**Engaging with and Training Community-based Partners for Public Health Emergencies:
Qualitative Research Evidence Synthesis**

Julie Novak, PhD, Wayne State University
Pradeep Sopory, PhD, Wayne State University

Date: February 12, 2020

TABLE OF CONTENTS

1.0 INTRODUCTION

The National Academies of Sciences, Engineering, and Medicine (NASEM) Committee on Evidence-Based Practices for Public Health Emergency Preparedness and Response (PHEPR) commissioned a systematic review and synthesis of existing evidence to support the creation of guidelines for prioritizing public health preparedness and responses capabilities as developed by the Centers for Disease Control and Prevention (CDC).

The synthesis of evidence presented in this report addresses the strategies to effectively engage with and train community-based partners to improve the outcomes of at-risk populations after public health emergencies.

Specifically, the purpose of the evidence synthesis was to address the following key and sub-key questions:

- *What is the effectiveness of different strategies for engaging with and training community-based partners to improve the outcomes of at-risk populations after public health emergencies?*
- What is the effectiveness of strategies for engaging with and training community-based partners before a public health emergency?
- What is the effectiveness of strategies for engaging with and leveraging existing community-based partnerships during a public health emergency?
- What benefits and harms (desirable and/or undesirable impacts) of different strategies for engaging with and training community-based partners have been described or measured?
- What are the barriers and facilitators to effective engagement and training of community-based partners?

The evidence of interest for answering the questions was the findings from primary research studies that used qualitative research methods such as ethnographic observations, interviews, and focus group discussions. Given the qualitative research approach and the methodological range of primary studies available in the corpus for this evidence synthesis, the questions were treated as informing different aspects of the phenomenon of interest of training of and engagement with community-based partners. That is, the evidence synthesis took training and engagement with community-based partners as its phenomenon of interest and sought to explicate this phenomenon's various aspects.

2.0 METHOD

2.1 Literature Search

A broad literature search was undertaken from which relevant qualitative research studies were selected. The literature search was conducted in the Medline (Ovid), Embase (Ovid), and Scopus databases and used the following inclusion and exclusion criteria:
- Date: 2001 - present;
- Language: English; and
- Document Type: Exclude commentaries, editorials, letters, and notes.

More details about the search process, including the search strings, are available separately in the National Academies report.

To be selected for the present evidence synthesis, a qualitative study had to use a qualitative method of data collection, such as interviews, as well as a qualitative method of data analysis, such as thematic analysis.

Based on the above, there were total 23 studies selected for the evidence synthesis. The studies (first author and year) are listed in Table 3.1.

2.2 Relevance Assessment of Individual Studies

Individual articles were judged for different levels of relevancy to the phenomena of interest (see Lewin et al., 2018 and Noyes et al, 2018, for details of the relevancy criteria). Studies were judged to have direct relevance (i.e., directly mapped onto phenomenon of interest); indirect relevance (i.e., some aspects of phenomenon of interest covered whereas other aspects are analogs/substitutes for phenomenon of interest); partial relevance (i.e., only some aspects of the phenomenon of interest covered); or unclear relevance (i.e., unclear whether underlying data were relevant) with the phenomenon of interest.

2.3 Quality Appraisal of Individual Studies

The selected studies were individually appraised using the Critical Appraisal Skills Programme (CASP; 2018) checklist, which is applicable to assessing qualitative research. Areas of appraisal by CASP include appropriateness of qualitative methodology, data collection, relationship between research and participants, ethics, rigor of data analysis, clarity of findings, and value of research. Each area is assessed using "yes," "no," or "can't tell."

We modified the checklist to include an overall rating in addition to the ratings of individual elements. Based on the CASP checklist evaluations, each study received a final overall quality rating of one of the following four categories: no or very minor concerns (no significant flaws); minor concerns (minor flaws not impacting credibility/validity of findings); moderate concerns (some flaws likely to impact credibility/validity of findings); or serious concerns (significant flaws impacting credibility/validity of findings). This overall rating was not a summation of the individual element ratings but a separate judgment.

2.4 Data Analysis and Synthesis

We used Atlas.ti (Version 8.1, Atlas.ti Scientific Software Development GmbH, Berlin, Germany), a qualitative data analysis software, for data extraction and synthesis. The primary study articles were uploaded into Atlas.ti and the extraction, coding, and synthesis processes were directly applied to these documents.

Study characteristics and key findings along with supporting information were extracted from each study. We used the general process of reading and re-reading the full article, including the abstract, rationale, method, results and analysis, and discussion sections to identify the characteristics and findings of interest.

2.4.1 Study Characteristics

The following nine study characteristics were extracted: Country and location of event; population density of event location; event; event phase; research approach; data source; data providers; data analysis; and vulnerable populations addressed. The last characteristic allowed considerations of equity in the synthesized findings.

2.4.2 Study Findings

The key findings and supporting information from each study were extracted in the form of key phrases, sentences, and direct quotations. For studies that used multiple methods, only the qualitative portion was extracted. The purpose of extraction of findings was to identify and note evidence that mapped onto the phenomenon of interest.

Specifically, we employed the pragmatic framework synthesis method (see Barnett-Page, & Thomas, 2009; Pope, Ziebland, & Mays, 2000), which uses an iterative deductive and inductive process, to analyze and synthesize the findings. A five-step process was used: Familiarization to create a priori descriptive codes and codebook development; first-level in vivo coding using descriptive codes; second-level coding into descriptive themes (families of descriptive codes); analytic theming (interpretive grouping of descriptive themes); and charting/ mapping and interpretation. Tracy (2018), provides additional instructions on the key principles of coding qualitative data for the purposes of analysis, which was adapted for the current context.

The first step of familiarization involved an initial close reading of the project documents and the selected articles to create descriptive codes. The familiarization with the project documents unpacked the key questions, sub-key questions, context questions, evidence-to-decision issues, aims and objectives of the project, and the logic models, to identify key phrases/ words that meaningfully addressed the phenomenon of interest. The familiarization with the articles similarly identified key phrases/ words that described various aspects of the phenomenon of interest. Both sets of key phrases/ words were converted to descriptive codes, which captured the essence of the extractions and replaced the in vivo original words with ones that translated across studies, creating a common yet representative nomenclature. We developed a codebook, which compiled the codes with corresponding definitions, thereby forming a set of a priori descriptive codes.

The second step of first-level in vivo coding involved multiple close readings of the articles in their entirety, with attention to findings wherever they appeared (particularly in the abstracts, results, discussions, and conclusions). We highlighted the in vivo findings (consisting of verbatim key phrases, sentences, and paragraphs) related to the key question, sub-key questions, context questions, or evidence-to-decision issues and assigned a descriptive code. When there were no a priori codes that matched the essence of in vivo extractions, this was considered an emergent code. The emergent code was translated to a new descriptive code, and the code with a corresponding definition was incorporated in the codebook. During this process, the researchers were attentive to all meaningful extractions, whether they appeared to confirm or counter previously coded extractions. For mixed-method studies that had both qualitative and quantitative portions, only the qualitative findings were coded.

The third step of second-level coding involved a synthesis process of creating descriptive themes, where a theme was a family of descriptive codes in which codes that formed a cohesive set were grouped together. The themes represented a nuanced description, rather than just a generalized description, of the phenomenon of interest.

The fourth step involved a synthesis process of creating analytic themes. This analytical theming relied on a robust interpretation of the descriptive themes and how they intersected relationally with one another, whether, for example, separately, cumulatively, or dialectically. The descriptive themes were grouped together in a nuanced manner to create the analytic themes.

The fifth step of mapping/ charting involved explaining how the analytic themes specifically addressed the phenomenon of interest. Additionally, evidence-to-decision issues were addressed in this step by looking at how the analytic themes were grounded in descriptive themes, codes, and in vivo extractions.

2.5 Assessment of Confidence in Synthesized Findings

The fourth-step analytic themes, and in some cases the third-step descriptive themes, constituted the final set of synthesized findings. These findings were assessed for confidence using GRADE-Confidence in the Evidence from Reviews of Qualitative research (GRADE-CERQual; Lewin et al., 2015; Lewin et al., 2018).

The synthesized findings were assessed using four domains: Methodological limitations, relevance, coherence, and the adequacy of data supporting the synthesized finding. Each synthesized finding was then given an overall assessment as follows:
- High confidence - it is highly likely that the finding is a representation of the phenomena;
- Moderate confidence - it is likely that the finding is a representation of the phenomena;
- Low confidence - it is possible that the finding is a representation of the phenomena; and
- Very low confidence - it is not clear if the finding is a representation of the phenomena.

2.6 Quality Assurance of Review

Quality assurance of the review was achieved through discussion until consensus was reached. The discussion involved team members as well as the National Academies staff and methodology consultant.

2.6.1 Quality Assurance of Extraction of Data

An initial codebook for extracting study characteristics and findings was developed. After receiving feedback on a draft from team members, National Academies staff, and methodology consultant, the document was suitably revised. Training sessions for the use of the codebook were conducted with the research team.

Next, a pilot test of the codebook portion for extracting study characteristics and findings was conducted. Two team members, the lead author of the report and a graduate student research assistant, separately coded approximately 25% of the articles. An analysis of the coding showed high agreement (approx. 80%) between the two readers.

