Published in final edited form as:
Health Promot Pract. 2008 October ; 9(4): 328–337. doi:10.1177/1524839908325334.

Transdisciplinary Research and Evaluation for Community Health Initiatives

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Abstract

Transdisciplinary research and evaluation projects provide valuable opportunities to collaborate on interventions to improve the health and well-being of individuals and communities. Given team members' diverse backgrounds and roles or responsibilities in such projects, members' perspectives are significant in strengthening a project's infrastructure and improving its organizational functioning. This article presents an evaluation mechanism that allows team members to express the successes and challenges incurred throughout their involvement in a multisite transdisciplinary research project. Furthermore, their feedback is used to promote future sustainability and growth. Guided by a framework known as organizational development, the evaluative process was conducted

The Adolescent Trials Network for HIV/AIDS Interventions (ATN) is funded by Grant U01 HD40533 from the National Institutes of Health through the National Institute of Child Health and Human Development (A. Rogers, PhD, MPH; K. Ryan, PhD; B. Kapogiannis, MD), with supplemental funding from the National Institutes of Drug Abuse (N. Borek, PhD), Mental Health (P. Brouwers, PhD), and Alcohol Abuse and Alcoholism (K. Bryant, PhD).
The following ATN sites and personnel participated in this study: University of Maryland (L. Peralta, MD; B. Griffin Deeds, PhD, K. Young), Montefiore Medical Center (D. Futterman, MD; S. Kim, MPH), Children's Hospital of Los Angeles (M. Belzer, MD; M. Martinez, MSW/MPH; V. Montenegro), The Children's Hospital of Philadelphia (B. Rudy, MD; A. Cardoso, PhD; M. Castillo, PhD), Children's National Medical Center (L. D'Angelo, MD; W. Barnes, PhD; B. Cooper, MPH), Children's Hospital Boston (C. Samples, MD; M. Mesfin, MPH; J. Palmer-Castor, PhD), Stroger Hospital of Cook County (L. Henry-Reid, MD; D. Forte, MA; Z. Beason, MSW), Children's Diagnosis and Treatment Center (A. Puga, MD; J. Roy, MSW; D. Batchelder, RN), University of Miami (L. Friedman, MD; K. Sanchez, MSW; B. Quiles), University of South Florida (P. Emmanuel, MD; G. King, MPA; C. Morgan), Tulane University (S. Abdalian, MD; S. Schroeder, MSW, GSW, PhD), Mount Sinai Adolescent Health Center (L. Levin, MD; C. Moore, MPH; K. Sykes, PhD), University of Puerto Rico (I. Febo, MD; I. Blasini, MD, MPH; I. Ramos-Pomales, MPHE; C. Rivera-Torres, RN, MPH), University of California, San Diego (S. Spector, MD; S. Lehman, PhD), University of California, San Francisco (A. Moscicki, MD; C. Auerswald, MD; K. K. Geanuracos, LCSW; K. Sniecinski).
The study was scientifically reviewed by ATN's Behavioral Leadership Group. Network scientific and logistical support was provided by the ATN Coordinating Center (C. Wilson, C. Partlow) at the University of Alabama at Birmingham. Project operations support was provided by ATN's Connect to Protect National Coordinating Center at Johns Hopkins School of Medicine (J. Ellen, N. Willard, M. Ziff) and DePaul University (G. Harper, A. Bangi, L. Neubauer). Network operations were provided by the ATN Data and Operations Center at Westat, Inc. (D. Monte, J. Korelitz, B. Driver).
The investigators are grateful to the members of the Community Advisory Board for their insight and counsel and are particularly indebted to the youth who participated in this study.

by a neutral entity, the Quality Assurance Team. A mixed-methods approach was utilized to garner feedback and clarify how the research project goals could be achieved more effectively and efficiently. The multiple benefits gained by those involved in this evaluation and implications for utilizing transdisciplinary research and evaluation teams for health initiatives are detailed.

