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Choosing strategies that work from the start: A mixed methods study to understand effective development of community–academic partnerships

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Abstract

Community–academic partnerships are believed to increase the effectiveness and feasibility of action research. While factors facilitating and hindering community–academic partnerships have been identified, their influence on the collaborative process is unknown, especially during community–academic partnership initiation and development. This explanatory sequential mixed methods study (quantitative→QUALITATIVE) evaluated perspectives of members in an autism community–academic partnership to determine frequently endorsed and influential factors facilitating and hindering the collaborative process during the community–academic partnership’s development. Participants ($n = 11$; community stakeholders, implementation scientist, and researchers) endorsed and ranked the importance of factors present in the formation of the community–academic partnership then completed a semi-structured qualitative interview to elaborate on survey responses. Interviews were coded using a coding, comparison, and consensus method and analyzed using the Rapid Assessment Process for frequency and salience of themes across interviews. Integrating mixed methods yielded ranked factors that were perceived to facilitate and hinder the development of the community–academic partnership, and highlighted the relative influence of interpersonal factors on the facilitation of community–academic partnership processes and organizational factors on the hindrance of community–academic partnership processes during development. Some discrepancies emerged between community and academic partners. Results may assist to improve the development of community–academic partnerships, which is becoming increasingly important in healthcare services research, dissemination, and implementation.

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Keywords

Community–academic partnership; collaboration; mixed methods; explanatory sequential design; autism spectrum disorder

The gap between evidence-based practice (EBP) and community practice in physical, mental, and behavioral healthcare has been well documented in the past decade (National Institute of Mental Health, 2015). Efforts to bridge this research-to-practice gap involve the development of new policies and funding (e.g. clinical translational research institutes), multi-disciplinary fields (e.g. action research), and methodologies (e.g. community–academic partnerships) (Brookman-Frazer, Stahmer, Lewis, Feder, & Reed, 2012; Brydon-Miller, Greenwood, Maguire, & members of the editorial board of Action Research, 2003; Israel, Eng, Schulz, & Parker, 2005). For example, ideological differences and limited communication between researchers and community providers during intervention development have likely contributed and lead to the development, dissemination, and implementation of EBPs with poor levels of acceptability, feasibility, and utility in community settings (Addis & Krasnow, 2000; Dingfelder & Mandell, 2011; Nakamura, Higa-McMillan, Okamura, & Shimabukuro, 2011).

To address these challenges, government funding agencies (e.g. National Institute of Health, Patient-Centered Outcomes Research Institute) have emphasized the importance of critical reflection and increased collaboration between researchers and community stakeholders (Avison, Lau, Myers, & Nielson, 1999). This emphasizes developing effective methods of EBP implementation in partnership with community stakeholders (Hurley et al., 2010) to provide high-quality services that ultimately lead to better public health outcomes, including increased quality of life and reduced health disparities (National Institute of Mental Health Division of Services and Intervention Research, n.d.; Bishop-Fitzpatrick & Kind, 2017).

One method designed to increase collaboration between researchers and the community is the establishment of community-academic partnerships (CAPs). CAPs are defined as “partnerships in which researchers and community stakeholders have equitable control in addressing a cause(s) that is primarily relevant to the community of interest and aims to achieve a goal(s) relevant to both community members (representatives or agencies) and researchers” (Drahota et al., 2016, p. 192). Bringing researchers and community stakeholders together is hypothesized to increase research relevance and intervention effectiveness in practice as well as aid in the implementation of EBPs (Dingfelder & Mandell, 2011; Hergenrather, Geishecker, McGuire-Kuletz, Gitlin, & Rhodes, 2010; Minkler & Salvatore, 2012; Parsons et al., 2013).

However, barriers exist to the utilization of the CAP methodology within action research. Researchers may be reticent to engage in collaborative research, such as CAPs, due to their limited training in this method, increased time commitment required, and institutional pressure for funding and faster research outcomes (Cobb & Rubin, 2006; Mayo & Tsey, 2009; Stahmer, Aranbarri, Drahota, & Reith, 2017). As important, community stakeholders may be suspicious of CAPs due to the history of community participant exploitation and

limited benefit to communities after participating in research (Benoit, Jansson, Millar, & Phillips, 2005; Washington, 2004).

Yet, when community stakeholders and researchers decide to partner and develop a CAP, the existing literature provides limited guidance on how to *develop* successful CAPs. A recent systematic review of CAPs across disciplines and indexing sources, conducted by Drahota et al. (2016), identified 12 facilitating factors important for well-functioning CAPs as well as 11 hindering factors that may inhibit the collaborative process (see Table 2). While beneficial to the continued growth of action research, the review did not provide information related to the relative influence of these factors on the collaborative process, especially when developing a CAP. Most published CAP research is descriptive in nature and has not focused on specific factors that influence success over the developmental course of CAPs (Drahota et al., 2016). That is, current research generally does not distinguish factors influencing the development (i.e. initiation and early period) of a CAP from the factors that sustain it. Indeed, a recently introduced theory-based collaborative model, the Model of Research-Community Partnership (Figure 1), identified specific phases of a CAP as well as collaborative processes important across these phases: development; proximal, and distal outcomes (Brookman-Fraze et al., 2012).