The pilot test generated suggestions for refinement from the team members. The final codebook was created after incorporating this feedback.

2.6.2 Quality Assurance of Quality Appraisal of Individual Studies

All team members discussed the different elements of the CASP ratings tool and their application to the identification and assessments of the elements within the articles. After this, two team members, the lead author of the report and a graduate student research assistant, separately used the CASP tool to appraise all the articles. The two team members discussed any disagreements. The lead author made the final determination based on the discussion.

2.6.3 Quality Assurance of Synthesis of Findings

The synthesis of findings was done by the lead author of the report. The synthesis process and the synthesized findings were discussed in weekly meetings with the second author, who closely read the synthesized findings and offered critique. A draft of the findings was also discussed with and critiqued by the National Academies staff and methodology consultant. The final synthesized findings were developed based on the discussion and critique.

The assessment of confidence in the synthesized findings was done by the lead author of the report. The second author reviewed the assessments, queried the lead author for additional information, and offered suggestions. The final assessment was decided after this discussion.

3.0 FINDINGS

3.1 Quality Appraisal of Individual Studies

The relevance assessment, as summarized in Table 3.1, showed the following for the 23 qualitative studies: 20 were of direct and 3 were of indirect relevance. Those of direct relevance focused on community-based partners; those of indirect relevance focused on the downstream, at-risk populations.

The quality rating using the CASP tool, as summarized in Table 3.1, showed the following for the 23 studies: 15 had no or very minor concerns, 6 had minor concerns, 1 had moderate concerns, and 1 had serious concerns. Thus, 91% of the studies were of high and moderate and 9% were of low and very low quality.

Table 3.1. Study Citation, Relevance Assessment, and CASP Quality Rating (N = 23)

Study [First Author Only, Publication Year]	Relevance [Direct, Indirect, Partial, Unclear]	CASP Rating of Quality [No or Very Minor, Minor, Moderate, Serious Concerns]
Ablah (2008)	Direct	No or Very Minor Concerns
Andrulis (2011)	Direct	No or Very Minor Concerns
Bromley (2017)	Direct	No or Very Minor Concerns
Cha (2016)	Direct	No or Very Minor Concerns
Charania (2012)	Direct	No or Very Minor Concerns
Cordasco (2007)	Indirect	Serious Concerns
Cuervo (2017)	Direct	No or Very Minor Concerns
Eisenman (2009)	Indirect	No or Very Minor Concerns
Gagnon (2016)	Direct	No or Very Minor Concerns
Gin (2016)	Direct	No or Very Minor Concerns
Gin (2018)	Direct	No or Very Minor Concerns
Hipper (2015)	Direct	Minor Concerns
Ingham (2017)	Direct	No or Very Minor Concerns
Kamau (2017)	Direct	Minor Concerns
Laborde (2011)	Direct	No or Very Minor Concerns
Laborde (2013)	Direct	Minor Concerns
Messias (2012)	Indirect	No or Very Minor Concerns
Miller (2015)	Direct	No or Very Minor Concerns
Peterson (2019)	Direct	Minor Concerns
Rowel (2012)	Direct	Minor Concerns
Schoch-Spana (2013)	Direct	No or Very Minor Concerns
Shih (2018)	Direct	Minor Concerns
Stajura (2012)	Direct	Moderate Concerns

Note. The key question focuses on engagement *and* training. Study relevance was assessed as direct if at least one of these two aspects of the phenomenon of interest was substantively examined.

3.2 Study Characteristics

Of the 23 qualitative studies, 19 studies were done in the United States, 2 were done in Australia, and 2 were done in Canada. Eleven studies sampled and conducted the research in mostly urban areas, 3 rural, and 7 were in mixed (urban and rural). For 2 studies the geographical area could not be determined. No

studies provided enough information to differentiate between urban and suburban areas, so no studies were classified as covering suburban areas per se.

Some (6) studies were contextually conducted post specific events; however, most were contextually studied with an all hazard perspective. The majority of the studies (57%) focused primarily on preparedness, sometimes preferentially conceptualized as resiliency and 35% appeared to consider all phases of an emergency. The 3 remaining studies prioritized planning (1/3) and post-event response (2/3).

Qualitative approaches with no theoretical framework (11) (considered 'phenomenology-like" as discussed in findings section) were most common, followed by participatory (9) and qualitative with a theoretical framework. The participants were mostly high-level, leaders/staff from community-based partners and local health departments. A few studies primarily sampled residents from at-risk populations. Data collection mostly consisted of in-depth interviews, in person or mediated, while data analysis almost always was a form of thematic analysis (including content and iterative analysis as variations).

As indicated in Table 3.2, most of the studies explicitly studied community-based partners and their influence on outcomes among specific, downstream at-risk populations. A few studies only implicitly made this connection through the tacit assumption that public health departments work with vulnerable populations.

Table 3.2 lists all the compiled study characteristics. The table also provides additional information about all the characteristics.

Table 3.2: Study Characteristic and Characteristic Categories

Study Characteristic	Characteristic Categories
Country and Location of Event	Australia: 2 　--National: 1 　--New South Wales: 1 Canada: 2 　--Quebec City: 1 　--Ontario, Sub-arctic: 1 United States: 19 　--National: 4 　--California: 6 (1 State, 5 Los Angeles) 　--Gulf Coast: 1 　--Louisiana (relocated in Texas: 1 　--Maryland: 1 　--Minnesota: 1 　--New York, New York City: 1 　--New York/New Jersey (Coastal region): 1 　--North Carolina (Eastern): 2 　--Pennsylvania and Mid-Atlantic: 1
Population Density of Event Location	Urban: 11 Suburban: 0 Rural: 3 Mixed: 7 Not Determinable: 2
Event	All Hazards: 18

	Fire: 1 Hurricane: 3 Influenza: 2
Event Phase	All: 8 Planning: 1 Preparedness: 8 Preparedness & Resilience: 5 Recovery: 2
Research Approach	Participatory: 9 Phenomenology-like: 11 Theoretical Model: 3
Data Source	Interviews: 18 Focus Group Interviews: 9 Participant Observation: 3 Meetings, Activity Logs, Reflections: 4 Questionnaire: 1

Data Providers	Public Health Coalition Members/Collaboration Partners: 4
	Single Sector: 12
	   --Community Leaders/Residents: 6
	   --CBPs: 3
	   --Local Health: 1
	   --Local Public Health: 1
	   --Researchers/Subject Matter Experts: 1
	Multiple Sectors: 7
	   --CBPs and Local Health: 1;
	   --CBPs and Local Public Health: 1
	   --CBPs and Regional Government: 2
	   --Community Residents, Local Health, Researchers: 1
	   --CBPs, Emergency Managers, Local Public Health, State/Provincial/National
	      Agencies: 2

Data Analysis	Content Analysis: 4 Iterative Thematic Analysis: 5 Thematic Analysis: 10 Not Determinable: 4
Vulnerable Populations Addressed	Black, Low income: 2 Evacuees: 1 Immigrant: 3 Deaf/Hard of Hearing: 1 First Nation/ Indigenous: 2 Homeless: 2 Latino: 3 Low income: 1 Medically Underserved: 1 Minority/Low income: 1 Non-English Speaking: 1 Older Adults: 3 Racial/Ethnic: 2 Veterans: 2 Vulnerable: 7

Notes. CBP = Community-based Partner. The frequencies for the study characteristic categories may not

add up to 23 (the total number of studies) as some studies examined multiple categories for a characteristic.

3.3 Synthesized Findings

The phenomenon of interest for the present evidence synthesis focused on effective strategies for engaging and training community-based partners. The findings from the individual studies were analyzed and synthesized to describe this phenomenon, both as a whole and its different aspects. Specifically, the overall key question was: *What is the effectiveness of different strategies for engaging with and training community-based partners to improve the outcomes of at-risk populations after public health emergencies?*

Six synthesized findings and – descriptive findings emerged from the evidence base. The overall question is double-barreled, including "engaging with" and "training." Synthesized finding 1 relates to the overall question in its double-barreled nature. Findings 2-4 focus on engagement. Findings 5 and 6 focus on training. Although this evidence review mostly separates engagement and training, as do the studies, there is acknowledgement here and in some studies that engagement and training may have a symbiotic relationship.

No one study compared different strategies employed before or during an event. Rather, they focused on what would facilitate engagement and training. The corpus of studies focused on preparedness, therefore, the findings correspond to engagement and training to be conducted before an event, including plans for leveraging resources during an event.

Each finding is an interpretive family of descriptive themes, which together (assessed as linked and dynamically enacted) address the key question in a meaningful way. All synthesized findings are pulled together in Table 3.3.6, which also presents the assessment of confidence in the evidence for the findings as judged using the GRADE-CERQual tool (see Section 2.5 for description). In addition, Table 3.3.7 also presents a GRADE-CERQual assessment of selected descriptive themes for each finding.

3.3.1 Participatory Approaches as a Facilitator for Engagement and Training of Community-Based Partners

Finding 1: A participatory approach appears to improve engagement and training of community-based partners. Involvement in research and programmatic efforts from conceptualization to implementation may correspond to more effective engagement and training through enhanced inclusion, cultural acceptability, shared ownership, and capacity building of community members.