Keywords

transdisciplinary research; evaluation; collaboration; organization development

FORWARD: TRANSDISCIPLINARY RESEARCH AND EVALUATION FOR COMMUNITY HEALTH INITIATIVES

This article describes an excellent example of several different themes discussed in the Evaluation in Practice Department of this journal. Over the past several years, we described different approaches to process, outcome, and impact evaluation of community health initiatives. Having an evaluation plan that outlines questions from a diverse array of stakeholders (Francisco, Capwell, & Butterfoss, 2000), using mixed methodology (Capwell, Butterfoss, & Francisco, 2000; Francisco, Butterfoss, & Capwell, 2001), and generating results that are used by diverse audiences to both demonstrate (and celebrate) success and contribute to program improvement (Butterfoss & Francisco, 2004) are key goals of evaluation. This evaluation article exemplifies these goals and takes them one step further by involving researchers from multiple disciplines (in this case medicine, public health, and community psychology) to design and implement the evaluation and analyze the findings that lead to improvement of the initiative or initiatives over time.

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OVERVIEW OF TRANSDISCIPLINARY RESEARCH AND EVALUATION

Given the complexity of the primary public health issues affecting communities in the United States and elsewhere, various types of partnerships between researchers and communities are being promoted to ensure that research and programs are relevant to the priority population for whom they are intended, meaningful to the community, and culturally appropriate (Bruce, 1995; Committee on Community Engagement, 1997; Minkler & Wallerstein, 2003; Stokols, 2006; Suarez-Balcazar, Harper, & Lewis, 2005). Partnerships are especially beneficial in addressing the behavioral aspects of public health problems, given the limited perspective that any one profession, discipline, or organization has on people's actual experiences in dealing with the lifestyle aspects of health (Mitteness & Barker, 2002). Thus, the collaborative teams that are formed to address existing and emerging public health concerns should include experts from various disciplines and move beyond a single disciplinary focus (Abrams, 2006). Multiple governmental agencies in the United States (e.g., the Centers for Disease Control and Prevention, National Institutes of Health, National Academy of Sciences, and National Science Foundation), along with private donors (MacArthur, Keck, and Robert Wood Johnson Foundations), support this notion of collaborative public health research efforts and have been

integral in developing collaborative partnerships and research centers that are focused on an array of social problems and issues (Minkler, 2006; Stokols, 2006).

Rosenfield (1992) differentiated between various forms of collaborative research that involve members from different disciplines, depending on the roles that each member or group plays. *Transdisciplinary research and evaluation*, in particular, involves combining concepts, theories, methods, and measures from various disciplines into a new, shared conceptual framework (Rosenfield, 1992). This approach moves beyond the limitations of any single disciplinary focus, and creates new synergistic ways of conducting research and evaluation and addressing critical public health issues (Abrams, 2006; Fuqua, Stokols, Gress, Phillips, & Harvey, 2004; Stokols, 2006). Transdisciplinary research and evaluation provides the potential to capitalize on innovations being made across various disciplines to create new conceptual models, increase our understanding of the complex processes involved in developing and maintaining public health issues, and provide evidence for developing interventions and public policy (Abrams, 2006). Transdisciplinary research and evaluation is gaining popularity among public health researchers and practitioners who address complex public health issues that involve multiple levels and layers of influence, such as health disparities and social inequalities (cf. Abrams, 2006; Gambescia et al., 2006).

For transdisciplinary efforts to be effective, team members have to be open to diverse viewpoints, tolerant of alternative perspectives, and respectful of other disciplines. Furthermore, members need to be willing to engage in the exchange of ideas, mutual deliberation and problem solving, and conflict negotiation related to contrasting viewpoints and values (Abrams, 2006; International Center for Transdisciplinary Research, 2007; Stokols, 1998, 2006). Developing and maintaining cooperation from professionals representing various fields and disciplines is not an easy task, as conflicts and tensions often arise that can impede a team's success (Higginbotham, Albrecht, & Connor, 2001; Stokols, 2006; Stokols, Harvey, Gress, Fuqua, & Phillips, 2005).

