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Abstract

Background: Community-campus partnerships have been a major developing field of study in improving health outcomes to reduce health disparities. However, there is limited literature that evaluates communication strategies used to improve health outcomes among disadvantaged populations during the early stages of implementing community-campus partnerships.

Objectives: Based on the Donabedian model, we conducted a retrospective quasi-qualitative synthesis of literature relating to the identification and evaluation of community engaged communication in community-campus partnerships to address health disparities.

Data sources: All published peer-reviewed articles from 2001 to 2013 that addressed health disparities in community-campus partnerships were reviewed. Key word searches from PubMed, MEDLINE, CINAHL, Social SciSearch, ProQuest, and Communication and Mass Media Complete databases were performed.

Design: Donabedian's structure, process and outcome model was used to provide a framework for the inclusion and exclusion criteria of studies. Using a quasi-qualitative approach, qualitative and quantitative analysis were used to compare the relationship between studies and inferential statistics respectively. Themes were identified and described. Data were extracted on each study's characteristic and application of components on the Donabedian model in community-campus partnerships.

Results: Forty-two articles met the inclusion criteria. All articles described by using some part of the Donabedian model to improve health outcomes. However, there was great variability in the frequency of communication structures and processes used. We found that communication processes and strategies have an association with improving health outcomes, especially among disadvantaged and vulnerable populations ($r = 0.863$, $p<0.01$).

Conclusion: Community engaged communication processes and strategies are powerful tools to engage underserved populations. Consequently, under the premise of a community-campus partnership, well-conceived and implemented communication approaches greatly improve health outcomes in disadvantaged populations.

Keywords

community-campus partnerships; Affordable Health Care Act, Health Disparities, Communication

Cover Page Footnote

I would like to acknowledge the assistance I received from two wonderful students at Rutgers University.

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A Retrospective Quasi-Qualitative Synthesis of the Literature to Identify and Evaluate Communication Processes in Community-Campus Partnerships to Address Health Disparities

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INTRODUCTION

Community engagement is a critical component of population health (The Clinical and Translational Scient Award [CTSA] Consortium's Community Engagement Key Function Committee and CTSA Community Engagement Workshop Planning Committee, 2009; United States House of Congress, 2010). This strategy, was set in motion by the 1999 Kellogg Commission's report, *Returning to our Roots The Engage Institution* (Kellogg Commission on the Future of State and Land-Grant Universities, 1999). Community engagement was promoted as a viable strategy to reducing and eventually eliminating health disparities and inequity impacting minoritized communities. This report set off a surge of community-campus partnerships addressing the health of these communities. Currently, several university-based research centers are working to engage communities in research – community-campus partnerships to address health disparities and inequities. Effective community engaged communication to address health disparities and inequities is required for successful engagement of local minoritized communities (Kreps, 2012).

This literature synthesis aimed to explore the relationship of community engaged communication processes to health outcomes in community-campus partnerships during the period following the Kellogg's report (2001-2012) to ascertain the use of communication process and their impact on health outcomes during this fledging phase in community engagement. This study contributes to the further identification of effective community engaged communication processes, strategies, and standards when working with and within minoritized communities.

BACKGROUND

Community engagement is defined as a core element of any work effort involving the supportive efforts of communities, practitioners, and researchers to improve health (The Clinical and Translational Scient Award (CTSA) Consortium's Community Engagement Key Function Committee and CTSA Community Engagement Workshop Planning Committee, 2009). It is a process involving participation supportive of a mutual respect of values, strategies, and actions to perpetuate the authentic partnership of people affiliated with and/or self-identified by location, interest, or held-in-common situations to address issues affecting the well-being of the community of focus (Fawcett et al., 1995; Jones & Wells, 2007). Community engagement requires academic researchers/health practitioners to become part of the community, and for community members to become part of the research team, thereby creating a unique working and learning environment before, during, and after the research.

Community engaged communication is defined as the cultivation and exchange of shared meaning and information, facilitating engagement processes and enhancing the capacity of collective efforts to address health (Thoreson & Carlie, 2011). Communication impacts, and is necessary for entering a community, relationship, building, forming a partnership, collaboration,

intervention design and implementation. Thus, community engaged communication is vital for engaging communities around health issues.

Communication is perceived as a valued factor in community-campus partnerships (Sandy & Holland, 2006). Effective communication with community members increases the bidirectional identification and sharing of community and academic capacities, knowledge, information, and resources (Hull et al., 2010). Thus, determining what communication factors foster the most effective working relationships in community-campus collaborations has merit (Scarinci et al., 2009). Communication can be examined in terms of methods and patterns. Examinations of community-campus partnerships in terms of methods can be seen in how relationships and partnerships are developed and maintained (Bringle & Hatcher, 2002), such as the role of uncertainty management in the development and maintenance of community-campus partnerships. Methods might also include the ways in which equity, power, mutual respect are encoded and communicated in the collaborative decision-making process. Attention to communication patterns draws attention to what communication strategies work, such as open forums and promotoras. Patterns that enable open and accessible communication in these partnerships are also important to identify (Bringle & Hatcher, 2002; Holland, 2005).