Descriptive Themes for Finding 1:
- Participatory approaches (such as action research, community-based research, and participatory research) appear to prioritize: attention to the culture, values, and preferences of the many stakeholders; inclusion and ownership among the many stakeholders, notably CBPs and at-risk populations; and the acceptability of approaches. Participatory approaches may integrate stakeholders throughout the phases of conceptualization, and evaluation. Such approaches can apply to engagement and training efforts (Andrulis, 2011; Bromley, 2017; Charania, 2012; Cuervo, 2017; Gagnon, 2016; Gin, 2018; Ingham, 2017; Laborde, 2013; Miller, 2015; Peterson, 2019; Rowel, 2012; Schoch-Spana, 2013).
- "Phenomenology-like" approaches appear to acknowledge the foundational importance of stakeholders' voice, and experience, notably that of CBPs or high-risk populations; however, this voice is directly framed by researchers/practitioners' determinations of phenomena of interest and

11

measurement tools (Ablah, 2008; Andrulis, 2011; Cordasco, 2007; Gin, 2016; Hipper, 2015; Kamau, 2017; Laborde, 2011; Messias, 2012; Schoch-Spana, 2013; Shih, 2018; Stajura, 2012,).

- Theoretically-guided approaches (either combined or not with participatory approaches) start with extant knowledge about engagement and training dynamics (Bromley, 2017; Cha, 2016; Cuervo, 2017; Eisenman, 2009; Gin, 2018).

The approaches employed fundamentally influenced the overall perspective and the selected/ employed methodological/implementation choices. Almost half of the studies were grounded in community-based participatory approaches and privileged engagement from community-based partners, who helped to shape the goals, the purpose, and strategies of engagement and training, and, in most cases constructively addressed issues of access, equity, values and preferences, acceptability, resources, and feasibility. (Andrulis, 2011; Bromley, 2017; Cordasco, 2007; Hipper, 2015; Ingham, 2017; Kamau, 2017; Laborde, 2013; Miller, 2015; Peterson, 2019; Rowel, 2012; Shih, 2018).

Nearly the other half of the studies employed a phenomenology-like approach (the authors usually named this approach as nothing more than qualitative). This approach emphasizes lived experiences and attempts to capture and understand said experiences. Although not a participatory approach per se, researchers employing phenomenology, do prioritize data collected from affected community-based partners and citizens, and thereby attempt to represent others. Nevertheless, the experts, rather than participants, collect and interpret participants' perceptions and experiences related to public health emergencies (Cordasco et al., 2007).

Participatory approaches combined with a theoretical model (such as community resilience principles and Tiered Maturity Model) may be an optimal approach; however, only a few studies clearly documented this approach. Arguably, participatory approaches alone may have theoretical underpinnings.

3.3.2 Facilitators and Barriers to Engagement of Community-Based Partners

Finding 2: Engagement of community-based partners corresponded almost entirely to collaborations (coalitions and partnerships). The effectiveness of such collaborations appears to depend on inclusive membership, which helps members manage capacity constraints, and cooperative/shared goals.

For engagement of community-based partners, the studies did little comparison of different strategies. Instead, they focused on engagement as collaborations and reported on what makes collaborations effective. Some of the studies were more related to coalitions and others to partnerships, yet there was negligible difference in the emergent descriptive themes. Thus, collaborations was chosen as the meaningful term for the findings. Collaborations are frequently triggered externally, by emergency experiences or governmental standards/ mandates. New collaborations may build-off from or leverage other existing coalitions (Andrulis, 2011; Cha, 2016; Gin, 2018; Shih, 2018). At times, emergent response groups and groups formed through social networks often informally act in a collaborative manner to fill gaps.

Descriptive Themes for Finding 2:

- Collaborations in the form of coalitions and partnerships appear to be the primary way to engage CBPs. Such collaborations are focused on emergency preparedness or resiliency with corresponding efforts to develop and leverage services in a coordinated manner (Andrulis, 2011; Bromley, 2017; Cha, 2016; Charania, 2012; Cuervo, 2017; Gagnon, 2016; Gin, 2018, 2016; Hipper, 2015; Ingham, 2017; Laborde, 2011; Miller, 2015; Peterson, 2019; Shih, 2018; Stajura, 2012).
- Collaborations are frequently initiated by external triggers, either past experience with emergencies or official/funding requirements (Gagnon, 2016; Gin, 2018, 2016; Shih, 2018; Schoch-Spana, 2013).

- New collaborative efforts can sprout from existing collaborations or integrate with them (Andrulis, 2011; Gin, 2018; Ingham, 2017; Peterson, 2019; Shih, 2018).
- Collaborations may be informal in nature yet important in the response and recovery phases. These tend to occur with emergent groups or social networks. When Latino construction workers performed recovery construction work after Hurricane Sandy, CBPs acted on the opportunity for collaboration and improved response (Messias, 2012). In other cases, at-risk individuals accessed trusted CBPs that want to provide informed help. (Cuervo, 2017).
- Effective collaborations usually require acknowledgement and acceptance of the typical slow nature of starting and evolving collaborative efforts before experiencing successful long-term outcomes (Bromley, 2017; Cha, 2016; Ingham, 2017; Peterson, 2019; Schoch-Spana, 2013).
- Collaborations are more likely to be effective when CBPs have their leaders' support for cooperative engagement (Gagnon, 2016; Hipper, 2015; Schoch-Spana, 2013).
- Collaborations are more likely to be effective when there is clarity to their purpose and goals (Gin, 2016; Peterson, 2019; Schoch-Spana, 2013; Shih, 2018).
- Collaborations are more likely to be effective in improving the outcomes of at-risk populations when CBP membership is diverse and inclusive. This means ensuring the inclusion of CBPs traditionally ignored or marginalized, some of which may have strong ties to at-risk populations and experiences that may increase the incorporation of diverse cultural perspectives (Andrulis, 2011; Bromley, 2017; Cha, 2016; Charania, 2012; Cordasco, 2007; Cuervo, 2017; Gagnon, 2016; Gin, 2018, 2016; Ingham, 2017; Laborde, 2011; Miller, 2015; Peterson, 2019; Rowel, 2012; Stajura, 2012).
- Collaborations may expand capacities through coordination (Bromley, 2017; Gagnon, 2016,), and may help identify new funding (Cuervo, 2017; Ingham, 2017; Miller, 2015; Peterson, 2019) and new opportunities, such as working with emergent groups (Cuervo, 2017; Messias, 2012),
- Collaborations are more likely to be effective when they operate with a shared language, whereas an imposed language is likely to be off-putting and perceived by many to carry biases that privilege some over others (Bromley, 2017; Cha, 2016; Gin, 2016, Gin, 2018; Hipper, 2015; Ingham, 2017; Shih, 2018; Stajura, 2012).

Coalition partners express frustration about the ebb and flow of focus and outcomes within collaborations. There needs to be acknowledgement that collaboration building is usually a slow process and complicated by the inevitably of ongoing personnel changes (and, therefore, institutional memory) within community partner organizations (Cha, 2016; Gin, 2016; Hipper, 2015; Ingham, 2017; Peterson, 2019; Schoch-Spana, 2013). Although Charania (2012) reported that some collaborative work is not always a long-term endeavor, in most instances, the often limited and short-term funding works against building and sustaining collaborations, and may introduce unintended consequences and harms such as collaboration fatigue, which may also exacerbate trust and confidence issues (Gin, 2016; Gin, 2018; Peterson, 2019; Schoch-Spana, 2013)

For collaborations to develop and gain traction, members require the support of their leaders (whether institutional, organizational, or informal). In the midst of multiple responsibilities and competing priorities, the degree of engagement corresponds to perceptual importance indicated by the leader (the director, the supervisor, the pastor, etc.) (Gagnon, 2016, 2018, Hipper, 2015; Schoch-Spana, 2013).

A shared purpose and goals is important for collaborations to develop or at least agree upon rather than simply adopt an external or other communities' example given their foundational nature (Gin, 2016; Schoch-Spana, 2013; Shih, 2018). It is equally important that the purpose be "richly elaborated" (Peterson, 2019). A clearly articulated purpose may help with invited members' determinations as to the value of engagement in the collaboration (Gagnon, 2016; Shih, 2018).

Community-based partners of all types expressly and strongly noted the need to be an integral part of collaborations. They emphasized how they 1) serve at-risk individuals during routine time periods and would during emergencies (Messias, 2012), 2) need to be involved in planning and preparedness for emergencies at the community level, which also would help with coordination efforts (Ingham, 2017), 3) need to identify and strengthen services that could be leveraged during emergency responses (Ingham, 2017), and 4) develop and enact preparedness activities for all emergency phases (Andrulis, 2011; Bromley, 2017; Cha, 2016; Charania, 2012; Cordasco, 2007; Cuervo, 2017; Eisenman, 2009; Gin, 2016; Hipper, 2015; Ingham, 2017; Kamau, 2017; Miller, 2015; Peterson, 2019; Rowel, 2012; Schoch-Spana, 2013; Stajura, 2012). Those CBPs traditionally under-represented in community collaborations also would help to extend the reach to some of the highest at-risk populations (Ingham, 2017).

