more changes in representatives. In addition, results indicated that newer members of the Broome Team reported less ownership over team decisions, were less likely to

suggest new ideas, express opinions, point out ways to proceed when the team was stuck, less likely to take leadership roles within the team, and less satisfied with the amount of influence they had over decisions made by the Team.

Following presentation of these results, the group discussion considered the potential for the higher turnover among representatives from smaller, less well-resourced organizations, to exacerbate differences in influence and leadership between representatives from large institutions and those from smaller institutions. Team members discussed potential mechanisms to support the participation of representatives from smaller organizations, including efforts to acclimate new members to the group's history and process, and to actively encourage the engagement of those members who were relatively new to the Team.

The Detroit community-academic urban research center.

> The trust and the relationships we've built have really launched the URC and helped out with all of our accomplishments. What really helped was the trust and relationship building that was done. The formalities are gone now, but business is getting done. It's comfortable. (Member, URC Borad)

Project description and objectives. The Detroit Community-Academic Urban Research Center (URC) is a CBPR partnership, with core funding from the Centers for Disease Control and Prevention (CDC). The partner organizations comprising the URC include the University of Michigan Schools of Public Health and Nursing, the Detroit Health Department, the Henry Ford Health System, the CDC, and six community-based organizations (Butzel Family Center, Community Health and Social Services Center, Friends of Parkside, Kettering/Butzel Health Initiative, Latino Family Services and Warren/Conner Development Coalition) that work within two distinct neighborhoods in Detroit. The overall mission of the URC is to conduct interdisciplinary, community-driven participatory research that improves family and community health on the east and southwest sides of Detroit, with a particular focus on addressing underlying social determinants of health (Israel et al., 2001).

The URC partnership began its work in 1995, and since that time has received over $23.5 million in funding to develop, implement, and evaluate a number of different interventions and research projects in its three priority areas: access to quality health care, environmental health issues, and family violence (Israel et al., 2001). Each of the community-based participatory intervention research projects affiliated with the URC has its own steering committee with representation from community-based organizations, health service organizations, and academia.

Evaluation questions. Each URC intervention project has its own set of evaluation questions and corresponding evaluation plans. In addition, an evaluation of the overall URC infrastructure and group process has been underway since the inception of the partnership. This evaluation is focused on the URC Board, which is comprised of representatives from the partner organizations and principal project staff. The foci of this evaluation include URC Board activities, Board members' perceptions of and satisfaction with URC activities, achievements and process, and members' perceptions of the challenges to and benefits of this research partnership. This evaluation is both participatory (Board members, including those on an Evaluation Subcommittee, have guided the design and implementation of evaluation activities) and formative (evaluation results are routinely fed back to and used by Board members).

Data collection and analysis. Evaluation data have been collected with a variety of methods, including field notes from Board meetings, in-depth semi-structured interviews with Board members (Years 2 and 5), a review of documents and materials created by the Board, and an annual self-administered mailed survey completed by each Board member. This closed-ended survey builds on the worksite Stress and Wellness Project questionnaire and the Broome Team questionnaire described in the preceding sections, again tailored to the specific objectives of the URC. Annually, all Board members are mailed the survey questionnaire (along with a postage-paid return envelope). The questionnaire includes items (mostly with Likert scale response categories) regarding respondents' sense of ownership/belonging to the group; comfort level in expressing opinions; decision-making processes of the group; trust and openness levels; the degree to which the URC is following its own principles for CBPR; and perceived accomplishments of the group (Appendix A). The annual mailed survey has been conducted four times (in Years 2–5 of the initiative), with response rates of 100, 100, 95 and 86%, respectively. Each time the survey was administered, the resulting data were entered into a spreadsheet for analysis. With a Board membership of approximately 20 individuals representing 10 organizations/agencies, only simple descriptive statistics are used to analyze the data. However, the data are analyzed to look for differences or patterns in the responses comparing, for example, the academic and non-academic partners on the Board, and total responses over time.

Presenting and discussing results. The results of the annual survey are combined with data from other ongoing evaluation activities, and reported to the Board (e.g. formative evaluation) on an annual basis. This includes a summary of results or issues that may be in need of further attention from the Board. Members of the Evaluation Subcommittee work to identify which evaluation results will be fed back to the full Board, and to clearly identify specific issues that are raised by these results.