While identifying what works communicatively, it is just as important to note that community-campus partnerships vary in the qualities they contain and perpetuate (Holland, 2005). Hence, communication methods and patterns vary. Differences between individuals, research institutes and community-based organizations can present challenges for effective communication. Campus research institutions and community organizations often partner on research projects even though they may differ significantly in their perceptions of the process and outcome (Sandy & Holland, 2006). Personal and professional backgrounds/perspectives, organizational capacity and policies can impact ways of communicating information and what types of communication are considered useful or credible (Williams et al., 2009). Diverse determinants may also lead to inequalities in partnerships' communication, and in the capacity to develop, disseminate, access, process, and act upon the information. However, partnerships benefit from incorporating multiple perspectives through several communication channels, including researchers, community members, parent liaisons, community advisory groups, and memorandums of understanding (Warren et al., 2010; Warren & White, 2020). Awareness of communication processes in community-campus partnerships can aid in positive outcomes as well as help others who may be engaged in community partnerships (Nagler et al., 2013).

Conceptual Model

This systematic literature review used the Donabedian Model (DM) as an organizing framework to identify and evaluate communication components in community-campus partnerships (Donabedian, 2005). Traditionally used to evaluate health care, the DM offers a systems level approach and is applicable to community-placed health outreach (Rai et al., 2018), health communication (Cragun & Zierbut, 2018; Martinez et al., 2018; Savoia & Gamhewage, 2017; Stanford, 2019), and quality of concern in addressing minoritized groups' health needs (Ghaffari et al., 2014). The DM is also applied in education to evaluate quality in collaborative practices (Botma & Labuschagne, 2019). A community-campus partnership functions as a system in providing a way of structuring people and resources (Cools & Van den Abbeele, 2011). This relationship facilitates activities and services that include intervention development and implementation, community health assessments, health-related and research trainings, advocacy,

and policy development. Communication is essential for fostering shared understandings to achieve community-campus partnership aims for effective health-related outcomes. Community-campus partnerships utilize collaboration, communication, and shared understandings to address contextually specific health needs. The DM was chosen due to its applicability to these types of partnerships, flexibility, and evaluative scope.

The Donabedian model (Figure 1) fulfills three dimensions: structure, processes and outcomes (Donabedian, 2005). Structure refers to attributes of the setting where activities and services are centered – the community-campus partnerships in this instance provides the structure for communicative acts (Donabedian, 2005). The process component included the ways various communication processes are important to partnerships and whether these processes were effective in achieving outcomes (Donabedian, 2005). These variables included uncertainty management, self-disclosure, relationship building, trust building, consensus building, decision-making, and community outreach, attitudes/knowledge/beliefs. Outcome variables related to the impact of process (Donabedian, 2005). In this case outcomes were identified as pertinent health-related outcomes of underserved communities. These included community mobilization, increased community capacity to promote health, health interventions, health inequity/health disparities, clinical outcomes, and effective policymaking.

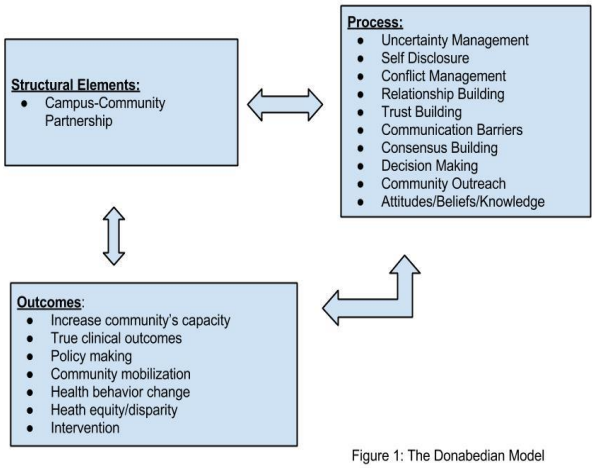

Figure 1: The Donabedian Model

This following literature synthesis explored the relationship of communication process variables to health outcomes in community-campus partnerships that engage underserved communities. The process and outcomes variables are operationalized below.

Communication Process Variables

Uncertainty management is critical for a successful interpersonal relationship to form and last (Malik & Kabiraj, 2010). It is a driving factor for communication of information; when communication is executed both effectively and efficiently, it can help reduce uncertainties (Abdulrahim, et al., 2010). Since individuals react negatively to uncertainty, it is essential that they seek information to mitigate uncertainty.

Self-disclosure is defined as any information a person communicates with another person about himself or herself, or any other type of information that is not readily available to others but reasonable to disclose in any given situation (Wheeless & Grotz, 1976). Disclosure varies depending on factors like: honesty, accuracy, intimacy, intent to disclose, positive or negative information, and relevance (Wheeless & Grotz, 1976).

Relationship building involves management of uncertainty and utilization of self-disclosure to cultivate interpersonal relationships with community members and organizations (Michener et al., 2012). Relationships afford the development of trust, vested interest in a project

and collaboration (Jap & Haruvy, 2008). The effective involvement of community members improves quality, relevance, and outcomes of health research (Brenner & Manice, 2011).

Trust is the 'glue' in bonding relationships (Palermo et al., 2006). The degree of surety in a person, process, or environment fundamentally impacts engagement and partnership building. Community-engaged research has the potential to also reduce historical mistrust about researchers by underserved communities and to ameliorate negative stereotypes researchers may hold about targeted communities (Palermo et al., 2006). Establishing confidence within community-campus partnerships leads to stronger collaboration, decision-making, and implementation of programs (Goodman et al., 2010).

Consensus building is the practice of working together to make a decision. Once trust and relationships have been established, reaching collaborative decisions is an important community engagement practice. As a result, consensus building is necessary to addressing community-based health issues, as well as achieving partnership goals and objectives. Strategies used in consensus building are varied. However, it is noted that communication should be clear and direct, and involve all participants. Additionally, respect of culture and equality in all aspects of the partnerships are important for project development and dissemination (Cools & Abbeele, 2011). Consensus building also contributes to the quality of the study design, methods and impact of research in the community (Brenner & Manice, 2011).