Many community-based partners reported capacity concerns in the delivery of routine services. Nearly all worried about emergencies since they would increase needs with concomitant increases in service demand, and thus time to address them. Thus, capacity concerns would be exacerbated even more during an emergency (Hipper, 2015; Stajura, 2012). An emergency would stress already stretched human and non-human resource capacities (Andrulis, 2011; Gin, 2016, 2018; Hipper, 2015). The more poorly funded a community partner, the sooner and more deeply these constraints would be felt (Gagnon, 2016; Gin, 2016; Ingham, 2017). Since the less funded community partners (often the more grassroots, faith-based, volunteer-based and emergent ones) often serve the most vulnerable populations, they may be the first harbingers of overwhelmed capacities (Andrulis , 2011; Gin., 2018; Laborde, 2011; Schoch-Spana, 2013). A couple studies reported how professional practice and bureaucratic considerations may negatively affect flexibility and adaptability of community-based partners during an evolving emergency (Ingham, 2017; Laborde, 2011). Funding regulations often limit adaptability (Andrulis, 2011). Yet, a few community-based partners reported success in overcoming these considerations in specific instances (Gagnon, 2016; Laborde, 2011). Rather than view capacity as a zero sum dimension, a few studies reported how collaborations served as a forum find strategic opportunities. When collaboration members improve their understanding of other community based partners' services, leveraging and coordinating services may expand capacity rather than stress it (Cuervo, 2017; Gagnon, 2016; Ingham, 2017; Laborde, 2011). Moreover, some coalitions have found that effective implementation of preparedness efforts and subsequent evaluation have led to new initiatives (Gagnon, 2016) and new funding opportunities (Cuervo, 2017; Peterson, 2019).

Finding 3: The effectiveness of collaborations will likely be improved when there is shared understanding and acceptance of operating aspects.

Descriptive Themes for Finding 3:

- A coalition/partnership coordinator may help to protect CBP members from unmanageable workloads or perceptions of unequal power distribution (Bromley, 2017; Gagnon, 2016; Miller, 2015).
- Collaborations likely will be more effective when there is shared ownership and no perceived abuses of power or unacceptable differences of power (Cha, 2016; Gagnon, 2016; Stajura, 2012).
- Agreements may help formalize the nature of membership roles and responsibilities (including definition of what constitutes participation and engagement), which in turn may minimize conflicts over inequitable participation. It is important for collaborations to retain flexibility and attempt to accommodate different CBP realities. (Bromley, 2017; Cha, 2016; Charania, 2012; Hipper, 2015; Ingham, 2017; Miller, 2015; Peterson, 2019; Schoch-Spana, 2013, Stajura, 2012).
- Collaborations are notably constituted and enacted through communication. Collaborations would do well to establish commitments to inclusive language and participatory dialogue (Bromley, 2017; Gagnon, 2016; Hipper, 2015; Ingham, 2017; Miller, 2015; Stajura, 2012).

- Collaborations likely have members accustomed to specific decision-making principles. Notably, some studies suggest a typical divide of principles between emergency managers and CBPs. Collaborations will likely be more effective if they bridge these divides proactively (Cha, 2016; Cuervo, 2017; Ingham, 2017; Peterson, 2019; Stajura, 2012).

Some research suggests that a coalition coordinator helps to maintain the focus of the coalition, mitigate problems associated with competing priorities, and minimize perceptions of uneven power dynamics among the coalition members (Bromley, 2017; Cha, 2016; Miller, 2015). Moreover, a coordinator position may merit a full-time position, so it is ill-advised to add the responsibilities to an already overburdened employee (Hipper, 2015; Stajura, 2012). Gagnon (2016) reported an example where two particular coalition members were able to effectively perform the leadership roles.

The goal is for all community member to claim shared ownership. A sense of ownership usually elevates the priority of coalitions/partnerships and improves outcomes. By having a participatory approach, diverse membership, and delineated agreements about the nature of membership, the perception of less-than-shared ownership and abuse of power can be minimized (Cha, 2016; Gagnon, 2016; Ingham, 2017, Miller, 2015; Peterson, 2019; Stajura, 2012). Additionally, leadership support is crucial for participation and engagement, since coalitions have little power in relation to the members (Cuervo, 2017).

By having written agreements to manage membership expectations and responsibilities, engagement may be facilitated and negative evaluations of particular members minimized. Important elements of agreements include expectations of attendance, participation, engagement, roles of individual members within the coalition, and organizational commitment, among others (Cha, 2016; Gin, 2016, 2018; Hipper, 2015; Ingham, 2017; Rowel, 2012). Stajura and colleagues (2012) reported that smaller and rural CBPs had concerns about contractual agreements, while Miller (2015) cautioned about the need for flexibility within such agreements.

Helpful to include in membership agreements, and more importantly to enact in practice, are communication processes within the coalition. Of note, effective coalitions appear to encourage dialogue, feedback loops, and inclusive language (Andrulis, 2011; Gagnon, 2016; Ingham, 2017; Miller, 2015; Stajura, 2012) as well as feedback loops. All too often collaborations related to emergency events are organized and led by emergency managers, and they bring their emergency vocabulary with them. Such language is foreign to many CBPs and off-putting. Building a shared language rather than elevating or marginalizing a particular sector's vocabulary tends to foster constructive and productive relationships (Bromley, 2017; Ingham, 2017; Schoch-Spana, 2013). Moreover, there is some indication that resiliency and response as guiding concepts rather than planning, preparedness, recovery and response better resonate and, therefore, facilitate discussions and actions related to emergency and routine operations (Bromley, 2017; Cha, 2016; Cuervo, 2017; Shih, 2018).

Emergency response managers typically rely on hierarchical versus horizontal (or consensus) decision-making principles, and this contrasts to those utilized by many CBPs. Therefore, decision-making within a collaboration might benefit from deliberate discussions that help negotiate what will be the purposefully enacted collaboratively (Cha, 2016; Cuervo, 2017; Ingham, 2017; Peterson, 2019; Stajura, 2012).

Finding 4: Effective engagement is more likely when collaborative efforts are coordinated and desired outcomes are mutually shared.

Descriptive Themes for Finding 4:

- Collaborations appear to provide all members a means of learning and understanding each others' roles of each other during routine operations. Such shared knowledge in turn provides the basis for

leveraging and coordinating existing services when emergency events occur. Similarly, such knowledge is foundational for identifying gaps and developing strategies for covering gaps in services, which may improve preparedness and coordination of response related to community-wide public health emergencies (Andrulis, 2011; Bromley, 2017; Cuervo, 2017; Gagnon, 2016; Gin, 2018; Ingham, 2017; Laborde, 2011; Schoch-Spana, 2013; Shih, 2018).

- Collaborations appear to nurture relationships developed through preparedness efforts that may not lead immediately to leveraging or developing services, but may assist with informal and emergent, responses during an emergency (Bromley, 2017, Cha, 2016; Cuervo, 2017, Gin, 2016; Ingham, 2017; Shih, 2018; Stajura, 2012).

Community collaborations are most likely to be effective when they coordinate existing and new services and on desired outcomes when an emergency occurs. To achieve these outcomes, engagement appears to be most effective when CBPs 1) understand the routine roles and services of community partners, 2) develop strategic plans for roles and leveraging services during an emergency, and 3) plan and conduct preparedness efforts to identify gaps, assess and adapt coordination, and, when necessary, create new response strategies. All too often coalition members do not understand what each other does, which acts as a barrier to effective collaboration and potential outcomes (Andrulis, 2011; Cha, 2016; Charania, 2012; Cuervo, 2017; Gin, 2016; Hipper, 2015; Kamau, 2017; Ingham, 2017; Laborde, 2011, Peterson, 2019; Schoch-Spana, 2013; Stajura, 2012).

Additionally, working together provides the opportunity for relationship-building for non-emergency purposes and collaborations (Cordasco, 2007; Gin, 2016; Hipper, 2015; Ingham, 2017; Stajura, 2012). Studies recommend building relationships as part of routine operations, relationships that value trust, transparency, and mutual exchange (Bromley, 2017; Cha, 2016; Kamau, 2017; Miller, 2015; Peterson, 2019; Schoch-Spana, 2013; Shih, 2018; Stajura, 2012).

3.3.3 Facilitators and Barriers to Training of Community-Based Partners

Targeted and tailored training for emergency preparedness and response well positions it to be effective for learners. Finding 5 reveals important considerations for targeting CBPs. Finding 6 reveals important tailoring considerations.

Finding 5: Targeting specific learners and learning needs is likely to improve the effectiveness of trainings for community-based partners.

Descriptive Themes for Finding 5:

- When training CBPs, there appear to be three types of learning needs:
  1. How to develop collaborations, engage in constructive interactions, and coordinate integrated efforts (Bromley, 2017; Cha, 2016; Laborde, 2011; Schock-Spana, 2013; Stajura, 2012).
  2. How to facilitate knowledge acquisition and enact coordinated efforts within collaboration members' organizations and among its employees/volunteers (Ablah, 2008; Bromley, 2017; Gin, 2018, 2016; Kamau, 2017; Laborde, 2013, 2011; Schock-Spana, 2013).
  3. How to train downstream, at-risk populations reached through collaborations and CBP organizations (employees and volunteers) (Bromley, 2017; Cuervo, 2017; Kamau, 2017; Laborde, 2011; Rowel, 2012; Schock-Spana, 2013).
- CBP employees and volunteers are more likely to engage when they have the unambiguous support of their leadership and organizational culture (Laborde, 2011; Hipper, 2015).