The current study expands upon previous studies by evaluating a specific collaborative group that focused on autism spectrum disorder (ASD) services *during the development of the CAP*. The purpose of the autism model of implementation (AMI) CAP was to develop a systematic implementation strategy for community agencies to use when choosing and implementing an ASD EBP (Drahota, Aarons, & Stahmer, 2012). This is important because approximately 1 in 68 US children are diagnosed with ASD, and the majority of these children are eligible for services from ASD community providers (Centers for Disease Control and Prevention, 2014). However, not all of the services being delivered by ASD community agencies are EBPs (Paynter & Keen, 2015; Pickard, Meza, Drahota, & Brikho, 2018), and EBPs that are adopted by ASD community agencies may not be successfully implemented and sustained (Perrault, McClelland, Austin, & Sieppert, 2011; Nakamura et al., 2011). AMI CAP members were interested in finding a way to facilitate EBP implementation in community-based organizations that provide services to children with an ASD (heretofore referred to as ASD-CBOs). The purpose of the present study was to explore the relative influence of facilitating and hindering factors within the AMI CAP during the CAP's development by utilizing an explanatory sequential design (quan→QUAL) (Ivankova, Creswell, & Stick, 2006).

Method

Participants

Autism Model of Implementation (AMI) CAP.—The AMI CAP was initiated by the second author (Drahota et al., 2012), who contacted community-based organizations providing specialized services to youth with ASD (ASD-CBO) in Southern California. Eligibility for participating in the AMI CAP included: (a) holding the role of director, supervisor, or decision-maker regarding EBP adoption within the ASDCBO; (b) ASD-CBO provides services to school-age children with ASD; (c) interest in designing a process that

agencies use to adopt, adapt, and implement EBPs for children with ASD; (d) time to invest in the AMI CAP; and (e) willingness to share information about their ASD-CBO. Participation in the CAP included five meetings annually (September 2012 to August 2013) to review and provide feedback related to the materials developed by the research team. Meetings were 2 hours in length and participants received \$100 for attending each meeting and completing research activities (e.g. CAP process surveys). At initiation, the AMI CAP comprised nine community provider partners from nine ASD-CBOs that delivered ASD services in Southern California and three academic partners: one implementation scientist and two academic researchers (Table 1). Community provider partners included: director/CEO ($n = 2$), clinical director ($n = 4$), clinical program supervisor ($n = 2$), and research director ($n = 1$). Participating ASD-CBOs delivered a variety of services to children with ASD: four provided behavioral services (44.4%), two provided mental health services (22.2%), one provided speech and language services (11.1%), and two provided multiple services (22.2%). The implementation scientist was an expert in the field of autism research and implementation science. The academic researchers consisted of the principal investigator and a project coordinator conducting studies about EBP implementation in ASD-CBOs. During the first year, one community provider dropped from the AMI CAP because she left her employment and moved. As established by the partners during the initial meeting, the goal of the AMI CAP was to develop a systematic process to implement EBPs in ASD-CBOs that would have broad reach, be practical and effective, and incorporate multiple perspectives.

Study participants.—This study was conducted at the end of the first year of the AMI CAP and included appropriate institutional review board approved study procedures. All AMI CAP partners, including community providers ($n = 9$) and researchers, including the implementation scientist, ($n = 3$) as well as current ($n = 11$) and former ($n = 1$) partners, were invited to participate. The first author, who was not a member of the AMI CAP, presented the study objectives during the last meeting of AMI CAP's Year 1. Attending CAP partners agreed to be recruited for participation. Additionally, the former partner was emailed with information about the study, and responded with an indication of her interest in participating. At the end of recruitment, 10 current and the one former AMI CAP partners participated (91.7%) in the quantitative and qualitative phases of the study. One current AMI CAP community provider partner declined due to time constraints.

Design

An explanatory sequential research design (quan→QUAL) was utilized for this study (Ivankova et al., 2006) (Figure 2). This design was selected because we aimed to analyze the quantitative data to determine which specific factors were perceived to be present within the development phase of the AIM CAP and how influential each selected factor was on the collaborative process. We utilized the quantitative data to generate the qualitative interview questions used to gather in-depth explanations of the results obtained in the quantitative phase (Creswell & Clark, 2011).

Quantitative phase

Participating AMI CAP partners were sent a link via email to the IRB-approved consent form and quantitative survey using [qualtrics.com](https://www.qualtrics.com) from the first author, who was not involved in the AMI CAP.

CAP survey.—A menu of facilitating and hindering factors was developed from the results of the CAP systematic review (Drahota et al., 2016) and combined with additional literature that yielded two additional hindering factors: lack of mutual benefit and lack of community (cf. Brookman-Frazee et al., 2012; Fook, Johannessen & Psoinos, 2011; Garland, Plemmons, & Koontz, 2006). Participants were asked to select whether they believed each facilitating factor was “present” or “not present” during the first year of the AIM CAP. For each factor selected as “present,” participants ranked how influential they believed the factor was in facilitating the collaborative group process during CAP’s first year. For example, a selected facilitating factor was given a “1” if it was perceived to be the most influential facilitating factor to the AMI collaborative process. This process was repeated for the list of hindering factors. Participants ranked all of the facilitating and hindering factors that they selected and did not rank factors that they did not select as present during the first year of the AMI CAP.