Decision-making involves a set of activities that include, gathering, interpreting, and exchanging information; creating and identifying alternative courses of action; choosing among alternatives by integrating the often-differing perspectives of team members; and implementing a choice and monitoring its consequences (Peluchette, 2014).

Community outreach is conducting activities to increase public awareness of an issue (Riesch et al., 2013). These activities can be executed through both broad (county-wide) and targeted (community-specific) interactions.

Attitudes/Knowledge/Beliefs are defined as an individual's or organization's perceptions, behaviors, and opinions based on experiences (Gielen & Sleet, 2003). These individual-level factors can inherently influence future decisions a person makes regarding their health. These factors also impact researchers' and practitioners' engagement of communities.

Outcome Variables

Community mobilization is composed of inter-organizational and inter-community communication, mobilization pathways (e.g., community leaders), and mobilization inputs (e.g., community organizations). Bringing visibility to a health issue aids in mobilizing both researchers and community members to address the issue based on increased capacities, such as new knowledge and a shift in beliefs (Griffith et al., 2010).

Community capacity is generally viewed as characteristics and determinants that impact community ability to identify, mobilized, and deal with health problems. It is also the development of skill in utilizing transferrable knowledge as well as the use of systems and resources that affect community- and individual-level changes in line with health goals (Goodman et al., 1998).

Health interventions, such as medical screenings, increased use of technology, and peer-led education programs are another positive outcome of community-campus partnerships. These programs can reduce health risk by also attending to the underlying social, economic, and environmental conditions (Hawe & Potvin, 2009). Working with the community allows these interventions to be built along the lines of what the community both needs and desires.

Consequently, projects can emerge from these partnerships and will help provide an actual service for the community to utilize.

Health disparities are inequalities that are associated with systematic disadvantages in accessing health care or the burden of disease. These differences are linked to societal, economic, and environmental factors, in addition to discrimination or exclusion. They can also result from decreased access to health care, educational variations, and behavioral factors (The Secretary's Advisory Committee on National Health Promotion and Disease Prevention Objectives for 2020, 2020).

Clinical outcomes are well-defined outcomes that can be positively benefited by community-campus partnerships. Proper interventions can result in significant gains in healthy behaviors (Thorpe, 2010).

Policymaking can occur when advocacy is able to make lawmakers enact legislation for the betterment of public health (Longest & Huber, 2010). Successful implementation of formative research can be reached by applying methods that have been researched previously as part of a collaborative program. Ultimately, a positive health behavior change is an overarching goal and outcome of community-campus partnerships.

METHODS

Identification of Studies

The PRISMA model was modified to fit the needs of this quasi-qualitative synthesis of the literature (Moher et al., 2009; Warren et al., 2014). The databases chosen for this study included: PubMed, MEDLINE (part of OVID and EMBACE databases), CINAHL, Social SciSearch, ProQuest, and Communication and Mass Media Complete. These databases were chosen to cover the range of topics related to the study. The Cochrane Library was not chosen do due limitations, such as using a literature review in a literature synthesis.

PubMed, MEDLINE, and CINAHL all provided journals based on health-related and biomedical content. Social SciSearch and ProQuest provided literature from various areas in the social sciences. Communication and Mass Media Complete provided literature related to communication. Following a controlled search of these seven databases, a search via Google Scholar was also performed to identify relevant articles not previously found using the other seven databases.

Searches through these databases were conducted following a set protocol. Search trees were created to narrow down searches. The primary search terms were community engagement, community-based participatory research, and community-campus partnerships each to be searched separately. The secondary and tertiary search terms were: health disparity, outreach, trust, and communication. The search protocol stated if primary search terms resulted in more than 220 results then add the secondary terms. If the secondary search resulted in more than 5,000 results, tertiary terms were added. Each author screened the potential articles' titles to ensure these articles were relevant to the study. After the initial search was completed, a conceptual model checklist was created. Note that MedLINE worked differently, in that individual searches for each concept were performed. Finally, a hand search was carried out and bibliographic references of articles previously identified were screened for inclusion.

Inclusion/Exclusion Criteria and Screening Process

In order to organize our findings, a conceptual model checklist was used to ensure that the article titles and abstracts fit the inclusion criteria for the Donabedian model used. The conceptual model checklist had three categories: structure, process, and outcome. To warrant inclusion, at least one of the criteria from these categories must have been fulfilled. Articles had to be original research studies, be published between 2001 and 2013. Articles were English-language publications. The target populations of this study included one campus partner and one community group. The structure variable was community-campus partnership. The process component included the ways various communication strategies were employed in the execution of the program in the community. Lastly, outcome variables refer to the end-points with regards to the achievement of program objectives and effectiveness of activities. Some studies were excluded because although they implemented Community-Based Participatory Research (CBPR) methods, they lacked evidence of a community-campus partnership. Duplicates, articles without available abstracts, case reports, and commentaries were also excluded.

In order to resolve discrepancies amongst duplicate articles, a Master List spreadsheet was created. Duplicate articles were removed. Following the formation of the Master List, an outside evaluator performed the first round of screening based on the primary inclusion and exclusion criteria. To increase the rigor of the review, inclusion and exclusion criteria were further narrowed down and two further rounds of screening were independently conducted by one public health student assistant and one medical student assistant. The resulting measure of inter-rater reliability calculated, Kappa was 0.92.