As an example of this process, the results of the first mailed survey (in Year 2) indicated that several Board members—especially community partners—were not sure how to place an item on the agenda for a Board meeting, and thus were not satisfied with the degree of influence they had

over what was discussed or given attention at Board meetings. These findings were presented back to the Board, which prompted a frank discussion about the meeting agenda-setting process and how all Board members (not just a select few) need to be able to help craft meeting agendas. Since that time, satisfaction with what is addressed at Board meetings and how meeting agendas are developed has increased.

The most recent mailed survey results (from 2001) suggested that there is a high degree of satisfaction among URC Board member regarding group process. Results included the following: 88% indicated that Board members are comfortable expressing their points of view at meetings; 94% reported that they are satisfied with the ways in which the Board makes decisions. The majority of respondents (76%) also reported that Board members' capacity to work well together increased during the previous year, with no apparent differences in this perception between academic and non-academic partners. There have been, however, differences in perceptions between academic and non-academic partners. For example, in 1999, 100% of academic Board members reported that participation in the URC has increased the School of Public Health's capacity to conduct CBPR. In contrast, only 38% of non-academic partners perceived that their organizational capacity has increased in this regard.

Over the years, evaluation survey results have generated much discussion at the Board meetings at which they were presented. For example, at a meeting in 2000 evaluation data stimulated a discussion of how the partnership can better extend the knowledge and skills being generated by Board activities to non-Board members in partnering organizations, and whether or not it was time for the Board to expand. These issues, along with several other topics, were considered to be very important and in need of further, in-depth discussion. Thus, Board members decided to hold a subsequent day-long retreat to further consider the major issues raised by the evaluation activities and to plan for the future. As such, evaluation data played a key role in the Board's long-range planning process.

URC Board members reported that establishing a strong infrastructure and set of processes for the partnership was a significant accomplishment in and of itself. They also reported, however, the strong belief that the development of a strong set of group processes and guiding research principles was a key facilitator in the achievement of partnership objectives (Lantz, Vireull-Fuentes, Israel, Softley, & Guzman, 2001). As such, URC Board members view the developing of partnership processes and the building of trust and solid working relationships as an essential foundation from which all other accomplishments springboard.

4. Discussion and lessons learned

In each of the three projects described above, the group dynamics questionnaire provided a structure for collecting data about members' perceptions, concerns and interactions within the partnership. Annual data collection and feedback allowed regular identification and discussion of issues and concerns which may be difficult to raise in the context of ongoing meetings, when task or content objectives may be of primary concern. Based on these experiences, in this section we discuss a number of principles and processes that may be useful for evaluators assessing intermediary group process objectives within partnerships.

Equitable engagement. Equitable engagement of all members of the partnership in all phases of the research/-evaluation process does not necessarily mean that all partners engage in all aspects of the evaluation to an equal extent. A basic assumption behind a partnership approach is that each partner brings unique perspectives and skills, and that the partnership is strengthened through the application of those diverse resources toward a common goal. Thus, some members may bring considerable skill and/or interest in evaluation, while others may bring in-depth understanding of group dynamics, both of which contribute to building a strong evaluation. It may not be an efficient, or desirable, use of partnership resources to engage all members in actually conducting the interviews, entering data into a database, or conducting preliminary analyses of the results. All partners, however, have important perspectives and insights to share in interpreting the results of the evaluation, and in thinking through ways to address issues and concerns that may be brought to light through this process.

In two of the three partnerships described in this article, discussions of evaluation goals and questions were conducted by the full boards and shaped the overall design of the evaluation plan. In the third project, a subcommittee of the board was created to assist with the development of the evaluation, and this subcommittee presented the preliminary evaluation plan to the full board for discussion prior to finalization of the plan. Participatory development of the evaluation plan allowed the plan to incorporate multiple perspectives, and the group to come to agreement on priorities for evaluation of process, impact and outcomes. Once the evaluation plan had been mapped out, those with expertise in data collection and analysis applied their skills, bringing the results back to the larger group for discussion, interpretation, and decisions about action steps.

Furthermore, in each of the coalitions described here, members of the partnership were engaged in a discussion of the characteristics of groups that they had been members of in the past, and that they considered effective or worthwhile groups (Israel et al., 2001). In each case, these discussions generated many of the dimensions identified in a review of the literature on effective groups, or an coalitions that achieve synergy—mutual respect, shared leadership, effective governance. They also offered an opportunity for the group to collectively discuss what aspects of group dynamics they particularly valued, and in some cases, generated specific items to be included in the evaluation.

Perhaps most importantly, these discussions provided an opportunity for the group members to 'own' the questions included in the process evaluation document, and laid the groundwork for later discussions of the results.