Data analysis.—Frequency counts, means, and standard deviations of selected factors were obtained. Additionally, visual inspections were used to rank order the most and least frequently cited factors. These analyses identified the specific factors to be expanded upon during the qualitative interviews.

Qualitative phase

Survey results were used to develop the semi-structured interview in order to expand upon the quantitative data. Each AMI CAP partner participated in an individual, semi-structured interview via telephone or in-person with the first author. Interviews were audio-recorded, occurred within two weeks of the participant completing the CAP survey and lasted 10–30 minutes. Participants received \$25 for completing the study.

CAP interview.—Participants were asked semi-structured interview questions related to their perceptions of the factors that influenced the AMI CAP’s development within its first year. Specifically, each participant was asked to elaborate and provide details about the specific facilitating and hindering factors selected on the survey. Participants were also asked whether their selected hindering factors were resolved or ongoing, and to suggest how ongoing hindrances might be resolved. Interview questions were individualized for each participant based on their quantitative survey data, and included:

1. I see that on your survey you identified—as factors that are present in the AMI Collaborative. Could you elaborate on that/those?
2. I also see that you ranked—as the most important factor facilitating the AMI Collaborative. Could you explain why it is so important?
3. Could you elaborate on the factors that you feel hindered the development of the AMI Collaborative? Do you feel that is/they are ongoing or resolved?

- a. If ongoing: Do you have any ideas or suggestions of how that could be improved in the future?
 - b. If resolved: Do you have any ideas or suggestions of how future collaborations could avoid a similar issue?
4. What is it that keeps you involved in the collaboration? Why do you continue to attend?

Data analysis.—Qualitative interviews were analyzed using the Rapid Assessment Process (RAP; Beebe, 2001). RAP is an iterative approach that includes transcribing, summarizing, and analyzing data rapidly to develop findings for projects requiring results to be used quickly after the conclusion of data gathering (Beebe, 2001; Miles & Huberman, 1994; McNall & Foster-Fishman, 2007). RAP streamlines the process of integrating the qualitative and quantitative data by reducing the qualitative data from the beginning of analysis (Miles & Huberman, 1994).

After interviews were transcribed and de-identified, an RAP interview template was created to collect specific summarized units of qualitative data. The first author and a second coder unfamiliar with the AMI CAP double-coded each transcript independently then reviewed coded data using a coding, comparison, and consensus method (Willms et al., 1990). The coders met to discuss each interview transcript to obtain coding consensus. When coding discrepancies arose, the coders looked through the transcript excerpt to determine the best code for that data. Qualitative data were then analyzed for salience and frequency of themes across all interviews.

Results

Quantitative and qualitative data were connected by having one dataset build upon the other and then analyzed using a process of expansion (e.g. “using one method to answer questions raised by the other method”) (Palinkas et al., 2011, p. 46). Specifically, factors were ordered by frequency from most to least frequent, and then qualitative data were connected to each factor in order to broaden the understanding of how factors influence CAP development (Guetterman, Fetters, & Creswell, 2015) (see Table 2 for joint display). Data were also compared between two participant groups—community providers and researchers involved in the AMI CAP.

The number of facilitating factors selected by participants on the survey ranged from 4 to 15 ($x = 8.2$, $SD = 3.5$) and from 0 to 2 for hindering factors ($x = 1.3$, $SD = 0.9$). Inspection of the number of facilitating and hindering factors as well as the specific factors endorsed by the former member was conducted and compared with current members’ responses. No differences were observed and data were combined for analysis and interpretation.

Facilitating factors

Each facilitating factor presented in the survey was endorsed by at least one participant. Of the facilitating factors, five were endorsed most frequently and were also ranked as the most influential factors facilitating the AMI CAP collaborative process during its first year.

Utilizing the Model of Research-Community Partnership (Brookman-Frazer et al., 2012) to guide categorization of the factors, we found that three of the top five facilitating factors were interpersonal processes and two were organizational process factors. Interpersonal processes are constructs pertaining to the quality of relationships or communication among CAP members. Operational processes include constructs pertaining to the logistics and quality of partnership functioning, such as meeting quality, partnership member selection, and finances.

Interpersonal process factors.—Ten of the 11 partners (90.9%) selected “shared vision, goals, and/or mission” as a facilitating factor, and seven partners ranked it within the top five most influential facilitating factors. The shared vision of the AMI CAP was important for partner’s engagement during CAP development. Moreover, partners indicated that, more than any other reason, they attended the AMI CAP meetings due to the shared goal of improving ASD services.

Nine partners (81.8%) selected “respect among partners” as a facilitating factor, and all ranked it within the top five influential facilitating factors. Partners reported that respect allowed them to speak openly, regardless of their agency role and background. Additionally, respect was important for resolving problems that might arise because of varying partner perspectives and disciplines, and because community providers were from competing ASD-CBOs.

Finally, 7 of the 11 participants (63.6%) selected “good relationship between partners” and six ranked it as one of the top five facilitating factors. Participants indicated that they either had established positive relationships with other partners prior to the CAP forming or developed positive relationships with AMI CAP partners quickly.