Stokols (2006) outlined three different types of transdisciplinary collaborations: scientific collaborations, collaborations among researchers and community members, and intersectoral partnerships for designing and implementing public policies. He asserted that transdisciplinary and interorganizational collaborations are prone to involve conflict. Furthermore, as the scale and scope of the collaborations increase—especially with regard to their organizational, analytic, and geographic scope—so do the challenges of coordination and productivity (Stokols, 2006). Based on a review of studies that examined transdisciplinary collaborations, he asserted that the following factors can increase partners' readiness for transdisciplinary collaboration and eventual long-term success: "spatial proximity among team members, a shared history of collaboration on prior projects, clear and equitable communications about collective goals and outcomes, and the presence of leaders who are able to foster a climate of cooperation" (p. 11). Transdisciplinary partnerships are often time- and labor-intensive endeavors where conflicts and tensions arise, and these challenges must be continuously resolved for the collaboration to achieve its goals (Gray, 1999; Klein, 1996). In addition, transdisciplinary research and evaluation teams are in need of continual refinement to address any emerging problems that may affect their ability to function effectively and efficiently (Stokols, 2006).

MULTISITE TRANSDISCIPLINARY RESEARCH AND EVALUATION

Multisite transdisciplinary health research and evaluation endeavors present particular sustainability challenges as they attempt to link multiple research centers and various organizations across geographic settings (Stokols, 2006). Despite these challenges, such endeavors are increasingly implemented to address pressing public health issues such as HIV

and substance use because these approaches provide access to a wider array of individuals and communities and offer greater insight into the generalizability of the research findings (e.g., Bellamy, Springer, Sale, & Espiritu, 2004; Cunningham-Williams et al., 1999; Derson, Sale, Springer, & Brounstein, 2005; Sikkema et al., 2005). Although some researchers involved in multisite research have explored the challenges of conducting research across different geographic settings (e.g., Cunningham-Williams et al., 1999; Girot, Goodman, Ross, Latter, & Jackson, 2004), such reports are few in number and have not addressed the aspect of transdisciplinarity.

Stokols (2006) called for evaluating both the interpersonal and interorganizational processes that may affect the ability of transdisciplinary partnerships to be efficient and lead to desired outcomes. He cited a dearth of studies related to these process-related factors that mostly focus on transdisciplinary research centers and community-based coalitions. Stokols also called for an expanded science of *transdisciplinary action research* (an extension of Lewin's [1946] notion of *action research*) that would involve "new directions for translating research findings about the dynamics of transdisciplinary teams into practical guidelines for enhancing the success of future collaborations" (p. 12). Stokols further recommended that funding agencies should include specific monetary support for evaluating transdisciplinary teams and centers in their grants that support the development and maintenance of such collaborations. For these "calls to action" to materialize, new methods for assessing transdisciplinary collaborations need to be developed. In addition, more studies need to incorporate an evaluation of the dynamics of such teams into their prospective research plans, especially because little is currently known about the factors that facilitate the processes or outcomes of transdisciplinary collaborations (Stokols, 2006).

This article uses the exemplar of a transdisciplinary evaluation mechanism embedded within a larger transdisciplinary, multisite research project funded by the National Institutes of Health to demonstrate ways in which the project has created a structure that facilitates the inclusion of voices from multiple disciplines. Although this research project involves a wide array of allied health professionals, academicians, and diverse community members, the focus of this article is on the transdisciplinary *scientific* collaborative process that occurs among the members of the larger research team (Stokols, 2006) and the evaluation mechanisms that were implemented to enhance organizational structure and functioning. The examination of the process by which researchers work together to integrate and extend their disciplinary perspectives and achieve common goals is notably distinct from collaboration between researchers and community partners as noted by Stokols (2006) and others (e.g., Minkler & Wallerstein, 2003; Suarez-Balcazar et al., 2005).

CASE STUDY: CONNECT TO PROTECT AND THE QUALITY ASSURANCE TEAM (QAT)

The research project detailed here is titled Connect to Protect® (C2P): Partnerships for Youth Prevention Interventions, and is a multisite, multistage project developed by the Adolescent Medicine Trials Network for HIV/AIDS Interventions (ATN; Ziff et al., 2006). The overall goal of C2P is to reduce HIV incidence and prevalence in youth 12 to 24 years old by developing and implementing community mobilization and structural change efforts in 15 different communities in the mainland United States and Puerto Rico. C2P was developed by members of the ATN to build sustainable community-based HIV prevention infrastructure in cities where the project operates by mobilizing local researchers and community-based organizations to create community-level structural changes to reduce HIV infection among youth.