Selecting items for feedback to the group. The length of the questionnaires examined here argues against the verbal presentation of the full set of results to the partnership for discussion. Complete results may be better shared in a written report made available to all members, or, as in the case with the worksite Stress and Wellness Project, a written report in combination with presentation and discussion of the results. The evaluator, the evaluation subcommittee, or the partnership members themselves, may select particular items or sections of the questionnaire for a more focused group discussion. There are several possible ways that evaluators or evaluation subcommittees might determine which items or subsets of the questionnaire to highlight for presentation to the larger group.

First, one could look for items or issues that appear to have undergone substantial change between the preceding year and the current year. These shifts may reflect events or processes that have unfolded over the past several months that may or may not have been made explicit or discussed by the group as a whole. For example, a series of events that occurred between two organizations involved with one of the partnerships discussed above severely affected group trust. The process questionnaire conducted that year showed a marked drop in trust, which had previously been high and consistent, within the group. Discussion of this change, and the events that had contributed to it, led to a number of constructive suggestions for rebuilding and maintaining trust within the group as a whole.

Conversely, there may be instances when the evaluator or evaluation subcommittee chooses to highlight stability in some set of indicators, e.g. issues that surface in multiple waves of the questionnaire, or across multiple data collection methods (in the group dynamics questionnaire, field notes from meetings, and/or in-depth interviews). As an example, when questions about the budget reappeared for 2 years in a row in the group dynamics questionnaire completed by one of the above partnerships, and also appeared in in-depth interviews, the evaluator suggested that this issue be discussed by the Board.

Participant observation and field notes taken by the evaluator on an ongoing basis can be an essential tool aiding in the selection of issues or items for discussion by the group. Regular participation in board meetings and other partnership events enables the evaluator to develop insights into group dynamics, including issues that may arise at particular meetings or carry on as undertones through a series of meetings. Such dynamics may be very difficult to obtain through closed-ended data collection strategies, which offer only a snapshot at a point in time, or for longitudinal data, repeated snapshots at particular points in time. Field notes provide important information that contributes to the interpretation of questionnaire results, and can inform the selection of particular results for feedback and discussion by the group.

Finally, evaluators may choose to highlight differences in perceptions that occur across subgroups or constituencies within the partnership. For example, two of the three partnerships described in this article had representatives from a number of community-based organizations, health departments, and academic institutions. Central goals of the partnerships involved the development of equitable working relationships among these types of organizations, each of which brought qualitatively and quantitatively different resources. Therefore, their perspectives on the way that the partnership was working together might reasonably be expected to differ—and indeed, in many cases they did so. Such differential results and perceptions provide a basis for conversation and discussion about mutual and reciprocal benefits, and identification of actions that might be taken to address imbalances.

Some considerations and limitations. There are several limitations to the use of the group dynamics questionnaire we have described here. These include the focus solely on group dynamics, e.g. relationships among members of the partnership, the roles that members take in the group, and the ways that they work together. There may be other important dimensions of any particular partnership that evaluators will want to consider. Furthermore, data are collected at specified collection points, and may be influenced by recent events that could potentially overshadow longer-term dynamics and trends. The use of closed-ended items on the instruments may also limit their ability to pick up new and emergent issues that are not reflected in the items included. As a result of these limitations, we recommend that such a questionnaire be used in conjunction with other evaluation mechanisms. Those used by the partnerships described here have included in-depth interviews with partnership members, field notes of meetings, and document reviews.

The small numbers involved in most partnerships may preclude the use of anything but simple descriptive statistics in data analysis. Even with high response rates, these numbers may limit the use of tests of statistical significance to assess change over time. Rather, their utility lies in their ability to give an overall sense of critical group dynamics, especially when combined with other types of data that are collected simultaneously, and to stimulate and shape candid discussions regarding group process and the current state of the partnership among members. The results are not meant to stand alone as a metric of group dynamics.

One consideration for evaluators is whether to track change in individual respondents over time, or change in the group as a whole, or some combination of these strategies. Simple aggregates of results from two points in time can be useful for obtaining a snapshot of group dynamics, but fail to address the question of whether changes are due to events that may have unfolded in the group, changes in group composition, or events that may have affected some group

members more than others. This decision may be based on turnover in the group between the two points of data collection, or on issues that emerge through other data collection efforts (e.g. meeting field notes).