Organizational process factors.—Both “good quality of leadership” and “well-structured meetings” were selected by 9 of 11 participants (81.8%). Of these nine, good quality of leadership was ranked in the top five most influential facilitating factors six times and well-structured meetings was ranked in the top five most influential facilitating factors five times. While previous literature identified these two factors as different constructs (Drahota et al., 2016), our qualitative results suggest these factors may be better represented as a single construct. For example, participants indicated that “organized leadership,” including meeting structure, was a primary facilitating factor in the first year of the AMI CAP. Participants felt that their time was respected because of the way the researcher who initiated the CAP (and who CAP members agreed should continue to coordinate the meetings) developed the meeting agendas. Additionally, participants noted that a substantial amount of time for feedback was built into the meetings, which facilitated the collaborative group process.

Hindering factors

Five hindering factors were chosen by at least one participant (33.3%). Of these hindrances, only three were selected by more than one participant. One of the factors was an interpersonal process factor, while two were organizational process factors.

Interpersonal process factors.—Four participants (36.4%) selected “lack of a common language and/or shared terms” as a hindering factor to the development of the CAP. All of the participants who endorsed this hindrance were community providers. Providers reported that because of the diverse fields represented in the CAP, members often discussed at length specific clinical terms to include in the materials being developed. All of the participants who selected this felt that the hindrance was ongoing and inherent to a collaborative process that involves multi-disciplinary partners. In general, participants indicated that the benefits of multi-disciplinary partners outweighed the challenge of lacking common language because they wanted the materials produced to be feasible across multiple disciplines and settings.

Organizational process factors.—The most frequently selected hindering factor, endorsed by five participants (45.5%), was “inconsistent participation and/or membership.” In fact, secondary analysis of the attendance sheets indicated that participation steadily decreased over the first year of the AMI CAP, ranging from 100% to 60%. When asked whether this hindrance was ongoing or resolved, all who selected it stated that it was ongoing and would likely continue. While one community partner stated that there are “schedule conflicts or people become ill,” most participants did not attribute the participation decline to any particular cause. One participant suggested that a different method of scheduling or more defined roles within the CAP could possibly resolve the hindrance; however, most participants offered no suggestions on how to improve participation.

Finally, “lack of community impact” was selected by two participants (18.2%) as a hindrance during the CAP’s development. However, participants reported that the lack of current community impact was a minor hindrance because the project was in such an early stage and large impact was not expected within the first year.

Community provider and researcher discrepancies

In order to better understand the possible discrepancies in perspectives from community partners and researchers involved in CAPs, a visual inspection of the factors endorsed, the rank order, and the qualitative responses between these groups was conducted. Some differences were found suggesting that endorsement, rank order, and qualitative themes related to the importance of facilitating and hindering factors varied by group within the AMI CAP. Specifically, researchers reported greater concern about organizational process factors, such as differential benefit from participation in the CAP and partner selection, than did community providers. Conversely, a few community providers actually selected mutual benefit as a facilitating factor and stated that they did not feel that some CAP partners would benefit more than others when asked during the interview. Moreover, “good initial selection of partners” was selected by all of the researchers and they selected it as the top facilitator influencing the collaborative group process. However, only three (37.5%) community providers selected this factor, and of those, it was perceived to have less influence on the collaborative group process.

Finally, one organizational process factor was discrepant between researchers and community partners, “lack of a common language and/or shared terms.” Half of the community providers felt that lack of common language/shared terms hindered the collaborative group process whereas no researchers selected this factor as a hindrance.

Discussion

Though many factors have been identified to facilitate and hinder collaborative group processes (Drahota et al., 2016), there are likely differences in the relative influence of these factors depending on the phase the CAP (e.g. initiation versus sustainment). This study expands existing literature (Fouche & Lunt, 2010; Perrault et al., 2011; Sibbald, Tetroe, & Graham, 2014) by identifying and ranking the relative influence of factors that facilitate and hinder the collaborative group process during CAP development from the perspective of community and academic collaborative partners. Moreover, by utilizing an explanatory sequential mixed method design, understanding the influence of facilitating and hindering factors on the development of CAPs is deepened. Participants were able to provide detailed explanations for selecting collaborative process factors and elaborate on how these factors were perceived to influence the development of the CAP within its first year.

Notably, interpersonal processes were found to be the most influential facilitating factors during the CAP’s development, and included having shared group vision, an atmosphere of respect, and good relationships between the partners. This suggests that shared vision, though cited frequently as facilitating factors in existing CAP literature (Christie et al., 2007; Cobb & Rubin, 2006; Minkler, Vásquez, Tajik, & Petersen, 2008; Stahl & Shdaimah, 2008), may need to be a higher priority than other identified factors (i.e. effective conflict resolution) while developing a CAP (Carlton, Whiting, Bradford, Dyk, & Vail, 2009; Matusov & Smith, 2011). Moreover, this study confirmed the importance of respect and positive relationships between partners as influential factors to the collaborative process (Perrault et al., 2011; Tajik & Minkler, 2006). Therefore, monitoring these interpersonal factors among partners may be critical for CAPs to successfully develop. Given the difficulty with continued CAP participation cited by collaborative literature, identifying strategies that both facilitate collaboration and mitigate hindrances is of particular importance.