The ATN has created a very comprehensive organizational infrastructure to support the success of the overall C2P project, with particular attention to the local sites where team members work

to integrate input and participation from various community agencies and youth in their community mobilization efforts. The team responsible for local implementation of the C2P project at each site includes professionals from various disciplines, with an adolescent medicine or pediatric physician designated as the site principal investigator (PI), one to two social-behavioral science or public health professionals who serve as C2P site coordinators, and two to six staff members from various backgrounds (e.g., community activists, social workers, health communication specialists) who assist in multiple ways with project implementation. C2P community partners are key leaders in the local community or individuals from community-based organizations who are engaged in a contractual agreement with C2P research staff for the purposes of achieving C2P project goals.

The C2P project-specific infrastructure is supported by the National Coordinating Center (NCC), which is an interdisciplinary team of individuals from the fields of community psychology, applied psychology, adolescent medicine, public health, and communications. Members of the NCC are responsible for directing C2P and managing the activities with the ATN. The NCC currently includes the overall C2P project PI, two NCC codirectors, three national coordinators, and various part-time support staff. The QAT is the independent evaluation body that conducts continual internal evaluation of the organizational structure and functioning of the overall C2P project (involving all of the C2P project members and NCC staff) and is composed of individuals from community psychology, industrial-organizational psychology, and interpersonal communications. The QAT is affiliated with the NCC but reports to the PI of the overall C2P project as well as the PI of the ATN. Team members at each of the sites, community representatives, and members of the NCC and QAT represent various identity groups and educational backgrounds.

The internal evaluation system created by the QAT includes a feedback system with both formal and informal feedback and input mechanisms to continually monitor activities of the C2P project at multiple levels and to evaluate the organizational structure and functioning of the project. The QAT conducts formal evaluation activities twice a year, which include surveys and in-depth qualitative interviews. The QAT communication and feedback mechanisms provide a preventive function as they identify organizational deficits and strengths and help to correct the obstacles that inhibit effective C2P functioning. The QAT is able to recognize potential breakdowns in functioning before they result in negative outcomes and works with all involved parties to rectify these situations. The use of this inclusive feedback loop results in an evaluation that is responsive and empowering to multiple voices and perspectives.

QAT Evaluation Plan and Methods

The initial evaluation plan and methods for the QAT were created through multiple collaborative strategic planning and evaluation meetings. The key evaluation questions initially developed by QAT included the following: (a) In what ways can the infrastructure of the C2P project be strengthened? (b) In what ways can the organizational functioning of the C2P project be improved? and (c) What modifications need to be made regarding how information is conveyed and shared about the C2P project with various C2P team members?

Evaluation framework—To answer the key evaluation questions, the internal process evaluation utilized a theoretical framework from the general field of industrial-organizational psychology. Specifically, this framework stemmed from the organizational development perspective, which aims to improve an organization's effectiveness by a systemwide application of behavioral science knowledge to the planned development and reinforcement of organizational strategies and structures (Cummings & Worley, 2005). Organizational development theory seeks to reinforce structures, processes, and strategies to improve organizations' effectiveness. The manner in which organizations engage their bodies in

systematic methods directly affects their internal capacity to "promote the personal, relationship and collective well-being of their workers and community stakeholders" (Cummings & Worley, 2005).

To evaluate an organization such as the C2P project with its multiple levels and team members, a group-level diagnosis model was chosen (Cummings & Worley, 2005). According to the group-level diagnosis, three components of the project should be examined, including inputs, design components, and outputs. The inputs have to fit the design components to achieve maximum performance and quality of work life within the organization (Cummings & Worley, 2005). The inputs consist of the organizational design or organizational structure within which the various members or groups are operating—in this case, the overall C2P project. The specific elements of the design components include goal clarity, group functioning, task structure, group composition, and performance norms. The outputs consist of team effectiveness, which is measured by the two components of performance and quality of work life. Using this model as a guiding framework and attending to the original three general evaluation questions, 10 specific evaluation objectives were developed—each with its own set of indicators, methodology, targets, and data sources.