For example, evaluators may anticipate that individuals who participate in a partnership over longer periods of time may perceive that they have greater influence in the process and outcomes of the partnership than newer members. This expectation may be based on an assumption that, over time, individuals develop both skills and relationships with other members of the partnership that enable them to exert influence in decisions made. This effect may be masked in examining aggregate data if, at the same time that some members develop an extended history with the partnership, new members join whose lack of history or experience within the partnership contributes to feeling relatively uninfluential. To disentangle the effects of history versus turnover of members on the overall working relationships among the partners, the evaluator may wish to examine key process indicators by length of membership (and/or intensity of participation) in the partnership. Similarly, there may be differences in experiences and perspectives, for example, between representatives who are based in community-based organizations and those housed in larger health service providing organizations or academic institutions. Breaking out responses by relevant categories can allow the partnership to examine these differences in some detail.

Care must be taken not to identify or expose individual group members when presenting results, particularly when categories are quite small (for example, if there are only two representatives from health care providing organizations). Potential breaches of confidentiality or anonymity must be guarded against very carefully. In addition to violating basic tenants of research ethics, they also have important implications for working relationships among members of partnerships. Furthermore, once respondents have been divided into categories of interest, response summaries will be very sensitive to small changes in membership (e.g. new people) as well as small changes in the assessments offered by individuals (e.g. changing perceptions on the part of the same people). Team members must take care not to overinterpret changes over time in light of these sensitivities, while at the same time being attentive to the potential implications of such changes.

5. Concluding comments and directions for future research

Public health interventions have often failed to diffuse new ideas, change behaviors, or achieve long-term acceptance. These failures may reflect an inability to obtain participants' understandings of the issues and context, and to involve community members in the design, management, and control of the research and intervention process (Fisher, 1995; Israel et al., 1989b). If public health partnerships for community change are to realize their potential to work collaboratively to improve health and quality of life, they must assess the quality of the working relationships that are central to these goals. Tools that enable partnerships to assess their own group dynamics offer one important mechanism to evaluate and take action to improve the working relationships central to effective collaboration.

Despite the limitations and caveats discussed in the preceding section, group dynamics questionnaires can be a useful evaluation tool for partnerships or other collaborative efforts whose success relies in part on the development of effective and equitable working relationships among members. Several of the group dynamics characteristics identified and incorporated into the three versions of the questionnaire used in these case studies are consistent with key factors identified in the community coalition literature as associated with the successful formation, implementation, and maintenance of coalitions (Butterfoss et al., 1996; Lantz et al., 2001; Lasker et al., 2001). As a formative evaluation tool used in an ongoing manner (e.g. annually), the group dynamics questionnaire provides a structured opportunity to talk about group interactions, and to engage group members in discussion and collective problem solving regarding the group's effectiveness. The evaluators' responsibility—and opportunity—rests in raising such issues or questions in a manner that elicits productive discussion that assist the group in meeting its objectives. Thus, further development of evaluation instruments and processes that facilitate these discussions are needed.

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Appendix A

Sample items from survey instrument for evaluating group dynamics characteristics and intermediate measures of partnership effectiveness within community-based participatory research partnerships.[2]

A.1. Group dynamics characteristics

Leadership and participation: task and maintenance behaviors.

How often do you suggest new ideas?
How often do you ask for additional information?
How often do you provide information?
How often do you relate personal experiences relevant to the group's tasks?
How often do you express your opinion?
How often do you pull ideas and suggestions together?
How often are you friendly and support of others' ideas?
How often do you point out ways to proceed when the group is stuck?
How often are you a good listener?
How often do you make jokes to relieve tension?
How often do you talk too much?
How often do you invite other members to work with you on specific issues?
How often do you place items on the agenda for discussion?
To what extent are roles and tasks shared by members?

Comfort level for expressing opinions: communication.

How much do people in the group feel comfortable expressing their point of view?
How much do group members listen to each others' points of view, even if they might disagree?
How much do you feel comfortable about expressing your opinion in group meetings?
How much is your opinion listened to?
How much are you willing to listen to others' points of view?
In the past year, has your willingness to speak and express your opinions at group meetings increased, remained the same, or decreased?
Since you joined the group, would you say group members' willingness to express their points of view has increased, remained the same, or decreased?

How well the group recognizes and addresses conflicts and problems.

In working together to solve problems, how well has the group been able to identify the important issues and generate several possible solutions?
How satisfied are you with the way the group deals with problems that come up?
In your opinion, what (if any) have been the major points of conflict or disagreement within the group?
How well do you feel that these conflicts were handled by the group?

Decision-making procedures.