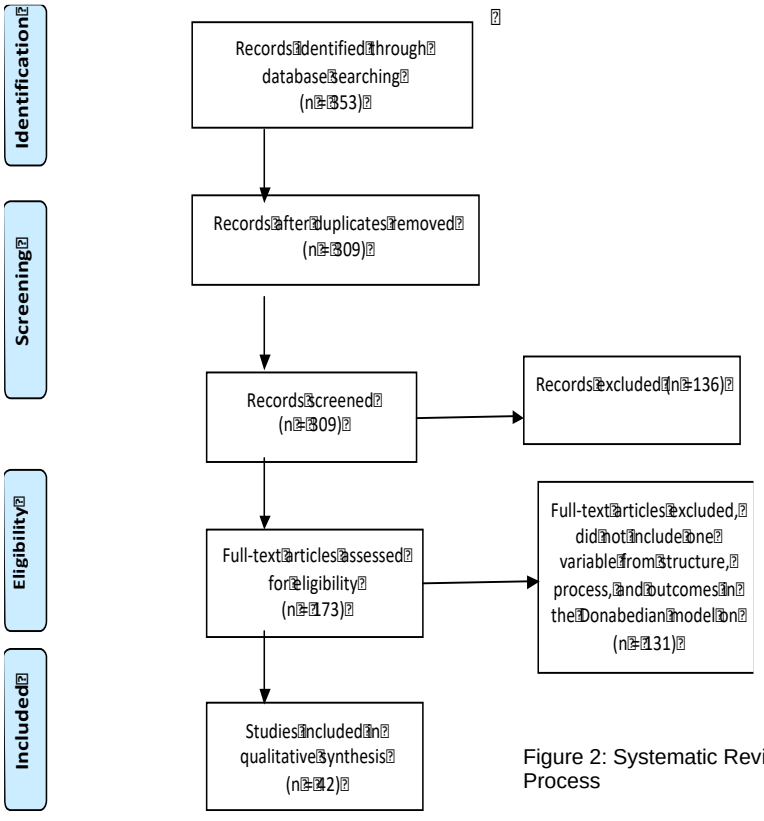

Figure 2: Systematic Review Process

After passing four rounds of screening, an article review form was created to analyze the included articles. The assistants kept track of significant data from the articles. It included information on the author, year, journal, research partners, process, methods, participants, outcomes, and the connection between the process and outcomes. Further tables were created for the process measures using the conceptual checklist to show the primary stakeholders and how they utilized communication strategies on the target population; and for the outcome measures, in which the specific healthcare outcomes observed by the various studies were addressed.

As seen in Figure 2, our initial round of screening of article titles resulted in 353 articles. Forty-four duplicates were removed during this round of screening. After the secondary round of screening of both article titles and abstracts, which also included the implementation of inclusion and exclusion criteria, there were a total of 173 articles. After the third and fourth levels of screening, with more stringent inclusion and exclusion criteria, 42 articles remained and were used in this systematic literature review.

Data Analysis

In this quasi-qualitative synthesis of the literature, all statistical analyses were conducted using SAS v 9.3 (SAS Institute, 2004). The statistical significance level was 0.05 unless otherwise specified. From the conceptual model checklist, binary scores of 0 and 1 were allotted to the process and outcome variables, based on whether the variable was absent or present in each article, respectively. Spearman non-parametric correlation coefficients were calculated and the direction and magnitude of agreement were recorded from this score. The correlations between process and outcome variables were explored to validate the measures being used. Bivariate analyses with Chi-square statistics were also calculated from these measures, for which corresponding p-values are reported.

Meta-ethnographic analytic methods were utilized to compare how chosen studies are related, to synthesize translations and then to express the synthesis (Britten et al., 2002). This type of qualitative application has precedent in quasi-qualitative synthesis literature reviews (Britten et al., 2002). It allows for qualitatively informed inferences. This was important because articles did not specifically state the use of communication process or strategies; hence inferences regarding what qualified as communication had to made. This process involved comparing and assessing chosen articles for recurring constructs, ideas, and themes. Grids were created that identified the article then the communication strategies relevant to the literature review. In this process, as important to a meta-ethnographic method, terminology from the articles was preserved. These grids were reviewed by the team, which resolved discrepancies. These grids were also analyzed (JW) to further merge strategies to develop themes. To express the synthesis, it was possible to infer larger order communication approaches under which to organize major thematic developments.

RESULTS

Forty-two articles were included for this quasi-qualitative synthesis. Our criteria allowed a broader range of study designs with articles published between 2001 and 2013. These studies reported on a wide range of communication processes used to improve health outcomes in community-campus partnerships. This study included papers that had evidence of a community-campus partnership implemented to address a health disparity with an underserved group.

Table 1 shows a distribution of the reviewed articles by research design applied.

TABLE 1—Distribution of the Reviewed Articles by Research Design and Target Population (n=42 studies)

Research Design Applied	Total, No (%)	African American, No (%)	Latinos & Hispanic, No (%)	Native American, No (%)	Haitian immigrant, No (%)	Lebanese, No (%)	African, No (%)
Community-Based Participatory Research	24 (57.1)	17 (40.5)	2 (4.8)	1 (2.4)	0	0	0
Qualitative study	5 (12.0)	3 (7.1)	1 (2.4)	0	0	1 (2.4)	0
Experimental study	1 (2.4)	1 (2.4)	0	0	0	0	0
Case Study	5 (12.0)	3 (7.1)	0	1 (2.4)	1 (2.4)	0	0
Community Based Intervention program	7 (16.7)	6 (14.3)	0	0	0	0	1 (2.4)

A distribution of the articles by disease and illness addressed is highlighted in Table 2. All variables in the Donabedian Model were not represented.