Finally, while previous literature has identified “leadership quality” as influencing collaborative group processes (Fouche & Lunt, 2010; Sibbald et al., 2014), it often refers to personal characteristics of the CAP leader, such as charisma or level of support (Miller & Hafner, 2008; Wong et al., 2011). In the current study, however, participants did not distinguish between good quality of leadership and well-structured meetings, and indicated through qualitative responses that leadership quality referred to an organizational process rather than an interpersonal process. That is, partners reported that *organized leadership* (rather than leadership characteristics) facilitated the collaborative process. For example, caring yet disorganized CAP leaders may negatively impact the development of a collaborative group (Stokols, Misra, Moser, Hall, & Taylor, 2008). This is an important distinction that may help CAPs as they develop and work toward identified goals.

Few hindering factors were endorsed by study participants and no large trends emerged from the data to suggest a particular factor hindering the development of the AMI CAP. While it may be that few hindrances were experienced by the AMI CAP partners, an alternative hypothesis may be that participant bias contributed to this finding. Future research may better explain this finding through the use of longitudinal designs. For example, it may be that hindering factors are commonly not experienced during the development phase of CAPs when partners may be more motivated to participate and feel more value in their collaborative efforts, but instead, occur later, such as during the execution of CAP activities or CAP sustainment.

Of the few hindering factors endorsed by participants, the most influential included inconsistent participation, a lack of common terms between collaborative partners, and lack of impact on the community. Interestingly, participants in the AMI CAP felt that these hindrances were inherent to the collaborative process and unavoidable. Inconsistent participation has previously been reported as a hindrance to the collaborative process (Sibbald et al., 2014; Cobb & Rubin, 2006; Haire-Joshu et al., 2001); however, this study found that participants disagreed about the challenge that inconsistent participation caused to the development of the collaboration, and felt that issues related to missed collaborative meetings were likely unavoidable. Possibilities for increasing consistent participation may be to consider availability during partner selection, rotate meeting locations, use technology to facilitate virtual attendance, or utilize evidence-based engagement strategies from related disciplines (Haime-Schlagel & Walsh, 2013).

Similar to other studies, members of the AMI CAP reported a lack of a shared language between partners (Garland et al., 2006). Participants indicated that this was the result of the multi-disciplinary nature of the AMI CAP. Consideration for developing heterogeneous versus homogeneous groups is likely dependent on the goals and mission of CAPs. Therefore, the benefit of multiple perspectives may outweigh this hindrance. Further, it may be important—especially for academic partners—to adopt community partner’s language as the shared language for the CAP, develop a glossary, or have discussions related to the meanings of terms across partner disciplines early in the collaborative process in order to facilitate the development of a shared set of terms and reduce ongoing and repeated conversations devoted to establishing a common language. Finally, during the development of a CAP, it may be important to identify varying motivations and agree upon specific procedures for overcoming hindrances related to discipline-specific jargon.

While two partners identified “lack of community impact” as a hindrance, five partners selected “positive community impact” as a facilitating factor for the AMI CAP. Even when selected as a hindrance, the AMI CAP partners emphasized the potential future impact of the project after the first year. Moreover, the ability to positively impact the community may influence the collaborative group process in a dynamic manner (Brookman-Fraze et al., 2012). That is, lack of community impact, while perhaps a minor hindrance during the development of a CAP, may become a more encumbering hindrance during other phases of the collaboration if not addressed.

Finally, some differences emerged when comparing responses from community partners and academic partners. While AMI CAP academic partners felt that partner selection was the most influential facilitator to the collaborative process, few community providers selected this factor. However, this finding may be specific to researcher-initiated CAPs. Academic partners recruited community providers to participate in the AMI CAP, which likely emphasized participant selection as a particularly important factor for the academics whereas community partners may have been unaware of the partner selection process.

Limitations

The main limitation of this work is that the study design, analysis and interpretation was researcher-driven rather than collaboratively developed with the AMI CAP partners, as is the hallmark of action research. This is demonstrated by the use of an existing list of facilitating and hindering factors to evaluate the perceived influence of these collaborative process factors on the development of a CAP rather than actively seeking input from the CAP partners in the co-creation of study aims, design, and instrument (Avison et al., 1999). Future action research involving CAPs would benefit from greater involvement of CAP partners actively participating in the research design, process, and analysis. Moreover, utilizing an explanatory sequential design for the current study contributes some methodological limitations for the study by requiring the authors to rely on the frequency counts of selected facilitating and hindering collaborative process factors to develop and guide the qualitative, semi-structured interview instead of allowing open-ended discussions of the full list of factors with each participant (Ivankova et al., 2006). This may have artificially limited the depth of qualitative data obtained by restricting the themes that could emerge from the qualitative interviews. Further, this study represents perspectives from partners in a single CAP and thus generalization may be limited. It is to be noted that participants with different collaborative group goals may identify other factors influential to their particular CAP process. Finally, future research should continue measuring collaborative process facilitators and barriers in order to evaluate the ongoing influence of these factors across the phases of CAPs. Despite these limitations; however, this study offers guidance to researchers and community stakeholders who are considering conducting action research by providing information about the dynamic influences of collaborative process factors during the initiation and early development of CAPs.