- CBP employees are more likely to enact learning when it integrates cross-jurisdictional expectations (guidelines from local, state, regional, and federal jurisdictions) as well as emergency and advocacy perspectives (Kamau, 2017).

Nearly every study that focused on training explored training needs. For community-based partners, there were three identified types of training needs: training for collaboration efforts, training for CBPs' organizations and their employees/volunteers, and training for how to facilitate preparedness among at-risk populations (Ablah, 2008; Bromley, 2017; Cha, 2016; Cuervo, 2017; Gin, 2016, 2018; Hipper, 2015; Kamau, 2017; Laborde, 2011; Rowel, 2012; Shih, 2018; Stajura, 2012).

Leaders (whether funders, programmatic, supervisory, or informal) have great influence through their position and power. When they encourage and support their employees/volunteers to engage in targeted training, trainees are more likely to seek training, participate/engage in training activities, and engage in deliberate practice after such training (Laborde, 2011; Schoch-Spana, 2013). Similarly, when possible, sponsorship of trainings and provided monetary incentives encourage participation and engagement in training activities while minimizing accessibility barriers due to affordability issues (Bromley, 2017; Cha, 2016; Cuervo, 2017; Gin, 2016; Hipper, 2015; Kamau, 2017; Laborde, 2011, 2013)

Finding 6: Tailoring with multi-faceted strategies is likely to improve the effectiveness of trainng for community-based partners.

Training strategies for tailoring cover multiple aspects. The studies in this review highlight many aspects, yet the relatively small number of total studies does not examine deeply any one aspect. The synthesized finding; however, does support the need to tailor training across many aspects.

The descriptive themes for Finding 6 correspond to strategies for tailoring. Effective tailoring suggests attention to all of the considerations/strategies when developing training initiative. At the same time, the strategies could be perceived as <u>facilitators</u> for effective training. The literature does not indicate whether there is, or not, a summative effect of strategies on training outcomes.

Descriptive Themes for Finding 6:

- An important strategy is to customize the curriculum to identified needs and specified learning outcomes (Ablah, 2008; Bromley, 2017; Cuervo, 2017; Gin, 2016; Kamau, 2017; Laborde, 2011; Laborde, 2013; Rowel, 2012).
- An important strategy is to create/adapt training and utilized resources so that they are culturally sensitive and appropriate (Ablah, 2008; Bromley, 2017; Cuervo, 2017; Eisenman, 2009; Laborde, 2011, 2013; Rowel, 2012).
- An important strategy is to identify who will be perceived as capable, credible, and trusted trainers from the learners' perspective. Potential trainers may include promatoras and trainers developed through train-the-trainer models (Bromley, 2017; Cuervo, 2017; Eisenman, 2009; Ingham, 2017, Kamau, 2017; Laborde, 2011; Laborde, 2013; Rowel, 2012).
- An important strategy is to determine and utilize learner preferences for methods of training, such as collaborative learning, table-top exercises, hands-on experiences, interactive games, small group discussions, among others. Trainings may use multiple methods within a training session (Ablah, 2008; Bromley, 2017; Eisenman, 2009; Ingham, 2017; Laborde, 2011; Laborde, 2013).
- An important strategy is to adjust the length of any training session to accommodate learners' attention spans and availability of time (Ablah, 2008; Laborde, 2011).An important strategy is to customize training channels to learners' preferences and, possibly, to align with behaviors during emergencies. Channels that have been described include face-face and/virtual, among others, modes

of learning. Trainings may use multiple channels (Ablah, 2008; Bromley, 2017; Kamau, 2017; Laborde, 2011, 2013).

- An important strategy is to facilitate bidirectional discussion, interaction, and feedback loops in training activities (Ablah, 2008; Bromley, 2017; Kamau, 2017; Laborde, 2011; Laborde, 2013).
- An important strategy is to consider the timing of training. Most training for preparedness will happen before an emergency, yet just-in-time training may facilitate transfer of training learning to actual response (Bromley, 2017; Hipper, 2015).
- An important strategy is to consider the location of training, whether physical or virtual, and its accessibility to learners (Bromley, 2017; Eisenman, 2009; Hipper, 2015; Laborde, 2011).
- An important strategy is to provide affordable training (Gin, 2016; Kamau, 2017; Laborde, 2011; Laborde, 2013).
- An important strategy is to evaluate training and facilitate opportunities for deliberate practice (Ablah, 2008; Cuervo, 2017; Kamau, 2017; Laborde, 2013).

In regards to *curriculum*, some studies utilized an existing curriculum (or a synthesis of multiple ones); others created a participatory adaptation of existing curricula or development of a new curriculum (Ablah, 2008; Bromley, 2017; Eisenman, 2009; Gin, 2016, 2018; Kamau, 2017; Laborde, 2013; Rowel, 2012). Although there is existing guidance about coalition development and emergency roles and responsibilities as well as expert knowledge at-risk populations (Bromley, 2017; Cuervo, 2017; Laborde, 2011), specific deficits exist for most learners, which makes customized curriculum optimal (Ablah, 2008; Gin, 2018; Laborde, 2011). The purpose of training and the anticipated need/s to be addressed should be articulated before a training and included as part of recruitment measures to engage and motivate learners (Gin, 2016; Schoch-Spana, 2013).

Trainer selection is also important, because learners' openness, attentiveness, learning, and willingness to enact learned practices highly correspond to their assessments of trainer acceptability, trustworthiness, credibility, cultural competence, and subject matter expertise (Andrulis, 2011; Bromley, 2017; Cordasco, 2007; Hipper, 2015; Laborde, 2011; Laborde, 2013; Peterson, 2019; Rowel, 2012; Stajura, 2012). Coalitions and coalition members may provide a strong pool of such trainers (Bromley, 2017).

Methods of training may emphasize information transfer; skill building with role playing and tasks (doing and practicing appropriate behaviors); vicarious experiences (such as table top exercises or simulated experiences); small group discussions, activity logs, and group meetings with post reflections and analysis; among others (Ablah, 2008; Bromley, 2017, Eisenman, 2009; Kamau, 2017). They may be cooperative, collaborative, or competitive in nature. They may stress knowledge acquisition or enactment (Ablah, 2008; Kamau, 2017; Laborde, 2013). The methods are dynamically connected to *channels*, including face-to-face, technologically-mediated, or mixed (Kamau, 2017 Laborde, 2013). Laborde (2013) reported that reliance on one method, training activity, or teaching style will likely reduce participation and engagement in contrast to diverse training methods (Ablah, 2008). Moreover, attentiveness to *bidirectional learning*, *feedback loops and interactivity* is important (Ablah, 2008; Bromley, 2017; Kamau, 2017). Students may learn from trainers yet trainers simultaneously may learn from students. Although there is not a one-for-everything method of training, even technologically-mediated training may benefit from some face-to-face time (Laborde, 2011). When there are collaboration, coordination, or train-the-trainer goals, studies stressed more rather than less face-to-face time (Bromley, 2017; Cuervo, 2017; Laborde, 2011; Laborde, 2013). Hipper (2015) reported preferences related to *timing* by suggesting just-in-time trainings may have the strongest translation to enacted practices. *Training location* affects participation, engagement, and outputs/outcomes. The more convenient it is for learners to get to the training location the better (Peterson, 2019). Trusted locations for training may correspond to locations of trusted organizations and, thereby, influence participation (Peterson, 2019). Virtual and technological-mediated locations minimize logistical travel problems

associated with geographical distance (Bromley, 2017; Hipper, 2015; Laborde, 2011). One suggestion is to integrate preparedness trainings into already scheduled and attended events (Hipper, 2015). Also, when the performance of skills and practices is place specific, it is helpful to do the training in such settings (Laborde, 2011).

When training occurs without any evaluation, there is little way to determine its effectiveness (Cha, 2016; Cuervo, 2017; Laborde, 2011; Laborde, 2013; Peterson, 2019). Similarly, when there are no opportunities to deliberatively practice learning obtained through training, training becomes an isolated event with no transfer to the workplace, whether for routine or emergency operations (Cuervo, 2017). These factors not only create barriers for effectiveness assessment and learning transfer, but likely create harm by potentially creating disenchantment with the usefulness of any training. Evaluations are needed (Gagnon, 2016). Additionally, evaluations should have financial support (Kamau, 2017).

3.3.4 Possible Benefits of Engagement and Training

No separate synthesized findings emerged for benefits of engagement and training. The following discussion may be taken as a context for the findings discussed above.

Participatory approaches garner inclusion, shared ownership, and culturally-sensitive/appropriate in collaborations. Participatory approaches for collaboration and training appear to act as a facilitator for shared ownership by mitigating top-down or expert driven approaches, and, thereby, better include the priorities and influence of CBPs, and downstream at-risk populations (Cordasco, 2007; Miller, 2015; Stajura, 2012). Moreover, participatory approaches are positioned to improve the capacity of multiple stakeholders in culturally acceptable and appropriate ways (Andrulis, 2011; Charania, 2012; Gagnon, 2016; Miller, 2015).