TABLE 2— Distribution of the Reviewed Articles by Research Design and Health Condition (*Total number of articles in this review was 42)*

Research Design Applied	Disease illnesses addressed						
	Diabetes, No (%)	Cancer, No (%)	Mental Health, No (%)	HIV, No (%)	Alzheimer Disease, No (%)	Others, No %	Non-specific health condition, No (%)
Community-Based Participatory Research	2 (4.8)	11 (26.2)	1 (2.4)	1 (2.4)	1 (2.4)	6 (14.3)	2 (4.8)
Qualitative study	1 (2.4)	1 (2.4)	1 (2.4)	0	0	1 (2.4)	2 (4.8)
Experimental study	1 (2.4)	0	0	0	0	0	0
Case study	0	2 (4.8)	0	0	0	3 (7.1)	0
Community based intervention program	0	1 (2.4)	0	0	1 (2.4)	4 (9.5)	1 (2.4)

Overall, the application of the communication processes varied widely. Our analyses showed a strong correlation between larger order communication approaches and processes ($r= 0.863$, $P < 0.01$). See Table 3 for concise interpretation and larger order communication themes and processes. The community-campus partnership used multiple communication processes to address health disparities. Approximately, 27% of the studies used between 3 to 4 communication processes, 40.5% used between three to five strategies with 17.4% of studies arriving at between three to four health outcome goals. See Table 4 for more information on intra/inter-variable correlations between processes and outcomes in community-campus partnerships.

TABLE 3 - Larger Order Communication Approaches in Processes and Strategies

Communication Approach	**Processes: Communication**	**Strategies: Translation of Process into Community-Campus Partnerships**
Intrapersonal Communication	Uncertainty management	• Prevention - Preemptive evaluation of challenges in uncertainty management • Intervention - Use of methods to mediate uncertainty University partners learned how to navigate community's realities prior to entering community
Interpersonal Communication	Self-disclosure	• Group strategies and qualitative research design to facilitate the processes of self-disclosure with community members
	Relationship building	• Use of trusted community leaders to build relationships • Community driven outreach for relationship building • Organizational outreach for partnership building • Use of theory/model to guide relationship-building process
Intercultural/Group Communication	Community outreach	• Direct involvement with community members and between partners • Seeking assistance from community to inform outreach
	Encoding equality	• Distribution of power and expert status across all partners • Practicing listening and 'presence' with community
	Encoding trust building	• Barriers to trust building due to perceived and real social, structural, scientific, and government discrimination. • Approaches to effective trust-building were carefully thought out and implemented
Organizational Communication	Consensus building/Decision making	• Community members taking the lead in processes • Interactive, bi-directional communication to facilitate ownership • Authentic integration of community partners

TABLE 4- Spearman non-parametric correlation coefficients of intra/inter-variable relationships and outcomes in community-campus partnerships		
Process - Process	**Spearman coefficient 'r'**	**p-value**
Trust - Outreach	-0.36	**<0.01**
Trust - Consensus	0.38	**<0.01**
Conflict - Consensus	0.37	0.02
Conflict - Decision	0.27	0.04
Trust - Decision	0.33	**<0.01**
Trust - Relationship	0.31	0.02
Self-disclosure - ABK	0.3	0.02
Process - Outcome		
ABK – Health Disparities	0.3	0.02
Trust – Health Disparities	0.31	0.03
Relationship - Intervention	0.31	0.02
Relationship – Health Disparities	0.3	0.02

Intrapersonal Communication

The term intrapersonal communication represents a "one-person communication system," or communication between a single communicator (Macke, 2008). In total, 14 out of 37 (27.8%) studies made inferences to intrapersonal communication in evaluation and as a strategy. Amongst the types of intrapersonal communication strategies, about 64.7% of studies assessed community members knowledge, attitudes and beliefs while 35.3% addressed uncertainty management. Only six studies reported on uncertainty management as a prevention approach (preemptive evaluation of challenges; Rowell et al., 2012; Tucker et al., 2013) or as an intervention to mediate uncertainity (Brown et al., 2011; Davis, et al., 2012; Rideout et at., 2013; Souder & Terry, 2009). Project staff met regularly with county public health personnel to guide perceptions of a Grassroots System being developed was consistent with agency plans (Rowel et al., 2012). Authors also used the snow card approach (Rideout et al., 2013), written knowledge assessments (Brown et al., 2011), lay health advisors (Souder & Terry, 2009) and audience response systems (Davis et al., 2012) to mediate personal uncertainity in community-campus partnerships.

The evaluation of knowledge, attitudes and beliefs as a communication strategy in community-campus partnership was highlighted in 11 studies. Study authors (Griffith et al., 2010; Jandorf et al., 2012; Larson & McQuiston, 2012; Moore-Monroy et al., 2012) designed culturally appropriate health literacy interventions to improve health outcomes among vulnerable populations. Another approach focused on integrating participatory methods to address knowledge, attitudes and beliefs in community engagement (Davis et al., 2012; Brown et al., 2011; Goodman et al., 2010; Gwede et al., 2013; Hull et al., 2010; Salihu et al., 2011; Souder & Terry, 2009).