Conclusions

CAPs are hypothesized to have large potential benefits for improving EBP implementation, community-based services, and engagement between research and community stakeholders (Hergenrather et al., 2010; Redman, 2003). Community stakeholders can provide first-hand knowledge and insight that can help identify critical concerns, and design and implement projects to meet community needs (Brookman-Fraze et al., 2012; Sibbald et al., 2014). The goal of CAPs is to increase the relevance, feasibility, and effectiveness of interventions for community care. By identifying influential factors that facilitate and hinder collaborative processes during the development of CAPs, community partners and researchers utilizing CAP methods may be better situated to maximize these benefits. Furthermore, increasing

the facilitating factors and decreasing, as much as possible, hindrances to the collaborative process is likely to positively impact the sustainment of CAPs over time.

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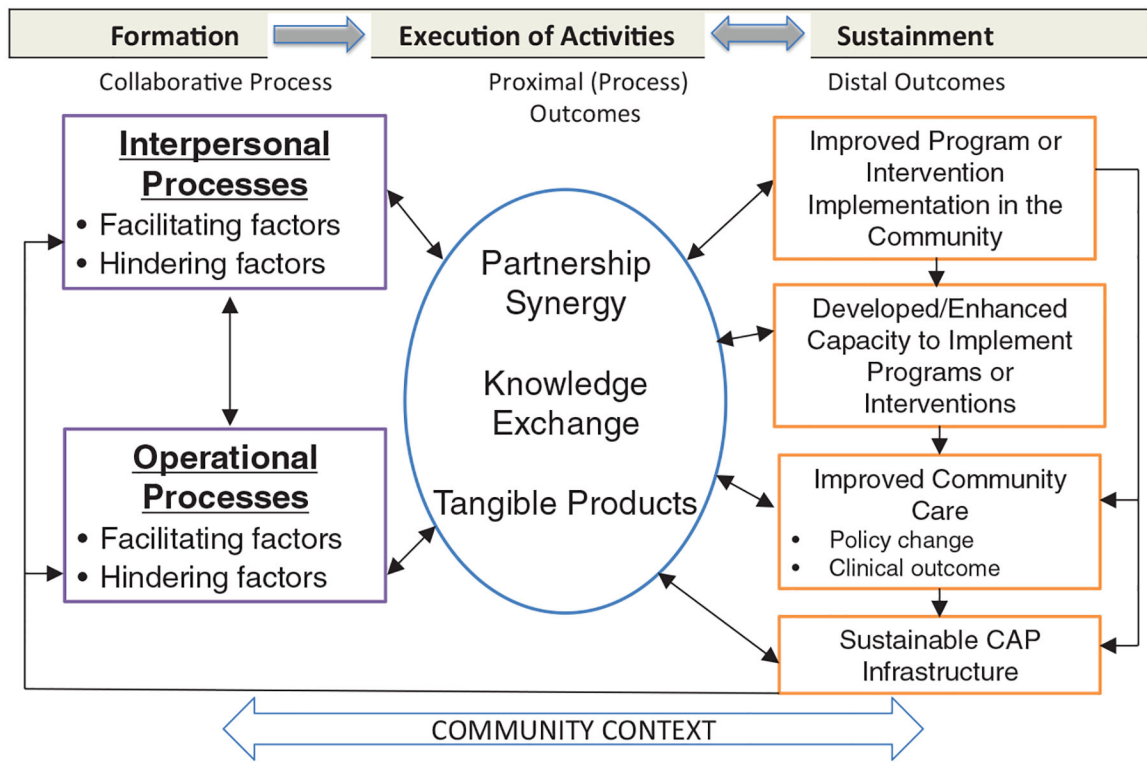


Figure 1. Model of research-community partnership (adapted from Brookman-Fraze et al., 2012).