Evaluation methods and measures—The initial formal evaluation was lengthier than subsequent evaluations. The initial Organizational Structure and Functioning–Long Version (OSF-L) survey assessed the various aspects of the group-level diagnosis and included items that were generated by the QAT, in addition to items taken from the Community Organizational Assessment Tool and the Community Group Member Survey (Taylor-Powell, Rossing, & Geran, 1998). The measure included the following sections: (a) Background, (b) Mission and Goals, (c) Expectations of Site Coordinators, (d) Communication Networks, (e) Communication Pathways, (f) Programmatic Documentation, (g) Programmatic Feedback, (h) Collaboration, (i) Membership in the C2P Project, (j) National Coordinator Leadership Effectiveness, (k) NCC Resources, and (l) Funder Resources. As a compliment to this survey, members of C2P were also interviewed over the phone by a QAT member. This OSF-L interview utilized a semistructured guide that probed for additional comments and feedback regarding the specific areas outlined in the evaluation plan. In addition, participants were asked to create organizational charts to illustrate their conceptualization of the organizational structure of the C2P project. This mixed-methods approach used by the QAT was useful in articulating and interpreting the various experiences of team members because it allowed them to react to statements about their participation in the project and further expound on their perspectives via open-ended questions (Patton, 2001).

Once C2P members completed this initial evaluation protocol, subsequent evaluation demands were decreased. Every 6 months following the initial evaluation, C2P participants completed the Organizational Structure and Functioning–Short Version (OSF-S) survey. This measure was redeveloped every 6 months by removing sections from the OSF-L that had not changed (e.g., Background) or that were no longer relevant (i.e., those specifically related to past project activities). Other parts of the measure were adapted to incorporate changes to the structure of the C2P project. For instance, at one point the NCC team expanded to include new members; thus, items assessing satisfaction with the NCC team included these individuals. Another modification to the OSF-S surveys included the exclusion of items pertaining to the funding program officer, with whom the site coordinators have limited contact. New sections also have been added to reflect new or evolving project activities. The flexibility of the QAT to adjust the focus of its evaluation activities in this transdisciplinary research project underscores the importance of the ongoing assessment of team members' relevant yet diverse needs and experiences. Such efforts will undoubtedly reveal team members' commitment to project goals and address potential conflicts in perspectives inherent in transdisciplinary research (Abrams, 2006; Higginbotham et al., 2001).

In addition to the OSF-S, the QAT administers a shortened version of the in-depth interview called the Mini-Domain interview. This is conducted on the phone every 6 months and is designed to obtain feedback regarding various domains related to the structure and functioning of the C2P project. These domains have included Communication Networks, Programmatic Documentation, Programmatic Feedback, Collaboration, Leadership Effectiveness, Resources, Mapping, Communications Task Force, and the ATN Full Network Meeting. These domains change over time and respond to the current needs and tasks of the C2P project. Specific feedback regarding ways to improve these domains is requested particularly in relation to any changes in the past 6 months. A member of the QAT also is involved on the Communications Task Force so that additional concerns and recommendations regarding the structure and functioning of the C2P project can be addressed.

QAT Evaluation Results: Changes to C2P

The presence of the QAT throughout the first 5 years of the C2P project has resulted in a variety of changes to the structure and functioning of the overall project as well as changes at each individual site. The QAT has created a mechanism through which site coordinators and site PIs can have their voices heard in the planning and implementation of the C2P project, thus taking advantage of the transdisciplinary nature of this research project. Because C2P is an evolving project that responds to each community's needs, the incorporation of the experience, knowledge, and wisdom of individuals from various different disciplinary backgrounds is critical. Given the geographic distance between the sites involved in C2P, the QAT helps to serve as a central clearinghouse for project concerns and ideas.

Addressing the needs of the C2P site staff—The needs of C2P staff continue to evolve and adjust to the demands of the project. For instance, early local organizational charts depicted some staff concerns about challenges to organizational functioning with increased responsibilities associated with certain phases of the project. These perceptions were helpful in problem solving ways to address work demands (e.g., improved coordination of time spent on multiple activities) and in determining the number of staff required to implement C2P-related activities, depending on the size of the site and the program phase. The following section details specific changes made to the C2P project based on QAT feedback.