Interpersonal Communication

The next form of communication is interpersonal communication, which is defined as a communicative relationship between two individuals (Macke 2008). It focuses on how individuals communicate in various social contexts, and puts an emphasis on the structure of the partnership between these individuals (Wish & Kaplan 1977). This reciprocal form of communication can be mutually beneficial to both individuals involved and allows for a unique co-learning and information learning experience. Our analysis showed that interpersonal communication was cited as the most (75.5%) used process in community-campus projects. Among interpersonal communication processes, relationship building (53.3%) and self-disclosure (46.7%) were majorly used.

For self-disclosure, 7 studies described using group strategy and qualitative research designs to facilitate the processes of self-disclosure among community members (Davis et al., 2012; Rideout et al., 2013; Brown et al., 2011; Larson & McQuiston, 2012; Jandorf et al., 2012; Moore-Monroy et al., 2013). The studies explored used group interviews (Edwards, et al., 2013; Simmons et al., 2011), interviews (Eggly et al., 2013; Parikh et al., 2010), open-ended questions (Delgadillo et al, 2010), and town hall meetings (Rideout et al., 2013) to elicit disclosure from community members. Open discussions mentioned by Gwede et al. (2013) used a list of topics to aid academic investigators in disclosure.

The relationship building process was highlighted in 8 studies. In this, relationship building was used as a community outreach (Brown et al., 2013; Brown et al., 2011; Parikh et al., 2010) and organizational outreach (Dobransky-Fasiska et al., & RNDC-Community Partners, 2009; Edwards et al., 2013; Griffith et al., 2010). These authors established the need to motivate community members who shared similar interests to drive the process which was shown to sustain relationships between the community and partners.

Two studies (Lisovicz et al., 2006; Rowel et al., 2012) developed theories/models to guide the relationship building process. The study by Rowel et al. (2012) provided details on the 8 key principles needed to design a Grassroots System and a three-step process that describes how to formalize and sustain relationships with priority grassroots organizations. The study by Lisovicz et al. (2006) focuses on the need to empower communities, "The Empowerment Theory," to serve as partners and not research objects. The study called for using the Coalition-building model to build partnerships within communities and at a statewide level.

Intercultural/Group Communication

Intercultural communication is a form of communication that overlaps in this study with group communication (Rew et al, 2003). It is defined as communication between two or more groups with different belief systems that come together and exchange messages. Group communication involves communication between three or more individuals who have a common goal or purpose (Chockler et al., 2001).

This was the least used communication process as 5 studies (13.5%) made inferences to this process. Studies focused on using community outreach (17.2%), encoding equality (20.7%), and encoding trust building (62.1%) as strategies for successful engagement between community and campus partners. Five studies provided details on the benefits of the direct involvement of community members in project activities (Baquet, 2012; Eisenger & Senturia, 2001; Moore-Monroy et al., 2013). Needs assessment project related telephone calls and routine meetings between community members and university (Christopher et al., 2011), community dialogue and

awareness raising, education and training, outreach and advocacy, and mentoring and support (Salihu et al., 2011) were used as communication strategies to directly engage community members.

Four studies reported on encoding equality among community members and university partners. Authors provided details on utilizing distribution of power and expert status across all partners (Eisinger & Senturia 2001) and the need for all partners to have mutual respect (Baquet, 2012). For example, university partners learnt how to navigate relationships between youth and providers and effectively integrate the community's realities into research design (Corbie-Smith et al., 2010) and practiced listening and 'presence' with community (Schoon et al., 2012).

Relevant information was available on encoding trust building to ensure community engagement. Specifically, studies by Brown et al. (2013), Delgadillo et al. (2010), Gwede et al (2013), Lane et al (2011), and St John et al. (2013) highlighted the use of trusted community leaders such as counselors, informants, health advisors, community health workers and Promotoras to build community trust and relationship in the communities. Careful planning with community members (Tucker et al., 2013), engagement of the target population (Brown et al., 2013), conversational approach (Edwards et al., 2013), reflective attention (Ford et al., 2009), use of peer mentors and skill building activities (Delisle et al., 2013), time and dedication (Christopher et al., 2011), and relationship building (Griffith et al., 2010) are important approaches to encoding trust into the partnership. In addition, drawing on positive community features (Abdulrahim et al., 2010) and inviting trusted community members through existed partnerships (Rideout et al., 2013) to build trust with the community.

Four studies acknowledged barriers to trust building, which may be due to perceived and real social, structural, scientific, and government discrimination (Goodman et al., 1998; Rowel et al., 2012; Souder & Terry, 2009; Williams et al., 2011). A study by Souder & Terry (2009) found that barriers to community participation in Alzheimer's Disease research included distrust of the research process, doctors, the medical community, and the government. Furthermore, Williams et al. (2011) also showed that past scientific mistrust impedes research participation.

Organizational Communication

Organizational communication involves the transmission of information from one group to another. These groups can be educational institutions, government agencies, businesses, religious movements, and community-campus partnerships (Hogard & Ellis, 2006). It involves two diverse organizational schemes and values coming together to achieve countless goals. Organizational communication involves knowledge processes within people, knowledge sharing, and decision making amongst groups of people. In addition to these processes, organizational communication also aids in influence, coordination, motivation, and identification (Myers & Sadaghiani, 2010) in the community-campus partnership.