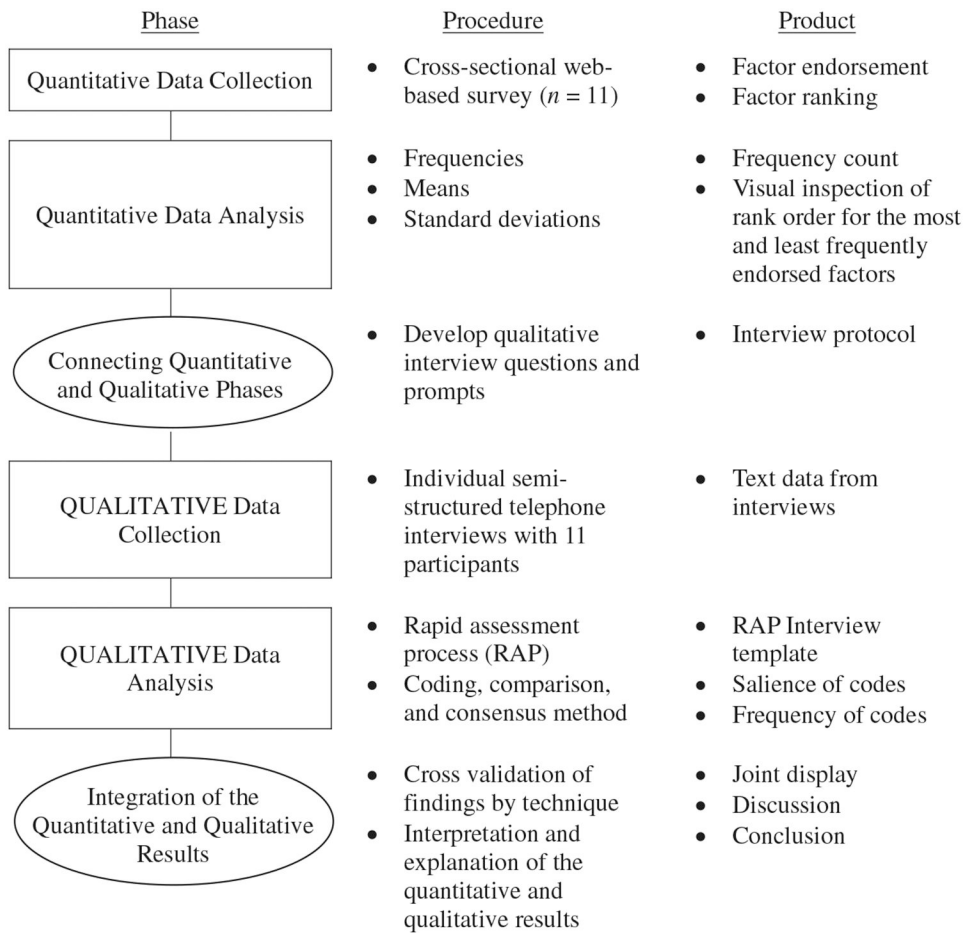


Figure 2. Visual model of explanatory sequential design procedures (adapted from Ivankova et al., 2006).

Table 1.

AMI CAP partner demographic information.

	AMI CAP participants	
	#	(%)
Gender		
Female	10	(90.9)
Male	1	(9.1)
Ethnicity		
Caucasian	9	(81.8)
More than one race	2	(18.2)
Education level		
PhD	7	(63.7)
Masters	3	(27.3)
Bachelors	1	(9.1)
Educational background		
Psychology	8	(72.7)
Social work	1	(9.1)
Speech/language	1	(9.1)
Education	1	(9.1)
Area of expertise		
Behavioral	4	(36.4)
Mental health	2	(18.2)
Speech/language	1	(9.1)
Multiple	1	(9.1)
Researcher	2	(18.2)
Implementation science	1	(9.1)

Table 2.

Joint display of quantitative and qualitative data.

Factor	Definition	Category	Selected (%)	Top 5 selected (%)	Qualitative data
<i>Facilitating factors (n=12)</i>					
Shared vision, goals, and/or mission	• Partners share the same identified vision or values	Interpersonal	90.9	63.6	"I think the fact that everybody at the table wants to improve ASD services has helped to keep people engaged...they actually care about the work that is being done versus coming in with separate agendas."
	• Partners identify the same goals or mission for CAP				
Respect among partners	• Partners honor and value each other's opinions	Interpersonal	81.8	81.8	"I think that one of the things that helps...me talk about my business in front of people who are competitors is that they're all people that...have high integrity, are really good at their job. I have respect for what they do"
	• Partners are careful to ensure that each member is able to share his or her beliefs				
Good quality of leadership	• A person with strong and experienced leadership skills	Organizational	81.8	54.5	"I appreciate that the meetings start on time, they end on time, and that the leader has a clear agenda and moves the group discussion along."
	• A leader who is open, listens and takes suggestions into consideration				
	• A leader who cares about members of the group				
Well-structured meetings	• Meetings meet with a satisfactory or effective frequency	Organizational	81.8	45.4	"[CAP leader] elicits feedback from people. She's well organized, and able to keep things on track, with space to allow for feedback and differing opinions."
	• The logistics of the meetings facilitate productivity, satisfaction, effectiveness, partnership, opportunities to interact, etc. (e.g. food available, formality/lack of formality at meetings)				
	• The style of the meeting is satisfactory (e.g. face-to-face, telephone, web-based)				
Good relationship between partners	• Partners work well together, group cohesion, strong reciprocal relationship, get along well, or like each other	Interpersonal	63.6	54.5	"...it didn't take a lot of time for cohesion to develop, I mean, it was kind of there from the beginning, and it was relatively easy—I think—for me and maybe a few others who didn't know as many people."
	• Partners engage in ongoing communication that is open and respectful	Interpersonal	63.6	18.2	"I think that the communication is clearly important and it has been effective as far as keeping people in the loop between meetings in particular, or having a place where we can look at documents, and so forth."
Effective and/or frequent communication	• Communication that encompasses personal and professional matters				
	• Selecting the "right" people to be a part of the collaborative group	Organizational	54.5	36.4	"I think that the people that are there facilitate the interpersonal process as far as trust and collaboration, and so that is why that stood out for me. Who is in the room sets the foundation for the collaborative process."