One consistent theme often heard by the QAT via other evaluation measures was the need for increased communication across the different research sites and between each site and the NCC and site PI. Based on the data from the QAT process, the Communications Task Force was created by site coordinators to facilitate and encourage cross-site communication and collaboration. The Task Force utilized the evaluation efforts of the QAT to learn more about the evolving needs of the C2P sites in the project. They established a multicohort conference call and an Internet message board in response to site coordinators' request for an open forum for the exchange of ideas and information.

Additional changes were made in the supervision of C2P site staff as a direct result of the evaluation data. To provide site coordinators increased guidance and direction with their work, the NCC created a template to provide site coordinators and site PIs with feedback regarding their quarterly progress notes and action plans. Individual site-specific calls between the NCC and site coordinators were enhanced by distributing meeting agendas and protocol timelines to monitor progress and provide more targeted feedback.

One central concern expressed by site coordinators was with their involvement in the planning of the biannual ATN/C2P Meetings, where C2P staff members from all sites are present. To ensure that the voice of site coordinators is heard in the planning of the ATN/C2P Meetings, the Communications Task Force began working with members of the NCC and the QAT to plan aspects of the C2P trainings at the biannual ATN/C2P Meetings. For instance, site

coordinators were given the opportunity to plan small group discussions on topics of interest to them and to share their working knowledge about methods and perspectives from their respective disciplines by cofacilitating such discussions. This illustrates a critical aspect of transdisciplinary research whereby knowledge from various disciplines is synthesized and applied in different community contexts (Stokols, 2006).

Moreover, future ATN/C2P Meetings began including unstructured time for C2P research staff to network with one another (e.g., between site coordinators from different C2P sites, between local site PIs and site coordinators) and to network and communicate with members of the NCC and QAT. Social events helped to foster closer personal relationships among various C2P team members and were a place where further trust, respect, and commitment to research-related activities could be built—all of which are critical aspects to facilitate progress in transdisciplinary research (Cunningham-Williams et al., 1999; Rosenfield, 1992).

To increase the face-to-face communication between the C2P PI and site coordinators, the C2P PI began setting aside time for "face-to-face questions and answers" at biannual ATN/C2P Meetings and increased his presence at the majority of the C2P-related sessions at the ATN/C2P Meeting. To increase communication at the individual site staff level between C2P staff and other ATN staff members working on additional research protocols, the following changes occurred: (a) site coordinators and study coordinators began attending sessions to share basic information about all study protocols that are currently in progress at sites, and (b) protocol training sessions began including site coordinators and site PIs together (previously they were not together for this). Finally, future ATN/C2P Meetings continued to incorporate a variety of communication settings (e.g., small group discussions, one-on-one sessions) to address multiple learning styles and communication preferences.

Site coordinators also raised concerns about their voices being heard in C2P-related conference presentations and publications. They viewed this as a professional development opportunity because many of the site coordinators are early-career professionals. To address the inclusiveness and professional development needs of the site coordinators, the NCC has formalized a publication policy and guidelines to assist these individuals in presenting C2P findings at academic conferences and in the writing of manuscripts. Since this has been implemented, several site coordinators have served as coauthors and primary authors of these outputs. The active involvement in dissemination activities by different team members is particularly important in the transdisciplinary research context because it helps ensure that a single framework or discipline does not dominate the approach to explain the process and outcome of research activities (Stokols, 2006). Furthermore, this illustrates the willingness to share power that was facilitated, in part, by a common desire to effect positive change in the lives of urban youth and appreciate merging members' different perspectives.

Addressing the needs of the NCC—To ensure that new NCC members would have adequate training and background to fulfill their duties, newer members of the NCC are now required to read overall project and site-specific information (cohort and site meeting minutes, protocols, local newspapers, etc.), to have frequent conversations with site coordinators and veteran NCC staff, and to receive directed guidance from other NCC staff. The NCC also has conducted several internal strategic planning sessions and modified the organizational infrastructure biennially to improve the communication channels and networks between the NCC and sites and to respond to the changing demands of the sites and the overall project.