Collaborations with diverse membership (or, minimally, a partnership including a CBP that serves traditionally marginalized at-risk populations) facilitate 1) inclusiveness of community organizations (formal or informal) and whom they serve (Charania, 2012; Gagnon, 2016; Gin, 2018; Ingham, 2017; Miller, 2015); 2) appreciation and attentiveness to varied community/cultural perspectives and realities (including those of language, leadership and decision-making styles) (Bromley, 2017; Gagnon, 2016; Peterson, 2019; Rowel, 2012; Schoch-Spana, 2013), and 3) reach to at-risk populations, traditionally underserved (Ablah, 2008; Charania, 2012; Ingham, 2017; Messias, 2012). This priority of inclusion alone may serve to enhance trust (Rowel, 2012; Cordasco, 2007; Gin, 2016; Peterson, 2019).

A frequently-noted, perceived benefit of collaborations is improved knowledge of the CBPs in the community and a mutual understanding of services (Bromely, 2017; Cuervo, 2017; Gagnon, 2016; Gin, 2016; Laborde, 2011; Schoch-Spana, 2013; Shih, 2018).

Thus, collaborations are able to engage CBPs and help them to integrate preparedness efforts into their core services (Ingham, 2017; Shih, 2018). In some instances, this may involve bridging conceptual and vocabulary differences (preparedness versus resiliency), differences that may have more congruency than sometimes perceived.

Successes experienced by collaborations foster ongoing/new collaborative efforts as well as member commitment. Collaborations may be effective at finding ways to bypass administrative constraints experienced by CBPs (Gagnon, 2016), obtain funding, using collective rather than competing strategies among members (Gagnon, 2016; Ingham, 2017), and enhance/expand rather than overstretch capacities (Bromley, 2017; Gagnon, 2016; Miller, 2015). These are likely to be perceived and experienced as benefits.

Additionally, successful partnerships and starting coalitions, combined with proactive leveraging, may lead to increasingly more multi-sectorial collaborations (Gagnon, 2016; Gin, 2016; Ingham, 2017; Peterson, 2019).

Related to training, targeting the specific needs of the CBPs helps to recruit and engage the learners as well as facilitate enactment of the learning (Schoch-Spana, 2013).

3.3.5 Possible Harms of Engagement and Training

No separate synthesized findings emerged for harms of engagement and training. The following discussion may be taken as a context for the findings discussed above.

Participatory approaches may be risky in that implicit biases may surface as explicit biases. Miller (2015) noted that this occurred when discussion included "issues that often go unsaid in communities" and some, typically marginalized members challenged assumptions that may privilege some populations over others. Although some may welcome the opportunity to confront this terrain, the process involved in constructively addressing such biases is often difficult and resisted (Miller, 2015). When approaches are less than participatory, foundational elements of what is valued, what is considered knowledge, what is considered actionable knowledge, and who is in control remain uncontested. This observation represents both a barrier to working together and perceived as an ongoing harm of preparedness efforts (Andrulis, 2011; Cordasco, 2007; Gin, 2016; Hipper, 2015; Kamau, 2017; Laborde, 2011; Messias, 2012; Schoch-Spana, 2013; Stajura, 2012).

The move towards increasing collaborations frequently abuts with CBP concerns over competing priorities (routine versus emergency) and over-extended capacities (Cha, 2016; Gin, 2016; Hipper, 2015; Shih, 2018). Moreover, large collaborative efforts may be considered too expensive as well as labor intensive (Charania, 2012). Staff turnover, funding limits, and unrealistic expectations for quick successes compound these challenges (Cha, 2016; Gin, 2016; Ingham, 2017; Peterson, 2019; Schoch-Spana, 2013).

Past experiences with collaborations may have been assessed as less than successful. Potential members may think that collaboration formation seldom produces desired results (Stajura, 2012). Sometimes, past failures were credited to poor cultural sensitivity within collaborations or conflicts over decision-making principles (notably hierarchical versus consensus) (Andrulis, 2011; Ingham, 2017). Some similarly worried about potential mandates for collaboration by external governmental standards or funders, and, thus, engagement may be token rather than substantive (Gin, 2016). If future collaboration efforts for preparedness are perceived to follow previous collaboration failures, resistance to such endeavors will likely increase.

Similarly, past collaboration relationships assessed as less than satisfactory may pose barriers to future engagement efforts. Some CBPs perceived that some members tend to experience more recognition that others (Laborde, 2011; Stajura, 2012); some do not provide evidence-based, honest, or reliable information (Andrulis, (2011; Charania, 2012); some exhibit "egos" and form "gangs" (Cha, 2016; Stajura, 2012); and some are not trustworthy (Cha, 2016). If future collaboration efforts for preparedness do not result in constructive relationship, resistance to such endeavors will likely increase.

Related to training, when tailoring is not perceived as culturally sensitive or appropriate, little learning will likely occur. This may be a barrier to participating/engaging in any particular training and/or a harm since it may result in no changes towards improved, coordinated services (Andrulis, 2011;; Eisenman, 2009; Laborde, 2011; Rowel, 2012).

3.3.6 Summary of Synthesized Findings

This section provides the summary of the synthesized findings discussed above as well as the confidence level in the evidence associated with the finding as assessed using GRADE-CERQual.

Table 3.3.6 Summary and Confidence of Synthesized Findings

Objective: Describe the phenomenon of engagement with and training of community-based partners, both overall and its various specific aspects			
Perspective: Staff of public health and other agencies			
Synthesized Finding	***Studies Contributing to the Finding (First Author Only)***	***Overall CERQual Assessment of Confidence in the Evidence for the Finding***	***Explanation of Assessment***
1. A *participatory* approach appears to improve engagement *and* training of community-based partners. Involvement in research and programmatic efforts from conceptualization to implementation may correspond to more effective engagement and training through enhanced inclusion, cultural acceptability, shared ownership, and capacity building of community members.	Andrulis (2011); Bromley (2017); Charania (2012); Cuervo (2017); Gagnon (2016); Gin (2018); Ingham (2017); Laborde (2013); Miller (2015); Peterson (2019); Rowel (2012); Schoch-Spana (2013)	High	The 12 studies have no, very minor, or minor concerns for methods, coherence, adequacy, and relevance.
2. Engagement of community-based partners corresponded almost entirely to collaborations (coalitions and partnerships). The effectiveness of such collaborations appears to depend on inclusive membership, which helps members manage capacity constraints, and cooperative/ shared processes.	Andrulis (2011); Bromley (2017); Cha (2016); Charania (2012); Cordasco (2007); Cuervo (2017); Gagnon (2016); Gin (2016); Gin (2018; Hipper (2015); Ingham (2017); Kamau (2017); Laborde (2011); Messias (2012); Miller (2015); Peterson (2019); Rowel (2012); Schoch-Spana (2013);	High	The 20 studies have no, very minor, or minor concerns for methods, coherence, adequacy, and relevance.

	Shih (2018); Stajura (2012)		
3. The effectiveness of collaborations will likely be improved when there is shared understanding and acceptance of operating aspects	Andrulis (2011); Bromley (2017); Charania (2012); Gagnon (2016); Hipper (2015); Ingham (2017); Miller (2015); Peterson (2019); Schoch-Spana (2013); Stajura (2012)	High	The 10 studies have no, very minor, or minor concerns for methods, coherence, adequacy, and relevance.
4. Effective engagement is more likely when collaborative efforts are coordinated and desired outcomes are mutually shared.	Andrulis (2011); Bromley (2017); Cha (2016); Cuervo (2017); Gagnon (2016); Gin (2018); Ingham (2017); Laborde (2011); Schoch-Spana (2013); Shih (2018); Stajura (2012)	High	The 11 studies have no, very minor, or minor concerns for methods, coherence, adequacy, and relevance.
5. 5: Targeting specific learners and learning needs is likely to improve the effectiveness of trainings for community-based partners.	Ablah (2008); Bromley (2017); Cha (2016); Gin (2016); Gin (2018); Hipper (2015); Kamau (2017); Laborde (2011); Rowel (2012); Schoch-Spana (2013); Stajura (2012)	High	The 11 studies have no, very minor, or minor concerns for methods, coherence, adequacy, and relevance.
6. Tailoring with multi-faceted strategies is likely to improve the effectiveness of training for community-based partners.	Ablah (2008); Andrulis (2011); Bromley (2017); Cuervo (2017); Eisenman (2009); Gin (2018); Hipper (2015); Kamau (2017); Laborde (2011); Laborde (2013); Rowel (2012)	High	The 11 studies have no, very minor, or minor concerns for methods, coherence, adequacy, and relevance.

3.3.7 Assessment of Confidence in Descriptive Themes for Synthesized Findings

Although assessments of confidence using CERQual are typically done on synthesized findings, assessment was also done on some of the descriptive themes, specifically those with clear recommendation implications and numerous citations.