Factor	Definition	Category	Selected (%)	Top 5 selected (%)	Qualitative data
	<ul style="list-style-type: none"> The personality characteristics of partners contribute to the success of the CAP 				
Trust between partners	<ul style="list-style-type: none"> Partners have faith in the honesty, integrity, reliability, and/or competence of one another Partners are comfortable sharing because they believe that the sensitive information that they provide in the collaboration will remain in the group 	Interpersonal	54.5	36.4	“Early on, especially coming from more of a junior position, early on I may not have shared quite as much, but later I feel that seeing how much other people’s opinions are respected, I’ve trusted the group more to be able to share ideas...and so yeah, I think it has definitely helped the collaboration.”
Positive community impact	<ul style="list-style-type: none"> Partners perceive the group as having/will have a positive impact on the community 	Organizational	45.5	27.3	“The nature of the people involved and the project is that, you know, these people generally are wanting to make a positive impact, on their clients and other... and probably even underlying, more important, other professionals.”
Mutual benefit for all partners	<ul style="list-style-type: none"> All partners benefit from the group’s progress. Benefit may be different but all receive some benefit 	Organizational	36.4	18.2	“The goal that we’re striving toward is sort of trying to figure out how to do an intervention, and how to choose one, is a benefit to everybody, and so a) it’s getting done and we don’t have to do that much work, and b) once it’s done, I think it’ll be useful”
Clearly differentiated roles/functions of partners	<ul style="list-style-type: none"> Each partner has a specific role in the group that contributes to its progress CAP has a specific group structure with different roles for different partners 	Organizational	18.2	0	“I feel like it’s clear what I need to do versus what the research team is going to do. Umm, which is helpful.”
Effective conflict resolution	<ul style="list-style-type: none"> Conflicts are discussed and resolved openly by partners The team develops as they continually deal with problems, tensions, and frustrations 	Interpersonal	9.1	0	“[F]rom what I’ve encountered...I’ve been in groups where there is high conflict, requiring specific conflict resolution, and that really hasn’t been my experience in this group. So if there is kind of difference of opinion, it’s not something that has required resolution.”
<i>Hindering factors</i> (<i>n</i> =13)					
Inconsistent partner participation or membership	<ul style="list-style-type: none"> There is inconsistent or fluctuating partner attendance at meetings. CAP membership is inconsistent. There is attrition or turn over in partnering agencies/organizations or individuals 	Interpersonal	45.5	45.4	“[It] just impacts [the collaborative process]. I don’t think the overall outcome is particularly going to be much worse. I just think that you miss the opinions and the input from people and then when they’re back they have to catch up on what they missed.”
Lack of common language or shared terms between partners	<ul style="list-style-type: none"> Partners lack common terms or definitions related to the topic of interest or work of the CAP Partners lack of shared understanding of terms used 	Organizational	36.4	36.4	“We have to go back and redefine or, our collaboration is lingo heavy, and we all have our own lingos and we all think our own lingos are just as important, so we have to spend a lot of time back-pedaling and defining terms and re-defining terms, to find out that we’re all talking about the same thing.”

Factor	Definition	Category	Selected (%)	Top 5 selected (%)	Qualitative data
Lack of community impact	<ul style="list-style-type: none"> Partners have perceptions that the group will not have/did not have a positive or meaningful impact on the community 	Organizational	18.2	18.2	“There hasn’t been much impact. I don’t really see it as a hindrance long-term, if everything plays out the way it is supposed to.”
Lack of mutual benefit	<ul style="list-style-type: none"> Not all members benefit equally from the group’s progress 	Organizational	9.1	9.1	“[F]olks might be concerned that [some community providers] are not going to benefit the same way as [other community providers]...and that’s sort of becoming more apparent, I think, to everyone.”
Unclear roles and/or functions of partners	<ul style="list-style-type: none"> Many or all of the partners do not know what their role in the group is supposed to be Partners are not assigned any roles and, therefore, do not know how they can best contribute to the CAP 	Organizational	9.1	9.1	“Some people, I feel, may not contribute quite as much as others and I think that if we each had kind of a role, maybe ‘you review the materials we got’ or ‘you do this’, ...I think that it could help to have a more equal participation.”
High burden of activities/tasks	<ul style="list-style-type: none"> Some, many, all members are dissatisfied with the amount of work they have to do in order to sustain the CAP Partners are dissatisfied because the tasks they have to complete are boring, expensive, not meaningful, or otherwise upsetting 	Organizational	0	0	
Mistrust between partners	<ul style="list-style-type: none"> Partners do not have faith in the honesty, integrity, reliability, and/or competence of one another Partners are uncomfortable sharing because they believe that the sensitive information that they provide in the CAP will not remain in the group 	Interpersonal	0	0	
Lack of shared vision, goals, and/or mission	<ul style="list-style-type: none"> There are unclear or undefined vision, goals, values or mission of the CAP Partners have different agendas/vision for the CAP 	Interpersonal	0	0	
Excessive time commitment	<ul style="list-style-type: none"> Partners leave the group, want to leave the group, or the CAP does not function well because the amount of time partners have to spend collaborating is too large 	Organizational	0	0	
Bad relationship	<ul style="list-style-type: none"> Partners do not value each other’s opinions Partners make no effort to ensure that each member is able to share his or her beliefs 	Interpersonal	0	0	
Differing expectations of partners	<ul style="list-style-type: none"> Struggles emerge because members do not all expect the same structure, procedures, and/or outcomes 	Organizational	0	0	

Factor	Definition	Category	Selected (%)	Top 5 selected (%)	Qualitative data
Excessive funding pressures or control struggles	• Partners struggle over control of funding	Organizational	0	0	
	• CAP experiences external pressures from funding sources related to decisions, CAP outcomes, or the progress				
Poor communication between partners	• CAP has limited or unclear methods of communication	Organizational	0	0	
	• Partners experience difficulty maintaining communication				

Note: Lack of mutual benefit and lack of community impact do not appear as hindering factors in the paper by Drabota et al. (2016), but were derived from additional literature and included in the current study (cf. Brookman-Frazee et al., 2012; Fook et al., 2011; Garland et al., 2006).