The NCC has instituted weekly meetings to discuss issues with greater frequency and to provide ongoing communication among staff members. To involve the site coordinators at the organization level and keep the C2P PI aware of activities at the site level, the C2P PI began joining the site coordinators' calls once per quarter. To involve the site PIs at the organization

level, the C2P PI and/or C2P national coordinators participate on the monthly site PI conference calls at least quarterly. In addition, the NCC includes the site PIs on the individual calls with site coordinators on an as-needed basis. Although this commitment to mutually respectful communications is a notable requirement in transdisciplinary collaborations (Stokols, 2006), it also illustrates the flexibility of leaders in listening to concerns and encompassing everyone's perspective to achieve project aims.

Addressing the needs of the QAT—Just as the C2P project continues to evolve to meet the changing needs of the communities with which it works, so has the QAT evolved to meet the changing needs of evaluating the organizational structure and functioning of C2P. Such changes were necessary to ensure that the assessment remained relevant to understanding the C2P research team dynamics and enhancing a work environment that was focused on continual refinement given the potential conflicts that may arise (Cummings & Worley, 2005; Stokols, 2006). To address the needs of the larger C2P project, the QAT has included the site PIs in evaluations at varying levels of involvement. The OSF-S survey has evolved several times to include specific domains of interest, including one that examines the relationship between the site PI and staff. The QAT has worked with all of the various entities involved throughout the evolution of the project and the changing structure of the NCC to ensure that all voices are reflected in planning and structuring project-related activities and biannual ATN/C2P Meetings. The QAT has changed its format for delivering the results of the various evaluations, moving to a rapid assessment and dissemination model that shares findings in a timely manner via clear, concise reports.

CONCLUSION AND IMPLICATIONS

Transdisciplinary research and evaluation projects are increasing in popularity as public health professionals attempt to understand the complexity of current health issues and implement community-wide interventions. Multisite transdisciplinary efforts present particular sustainability challenges as they attempt to link multiple research or evaluation centers and various organizations across geographic settings. In addition, hierarchical power structures often exist within such projects that may prohibit individuals from various disciplines the chance to truly become active partners in the transdisciplinary process. To avoid restrictive hierarchical structures in transdisciplinary research and evaluation efforts, teams should consider process-related internal evaluative feedback mechanisms that facilitate the sharing of multiple voices.

Transdisciplinary Public Health Initiatives: Shared Values

Contemporary public health issues call for multifaceted public health initiatives to improve the nation's health and well-being. Public health educators are called to address these concerns within a value system that promotes social justice, equality, and the provision of health-related services for all people (Gambescia et al., 2006). Several important themes and values are enhanced by this approach to community research and evaluation, including principles of

- Social justice, collective action, and the application of democratic principles (Minkler, 2006);
- Community empowerment, where individuals take control over their lives and their environment (Rappaport, 1984, 2005);
- Partnership synergy, whereby partners' perspectives, resources and skills are combined to create "something new and valuable together—something that is greater than the sum of its parts" (Lasker, Weiss, & Miller, 2001, p. 184); and

- Cultural humility, a concept from discourse on race and ethnicity (Tervalon & Murray-Garcia, 1998), which describes the ability of individuals to listen to, and learn from, people from other cultures to identify various ways they can improve their understanding of dissimilar others.

Addressing Power Dynamics in Transdisciplinary Health Initiatives

Future transdisciplinary public health initiatives will benefit from addressing issues of power dynamics early in the project. In some settings, the highest level of education obtained by team members will influence the level of perceived and actual power in collaborative relationships, as those people with doctoral degrees may be seen as more knowledgeable than those with master's or bachelor's degrees or with no formal degrees. When such collaborations include individuals from various communities, the power differential may be compounded even further. For example, those without formal training in research and evaluation may be viewed as less knowledgeable regarding research and evaluation methodology and may be recognized only when exploring ways to make the methods more acceptable to community members (Suarez-Balcazar et al., 2005).

The implementation and action of multiple communication modalities within organizations can also help to ensure organization responsiveness and contribute to organizational effectiveness and longevity. Without these structures, those in power will have the most or only input in the research or evaluation process. Furthermore, by addressing research and evaluation team members' concerns and needs, organizational structures can help to raise awareness, empower members with knowledge, and promote supportive relationships and solidarity among members (Lord & Hutchison, 1993; Moane, 1999).

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