Approximately, less than half (43.2%) of the studies reviewed made inferences to organizational communication. Five studies cited engaging communities to take the lead in the organizing the engagement process. While eight studies utilized interactive involvement and bi-directional strategies to facilitate ownership over the process among community members. There is an emphasis that engaged communities to take the lead in processes (planning and development) is needed to strengthen the structure of community-campus partnerships (Gwede et al., 2013; Merzel, 2008). In addition, engaging community members in the design and implementation of research, project interventions or activities in collaboration with key partners is also critical as

highlighted in these studies (Eggly et al., 2013; Delisle et al., 2013; Goodman et al., 2010; Salihu et al., 2011). It is also noted that all partners understand the collective capacity, resources, and informal relationships with community partners in order to effect change (Corbie-Smith et al., 2010), and routinely meet with community leaders to discuss their goals and objectives (Williams et al., 2011). Providing mindful feedback was shown to help academic partners to understand community health priorities (Crosby et al., 2013).

Consensus building was used in 16 studies to openly discuss differences of opinion between agency members and collaborations (Rideoout et al., 2013) to foster shared research, which has been shown to enhance community-campus partnerships. Lane et al. (2011) worked with the community to equalize the voices of the community members and campus researchers. St John et al. (2013) used active engagement between the research team and the team of promotora researchers throughout the research process.

Agency partnerships can be used to influence decision-making between community members and key stakeholders as highlighted in 4 studies. These studies provided details on the use of a consensus decision-making hub (Brown et al., 2013), a community driven investigative and evaluative work (Eisinger & Senturia, 2001), empowerment of community members to conduct rigorous research (St. John et al., 2013), ensuring community participation in decisions throughout the implementation process (Gwede et al., 2013) to foster ownership among stakeholders.

DISCUSSION

In our comprehensive systematic review of all community-engaged research published since 2001, 42 articles inferred and explicitly outlined communication approaches, processes and strategies in community-campus partnership to improve health outcomes in disadvantaged populations. To our knowledge, this study is the first detailed study that uses the Donabedian model to identify and evaluate of communication in community-campus partnerships to improve health outcomes. Our findings provide a benchmark for the identification of communication processes and utilization of communication strategies that may improve community-campus partnerships to address health disparities. It further establishes evidence on the benefits and impact of communication to improve health outcomes.

This systematic literature review also meant to infer through statistical relationships which communication processes may be associated with each other and with outcomes (Table 4). This correlation is important since multiple communication processes were evident in each community-campus partnership. Additionally, as outlined in Table 3, through an understanding of process relationships the literature presents several strategies to translate process into actual practice. It is important to note that approach and process in communication were inferences garnered through meta-ethnographic qualitative analysis.

Process-Process Relationships

The correlations between communication processes were important to note (Table 4). The associations helped envision the mutual inclusivity of these processes. Moreover, it was clear that some processes overlapped; hence the strategies used to operationalize these processes are useful across all approaches. What follows is the discussion of these correlations.

Attitudes, knowledge, and beliefs had a positive association with self-disclosure. Individual and group differences are important factors in knowledge, attitudes, and beliefs. Unfortunately, the attention knowledge, attitudes and beliefs do receive is heavily biased towards community members. As presented in the review, group communication strategies (e.g., focus groups) and qualitative research designs were used to facilitate the processes of self-disclosure from community members (Eggly et al., 2013; Davis et al., 2012; Delgadillo et al., 2010; Edwards et al., 2013; Simmons et al., 2011; Parikh et al., 2010). It is seldom that these constructs are collected about academic partners about the health issue and targeted community in a systematic manner and disclosed. Unfortunately, the only participants who undergo interrogation, based on this literature review, are the community partners and members. The review identified that university partners learn how to navigate a community's reality, prior to entering the community. This may enhance university partners' awareness of the health disparity as well as impact their own knowledge, attitudes, and beliefs regarding the population with whom they will be engaging. Thus, knowledge, attitudes, and beliefs of academic partners also play a role in power and equity for community-campus partnerships that impact the potential to communicate trust.

Trust building was the most common communication process expressed as key in community-campus partnerships. As per this review, communication barriers to trust-building are due to both perceived and real social, structural, scientific, and government discrimination (Goodman et al., 1998; Longest & Huber, 2010; Rowel et al., 2012; Eisinger & Senturia, 2001). While these are serious issues, our data showed a correlation between trust and community outreach, consensus building, decision-making, and relationship building.

Trust is the building block for motivating self-disclosure, which in turn supports relationship building in community-campus partnerships. The uncertainty experienced in any relationship can be mitigated through open, truthful communication, as well as through the bidirectional sharing of attitudes, knowledge and beliefs. Findings also demonstrate that the limited implementation of preemptive evaluations of challenges in managing uncertainty and the use of various methods to mediate uncertainty (Rowel et al., 2012; Tucker et al., 2013). To aid in the mitigation of trust related issues the review identified strategies to trust building that are carefully thought out and implemented.

Trust is cultivated at many points in the community-campus partnership. One point is during the relationship-building process. Some communication strategies utilized when working with underserved groups are community-and organizational-driven outreach to foster relationship in the partnership (Brown et al., 2013; Brown et al., 2011; Dobransky-Fasiska et al. & RNDC-Community Partners, 2009; Griffith et al., 2010; Gwede et al., 2013; Rideout et al., 2013). Also, the literature pointed out the integration of trusted community leaders to build relationships, as well as the use of theoretical models to guide the relationship building process (Brown et al., 2011; Gwede et al., 2013; Delgadillo et al., 2010; Lane et al., 2011; St. John et al., 2013). The negative relationship between trust and community outreach can suggest that as trust increases, purposeful outreach may not be required. Members of the community may be inspired to begin to share information on their own, about the partnership and health issue being addressed.