How true is it that it takes too much time to reach decisions?
How true is it that everyone in the group has a voice in the decisions?
How true is it that good decisions are made?
How true is it that some members of the group hold on to their ideas too rigidly?
How true is it that decisions that the group makes are changed when they get implemented?
How true is it that decisions that the group makes do not get implemented?
How true is it that everyone in the group contributes items to the agenda for meetings?
How true is it that the items on the agenda are relevant to your work?
How committed do you feel to decisions that are made by the group?
How satisfied are you with the way the decision-making process is working?
How much is the group able to make the necessary decisions in order to keep the project moving forward?

How well the group works together: problem solving processes.

How well does the group work together?
How well do you think the group has been able to work together to solve problems?
How much change has there been in how the group works together since you joined the project?
In the past year, group members' capacity to work well together has: increased, remained the same, decreased?

Level of influence and power of self and others in the group.

How much do you feel pressured to go along with decisions of the group even though you might not agree?
Is your opinion listened to and considered by other group members?

[2] Copies of the questionnaires used in the three projects highlighted in this article are available from the first author.

Do certain individuals' opinions get weighed more than they should?
Does one person or group dominate the meetings?
Do certain individuals talk more at meetings than others?
Are you bothered that *certain* individuals talk more at meetings than others?
Do certain individuals have more influence over the agenda at group meetings than others?
Do certain individuals have more influence over the decision-making process than others?
Are you bothered that certain individuals have more influence over the decision-making process than others?
Would you like to have more input regarding the allocation of the groups' resources?

Perceived level of trust.

In your opinion, how much trust and openness exists between group members?
Over the past year, has the amount of trust between group members increased, remained the same, or decreased?
In the next year, how much trust do you expect to see between group members?

Meeting organization, agenda setting, facilitation, and staffing.

How would you rate the amount of direction that the staff provide to group meetings?
How would you rate the amount of direction that the staff provide to the project overall?
How satisfied are you with the level of follow-up action taken by staff in response to decisions made by the group?
How satisfied are you with the way staff prepare and structure group meetings?
When staff facilitate meetings, how much do they do of each of the following:
- Encourage participation of all group members?
- Encourage open communication between group members?
- Recognize possible problems with conflicts with the group?
- Help to solve problems that occur between group members?
- Help to clarify group meeting goals and tasks?
- Help to move meetings along?

How true is it that the project would continue to operate in a similar way if the involvement of staff were to end this month?
What is your level of agreement with the following statements regarding group meetings?
- I find the group meetings useful
- I enjoy attending the group meetings
- The group meetings are well organized
- The group meetings are held too frequently
- The agendas of the group meetings are clear
- We adequately address all of the agenda items at group meetings
- I am comfortable with the process for placing an item on a meeting agenda
- I would like more of a voice in determining agenda items for meetings
- I like where our meetings are held

A.2. Intermediate measures of partnership effectiveness

Accomplishments/impact of group.

The group has been effective in achieving its goals
The group can have a positive effect on the community
The group has chosen important problems to work on

How important do you think the work of the group is to the community as a whole?
How would you describe the rate of progress which the group is making in dealing with the major issues identified?
I believe that other agencies and groups in our area know about our group and its initiatives
Our group has been effective in informing policy makers and key government officials about our initiatives

General satisfaction.

Please indicate your level of satisfaction in the following areas:
The general way in which the project has developed
The rate of progress the project is making in achieving its goals
The activities of the group during the past year
The progress of the group during the past year
My knowledge of the group budget, resources and how resources are allocated

Personal, organizational, and community benefits of participation.

I have increased my knowledge about important topics since participating in this group
Participating in this group has provided personal growth for me
Participating in this group has made work more enjoyable for me
Participation in this group has increased my organization's capacity in one or more areas.

Member background and meeting attendance.

When did you become a member of the group?
Are you a member of any subcommittees? Which ones?
Do you find these subcommittees useful? Why or why not?

Do you find it easier to participate in the subcommittees than in the larger ones? Why or why not?
Since you joined the group, how many of the meetings have you been able to attend?
When you don't attend meetings, what are the major reasons?

Sense of ownership/belonging to the group: cohesion.

How much do you feel a part of the group (like you belong to the group)?
How much do you have a sense of ownership over what the group does?
How frequently do you think of severing your affiliation with the group?

Group empowerment.

I can influence decisions that the group makes
The group has influence over decisions that affect my life
The group is effective in achieving its goals
The group can influence decisions that affect the community
I am satisfied with the amount of influence I have over decisions that the group makes
I can influence decisions that affect my community

Community empowerment.

By working together, people in my community can influence decisions that affect the community
People in my community work together to influence decisions on a state or national level that affect my community
I am satisfied with the amount of influence I have over decisions that affect my community.

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