Finding and Descriptive Theme	*Studies Contributing to the Descriptive Theme (First Author Only)*	*CERQual Assessment of Confidence in the Evidence for Descriptive Theme*	*Explanation of Assessment*
Finding 2 Descriptive Themes			
Collaborations in the form of coalitions and partnerships appear to be the primary way to engage CBPs. Such collaborations are focused on emergency preparedness or resiliency with corresponding efforts to develop and leverage services in a coordinated manner.	Andrulis (2011); Bromley (2017); Cha (2016); Charania (2012); Cuervo (2017); Gagnon (2016); Gin, (2016);Gin (2018); Hipper (2015); Ingham (2017); Laborde (2011); Miller (2015); Peterson (2019); Shih (2018); Stajura (2012)	High	The 15 studies have no, very minor, or minor concerns for methods, coherence, adequacy, and relevance.
Collaborations are more likely to be effective when there is clarity to their purpose and goals.	Gin (2016); Peterson (2019); Schoch-Spana (2013); Shih (2018)	Moderate	The 4 studies have no, very minor, or minor concerns for methods, coherence, and relevance, but moderate concerns for adequacy.
Collaborations are more likely to be effective when CBPs have their leaders' support for cooperative engagement.	Bromley (2017); Gagnon (2016); Hipper (2015); Schoch-Spana (2013	Moderate	The 4 studies have no, very minor, or minor concerns for methods, coherence, and relevance, but moderate concerns for adequacy.
Collaborations are more likely to be effective in improving the outcomes of at-risk populations when CBP membership is diverse and inclusive. This means ensuring the inclusion of CBPs traditionally ignored or marginalized, some of which may have strong ties to at-risk populations and experiences	Andrulis (2011); Bromley (2017); Cha (2016); Charania (2012); Cordasco (2007); Cuervo (2017); Gagnon (2016); Gin, (2018) Gin (2018); Ingham (2017); Laborde	High	The 15 studies have no, very minor, or minor concerns for methods, coherence, adequacy, and relevance.

that may increase the incorporation of diverse cultural perspectives.	(2011); Miller (2015); Peterson (2019); Rowel (2012); Stajura (2012)		
Collaborations are more likely to be effective when they operate with a shared language, whereas an imposed language is likely to be off-putting and perceived by many to carry biases that privilege some members over others.	Bromley (2017); Cha (2016); Gin (2016); Gin (2018); Hipper (2015); Ingham (2017); Shih (2018); Stajura (2012)	Moderate	The 8 studies have no, very minor, or minor concerns for methods, coherence, and relevance, but moderate concerns for adequacy.
Finding 3 Descriptive Themes			
Agreements may help formalize the nature of membership roles and responsibilities (including definition of what constitutes participation and engagement), which in turn may minimize conflicts over inequitable participation. It is important for collaborations to retain flexibility and attempt to accommodate different CBP realities.	Bromley (2017); Cha (2016); Charania (2012); Hipper (2015); Ingham (2017); Miller (2015); Peterson (2019); Schoch-Spana (2013), Stajura (2012)	High	The 9 studies have no, very minor, or minor concerns for methods, coherence, adequacy, and relevance.
Collaborations are notably constituted and enacted through communication. Collaborations would do well to establish commitments to inclusive language and participatory dialogue.	Bromley (2017); Gagnon (2016); Hipper (2015); Ingham (2017); Miller (2015); Stajura (2012)	Moderate	The 6 studies have no, very minor, or minor concerns for methods, coherence, and relevance, but moderate concerns for adequacy.
Finding 4 Descriptive Theme			
Collaborations appear to provide all members a means of learning and understanding each others' roles of each other during routine operations. Such shared knowledge in turn provides the basis for leveraging and coordinating existing services when emergency events occur. Similarly, such knowledge is foundational for identifying gaps and developing strategies for covering gaps in services, which may improve preparedness and coordination of response related to community-wide public health emergencies	Andrulis (2011); Bromley (2017); Cuervo (2017); Gagnon (2016); Gin (2018); Ingham (2017); Laborde (2011); Schoch-Spana (2013); Shih (2018)	High	The 9 studies have no, very minor, or minor concerns for methods, coherence, adequacy, and relevance.

Finding 5 Descriptive Theme			
When participating in training, CBP employees and volunteers are more likely to engage when they have the unambiguous support of their leadership and organizational culture.	Laborde (2011); Hipper (2015)	Moderate	The 2 studies have no, very minor, or minor concerns for methods, coherence, and relevance, but serious concerns for adequacy.
Finding 6 Descriptive Theme			
An important strategy is to create/adapt training and utilized resources so that they are culturally sensitive and appropriate.	Ablah (2008); Bromley (2017); Cuervo (2017); Eisenman (2009); Laborde (2011); Laborde (2013); Rowel (2012)	High	The 7 studies have no, very minor, or minor concerns for methods, coherence, adequacy, and relevance.
An important strategy is to identify who will be perceived as capable, credible, and trusted trainers from the learners' perspective. Potential trainers may include promatoras and trainers developed through train-the-trainer models.	Bromley (2017); Cuervo (2017); Eisenman (2009); Ingham (2017); Kamau (2017); Laborde (2011); Laborde (2013); Rowel (2012)	High	The 8 studies have no, very minor, or minor concerns for methods, coherence, adequacy, and relevance.
An important strategy is to determine and utilize learner preferences for methods of training, such as collaborative learning, table-top exercises, hands-on experiences, interactive games, small group discussions, among others small discussions and hands-on. Trainings may use multiple methods within a training session.	Ablah (2008); Bromley (2017); Eisenman (2009); Ingham (2017); Laborde (2011); Laborde (2013)	High	The 6 studies have no, very minor, or minor concerns for methods, coherence, adequacy, and relevance.
An important strategy is to customize training channels to learners' preferences and, possibly, to mirror enacted behaviors during emergencies. Channels refer to face-face, online, technological, and virtual, among others, modes of learning. Trainings may use multiple channels.	Ablah (2008); Bromley (2017); Kamau (2017); Laborde (2011); Laborde (2013)	High	The 5 studies have no, very minor, or minor concerns for methods, coherence, adequacy, and relevance.
An important strategy is to consider the location of training, whether physical or virtual, and its accessibility to learners.	Bromley (2017); Eisenman (2009); Hipper (2015); Laborde (2011)	High	The 4 studies have no, very minor, or minor concerns for methods, coherence, adequacy, and relevance.

4.0 DISCUSSION

The purpose of the evidence synthesis was to describe and understand the effectiveness of strategies being employed for engaging and training community-based partners to improve the outcomes of at-risk populations after public health emergencies. The analysis and synthesis of evidence from 23 qualitative research studies yielded six synthesized findings. One of the findings examined the broad approach to programmatic efforts whereas the other three examined engagement and two examined training more specifically. All six findings were assessed as having high confidence. Thus overall, the findings were seen as being based on evidence of strong quality.

4.1 Evidence to Decision Framework

4.1.1 Balance of Benefits and Harms

Collaborations that seek to understand existing services and recognize how they already include aspects of preparedness will likely improve preparedness and coordination of response related to community-wide public health emergencies. Expanding the number and/or size of collaborations with diverse CBPs better embeds their perspectives in community efforts and, therefore, commitment to improved outcomes for all community members, including traditionally at-risk populations (Charania, 2012; Cordasco, 2007; Miller, 2015; Peterson, 2019; Stajura, 2012).

Inclusive and purposeful collaborations prompted by goals for community-wide emergency preparedness and response may, and in some cases already have, achieve(d) additional benefits such as cultural sensitivity and appropriateness in said efforts and shared ownership of community efforts (Charania, 2012; Cordasco, 2007; Miller, 2015; Peterson, 2019). Explicit agreements that formulize expectations and operations in collaborations would benefit by strategically addressing how perceived barriers and harms from past experiences will be minimized (Bromley, 2017; Cha, 2016; Charania, 2012; Hipper, 2015; Ingham, 2017; Peterson, 2019; Schoch-Spana, 2013, Stajura, 2012).

Although collaborations and trainings can actually alleviate capacity concerns in some cases, there remain perceived capacity limits, likely to be exacerbated in an emergency, which serve as a barrier to engagement. Nevertheless, in this review, the CBPs nearly always valued representation (inclusion) and involvement (shared ownership) in community efforts—they have much to offer and much to gain. It may be important to leverage past successes from collaborations as well as commitment to a collaboration goal of reducing capacity limits through collective capacity enhancement (Schoch-Spana-2013).

By not making changes to collaboration initiatives, many CBPs will continue to be under-represented with continued marginalization of the at-risk populations with whom they work.

4.1.2 Acceptability and Preferences

The studies reflect minimal rejection towards goals of preparedness or strategies of engagement and training. Where such push-back is reported it is most often due to issues of capacity rather than acceptability. Thus, Gin (2016) reported concerns about possible standardized definitions or mandates; and indicated that such actions may result in a "compliance-only mentality" given the number of unfunded mandates and top-priority programmatic goals.

Although the overall goals of preparedness appear to be acceptable, the approach and the perception that outcomes of at-risk populations are of importance appear to be more contested. Collaborations and training that enact participatory inclusion improve acceptability, notable by improving cultural acceptability (Charania, 2012; Cordasco, 2007; Miller, 2015; Peterson, 2019). Stajura stated (2012) that

participatory approaches prioritize giving all CBPs and citizens a "seat at the table." And Cordasco (2007) boldly asserted that federal commitment to participatory approaches and inclusion would demonstrate, as top priority, a commitment to "de-colonize" a national system of policymaking. For many this commitment to building specific efforts from the bottom-up would be welcome and past due, yet some may resist (Charania, 2012; Gagnon, 2016).