Another point of interaction in the community-campus partnership is the correlation between decision-making and consensus building, both of which are communication processes. The activities associated with decision-making include an open exchange of information, and integration of ideas may be more effective. Of course, the goal in decision-making is to arrive at

some common end– a consensus. Strategies garnered from our review include allowing community members to take the lead in these processes (Gwede et al., 2013; Merzel et al., 2008). Additionally, interactive, bi-directional communication was utilized to facilitate ownership (Williams et al., 2011). There was also an authentic integration of community partners in these processes (Lane et al., 2011; St. John et al., 2013). Other strategies in line with authentic integration included, university partners learnt how to navigate and effectively integrate the community's realities into research design (Corbie-Smith et al., 2010) and practiced listening and 'presence' with community (Schoon et al., 2012).

There can be challenges associated with mistakes in community partners' integration. Our review stressed the distribution of power and expert status across all partners, in addition to listening and 'presence' with community partners. Hence, the relationship between consensus building, decision-making and conflict is obvious. The process of building consensus usually involves *some* conflict within community-campus partnerships. Individuals from diverse organizations, communities, backgrounds, and culture are attributed with working together to address a health issue that may be perceived quite differently. To accept conflict as a communication process and seek to utilize strategies to enable effective ebb and flow of diverse ideas is warranted. Equality is central navigating conflict with underserved groups.

Process-Outcome Relationships

The influence of communication processes on outcomes could not be ascertained. It was not possible to ascertain what process impacted what outcomes, as there were many. Moreover, most of the articles detailed the community-campus partnership as not problematic. However, the systemic review allowed for inter-variable correlations (see Table 4) to be ascertained between process and outcome variables, which will be discussed below.

The relationship between attitudes, knowledge and beliefs and the health disparities outcome is bidirectional in a community-campus partnership. However, while there is a plethora of literature on communal attitudes, knowledge and beliefs as exemplified in this review, there is much less about those constructs and campus partners. Uninterrogated beliefs leave academics with limited awareness of their own role in health disparities (Burgess et al., 2010). What one thinks impacts health behavior and what academics do to understand health behavior can contribute to the prevalence of health disparities. On the other hand, health disparities impact what one believes about health, health behavior and those affected by health disparities.

Exemplified in this review was a relationship between trust building and health disparities as well as relationship building and health disparities. Regarding trust and health disparities, this may signify a culturally significant diunital tension. Those groups impacted by health disparities are usually suspicious of the trust building with academic partners due to the mistrust of institutions or agencies which of course impacts the role of trust in relationship building – the cornerstone of all community-campus partnerships (Palermo et al., 2006; Bingle & Hatcher, 2002). At the same time however, groups and/or organizations most aware of health disparities see the necessity in obtaining help. The community partners must cultivate a level or type of trust necessary to function in a community-campus partnership. This by no means indicates the community feels at ease in the relationship. It may be seen as a 'necessary evil' or 'means to an end' to achieve community-based goals.

Thus, to make an impact in health disparities, it is the campus that must engender trust from a community, to build an authentic relationship based on shared goals. Conversely, if the

relationship is stressful and untruthful, the community-campus partnership may again help exacerbate health disparities. Relationship building was also correlated to health interventions. Relationship building is the key to decision-making and consensus building in the design and implementation of interventions within communities and by community members.

Therefore, leveraging communication processes and strategies in an effort to alleviate adverse health outcomes will go a long way in impacting healthcare-decision making across populations. Ultimately, such strategies will gather an overarching momentum towards improving the equity of care and reducing the burden of health disparities across all populations.

Limitations

A limitation of our review was the quality of articles used in the review, as some articles did not include explicit information on the study design used or the influence of communication processes and strategies on the types of health outcomes achieved. The lack of this information may contribute to difficulty in generalizing our findings to other community-campus partnerships and populations. In addition, this limited our classification of the research article design used by studies. With regards to this review, there is little comparable research with the use communication approaches, processes, and strategies in community-campus partnerships among Latinos & Hispanics, Mexican America, Native Americans, and Africans. This limited our ability to compare communication processes use by community-campus partnerships within disadvantaged populations. As the correlation score was computed cross-sectionally, it is not possible to determine temporality in the process-outcome relationship. In other words, the authors cannot infer if the process measure preceded the outcome, or vice versa. Additionally, most communication strategies (**Table 3**) were not detailed in the most of the articles. Most authors stated what was done but did not expand. It is also not possible to conduct a meta-analysis given the wide diversity of outcomes under study. Finally, we were unable to determine the statistical significance or effectiveness of these strategies in achieving outcomes to reduce a health disparity.

CONCLUSIONS

Despite these limitations, using the Donabedian Model (DM) proved a powerful tool that allowed innovative ways to view communications processes in community-campus partnerships. In doing so, the DM highlighted the function of community-campus partnerships as a system with communication strategies embedded within and as a means to construct and advance health-related process such as research with tangible health outcomes. Moreover, drawing upon these historical studies can tell us how far we have come, what we have forgotten about that is important to successful community engagement to address health disparities, and what actually was not successful and still may need work to engage minoritized communities. Ultimately, this study outlines an ecological communication ‘rubric’ for identifying specific community-engaged communication strategies at various levels community-campus partnerships. These findings are salient in successfully planning, implementing, and evaluating community-campus partnerships to reduce health disparities and health inequities impacting minoritized communities.

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