4.1.3 Equity

Inclusion relates to equity issues in addition to values and preferences. When CBPs and citizens "see" themselves represented they are more likely to engage (Charania, 2012; Peterson, 2019. Messias (2012) reported that inclusion helps to combat feeling "discounted." Equally important, inclusion helps to mitigate ongoing histories of distrust/mistrust associated with governmental initiatives or government-supported ones (Eisenman, 2009). Gin (2016) and Stajura (2012) discussed how some CBPs see local health departments as focused on "the visible, recognized, or active CBOs and FBOs" to the exclusion of others, which reifies feelings of marginalization (Cordasco, 2007; Gin, 2016; Rowel, 2012). This marginalization occurs in collaborations and in trainings that target and tailor for some CBPs to the exclusion of others (Laborde, 2011, 2013).

4.1.4 Resource and Economic Considerations

Identifying strategies for effective engagement and training is complex, ever-changing, and full of struggles (Cha, 2016). As discussed, efforts are immediately assessed as doing more and seldom with no increases in resources or funding (Cha, 2016). This dynamic often discourages collaborations, and to a lesser degree trainings, It is thereby important to leverage current practices and examine some changes may be more of a perspective-tweak than adding more services (Schoch-Spana, 2013; Stajura, 2012).

However, the studies in this review do indicate that collaboration-building and maintenance duo require "a long-term investment" (Cha, 2016; Schoch-Spana, 2013; Stajura, 2012). If federal policymakers decide to embrace and promote collaborations, policies and funding should align with an understanding of the need for longitudinal funding and appropriate outcome evaluations (Gin, 2016; Peterson, 2019; Stajura, 2012). Similarly this corresponds to training geared towards coloration and coordination (Kamua, 2017).

4.1.5 Feasibility and PHEPR System Considerations

The studies in this review suggest that participatory collaborations and targeted, tailored training are feasible. In spite of challenges, many CBPs indicate they want to be included (Charania, 2012; Peterson, 2019). Additionally, findings 2-4 note aspects that help make collaborations effective while leaving flexibility for members to address disproportionately experienced barriers (Gin, 2016). For example, by delineating expectations of members in a formal agreement, there is room to accommodate particular realities within a collective endeavor. In regards to training, knowing what to consider when planning, conducting, and evaluating training may mean improved strategies rather than more trainings (Gin, 2016).

There are some cautionary notes. First, participatory approaches embrace contextual realities; thus, the work is never completed nor ever completely replicable. Second, rigid definitions or standards of preparedness may negatively impact achievement of the goal. The balance between standardization and customization is always difficult to maneuver. Based on the studies in this review, there is not an evidence-based answer for determining the balance.

Related to feasibility is the sustainability of efforts. Public health emergencies do occur and projections are that they will increase in frequency. Therefore, commitment to preparedness must be long-term (Miller, 2015; Peterson, 2019).

4.2 Limitations

A limitation of the evidence synthesis was the limited number of total studies in the evidence base. Thus, the synthesized findings are fairly global and abstract. The descriptive findings, especially those related to training strategies, do not have a "thick" or robust corpus. However, disciplinary knowledge on training outside of the emergency-centered literature would likely transfer in many instances.

4.3 Conclusion

The findings from the synthesis of evidence from qualitative research represent a description and improved understanding how to improve engagement and training of community-based partners to improve the outcomes of at-risk populations after public health emergencies. Together, the findings help see the phenomenon with more depth at an overall level as well as at the level of its specific aspects. The synthesized findings generally have high confidence and so can serve as a guide for developing recommendations in the field and conducting future research.

5.0 REFERENCES

References marked with an asterisk (*) are included in the review evidence base.

*Ablah, E., A. M. Tinius, L. Horn, C. Williams, & Gebbie, K. M. (2008). Community health centers and emergency preparedness: An assessment of competencies and training needs. *Journal of Community Health 33*(4):241-247.

*Andrulis, D. P., Siddiqui, N. J. & Purtle, J. P. (2011). Integrating racially and ethnically diverse communities into planning for disasters: The California experience. *Disaster Medicine & Public Health Preparedness 5*(3):227-234.

Barnett-Page, E., & Thomas, J. (2009). Methods for the synthesis of qualitative research: a critical review. *BMC Medical Research Methodology, 9*:59. doi: 10.1186/1471-2288-9-59

*Bromley, E., Eisenman, D. P., Magana, A., Williams, M., Kim, B., McCreary, M., Chandra, A., & Wells, K. B. (2017). How do communities use a participatory public health approach to build resilience? The Los Angeles County community disaster resilience project. *International Journal of Environmental Research and Public Health 14*(10).

*Cha, B. S., Lawrence R. I., Bliss J. C., Wells, K. B., Chandra, A. & Eisenman, D. P. (2016). The road to resilience: Insights on training community coalitions in the Los Angeles county community disaster resilience project. *Disaster Med Public Health Prep 10(*6):811-821.

*Charania, N. A., and Tsuji, L. J. (2012). A community-based participatory approach and engagement process creates culturally appropriate and community informed pandemic plans after the 2009 H1N1 influenza pandemic: Remote and isolated First Nations communities of sub-arctic Ontario, Canada. *BMC Public Health 12*:268.

*Cordasco, K. M. E., David, P., Glik, D. C., Golden, J. F., Asch, S. M. (2007). "They blew the levee": Distrust of authorities among Hurricane Katrina evacuees.

Critical Appraisal Skills Programme (CASP). (2018). *CASP qualitative checklist.* Available at: http://www.casp-uk.net/casp-tools-checklists.

*Cuervo, I., Leopold, L., & Baron, S. (2017). Promoting community preparedness and resilience: A Latino immigrant community-driven project following Hurricane Sandy. *American Journal of Public Health 107*(S2):S161-S1Kamau, 2017.

*Eisenman, D. P., Glik, D., Maranon, R., Gonzales, L., & Asch, S. (2009). Developing a disaster preparedness campaign targeting low-income Latino immigrants: Focus group results for project prep. *Journal of Health Care for the Poor and Underserved 20*(2):3Messias, 2012-345.

*Gagnon, E., O'Sullivan, T., Lane, D. E., & Pare, N. (2016). Exploring partnership functioning within a community-based participatory intervention to improve disaster resilience. *Journal of Higher Education Outreach and Engagement 20*(2):25-52.

*Gin, J. L., Eisner, R. K, Der-Martirosian, C., Kranke, D. & Dobalian, A. (2018). Preparedness is a marathon, not a sprint: A tiered maturity model for assessing preparedness in homeless residential organizations in Los Angeles. *Natural Hazards Review 19*(1).

*Gin, J. L., Saia, R., Dobalian, A., & Kranke. D. (2016). Disaster preparedness in homeless residential organizations in Los Angeles County: Identifying needs, assessing gaps. *Natural Hazards Review 17*(1).

*Hipper, T. J., Orr, A., & Chernak, E. (2015). Are human service agencies ready for disasters? Findings from a mixed-methods needs assessment and planning project. *Health Security 13*(2):106-114, 2017.

*Ingham, V., & Redshaw, S. (2017). Connecting community organisations for disaster preparedness. *International Journal of Safety and Security Engineering 7*(1):52-64.

*Kamau, P. W., Ivey, S. L., Griese, S. E., Qari, S. H. (2017). Preparedness training programs for working with deaf and hard of hearing communities and older adults: Lessons learned from key informants and literature assessments. *Disaster Medicine and Public Health Preparedness 12*(5):606-614.

*Laborde, D. J., Brannock, K., Parrish, T. (2011). Assessment of training needs for disaster mental health preparedness in black communities. *Journal of the National Medical Association 103*(7):624-634.

*Laborde, D. J., Magruder, K., Caye, J., & Parrish, T. (2013). Feasibility of disaster mental health preparedness training for black communities. *Disaster Medicine & Public Health Preparedness 7*(3):302-312.

Lewin, S., Booth, A., Glenton, C., Munthe-Kaas, H., Rashidian, A., Wainwright, M., Bohren, M. A, Tunçalp, O., Colvin, C. J., Garside, R., Carlsen, B., Langlois, E. V., & Noyes, J. (2018). Applying GRADE-CERQual to qualitative evidence synthesis findings: introduction to the series. *Implementation Science, 13* (Supplement 1): 2, 1-10. doi: 10.1186/s13012-017-0688-3

Lewin, S., Glenton, C., Munthe-Kaas, H., Carlsen, B., Colvin, C. J., Gulmezoglu, M., Booth, A., Garside, R., & Rashidian, A. (2015). Using qualitative evidence in decision making for health and social interventions: An approach to assess confidence in findings from qualitative evidence syntheses (GRADE-CERQual). *PLOS Medicine.* doi:10.1371/journal.pmed.1001895.

*Messias, D. K. H., Barrington, C., & Lacy, E. (2012). Latino social network dynamics and the Hurricane Katrina disaster. *Disasters 36*(1):101-121.

*Miller, A., P., Massey, D., Judd, J. Kelly, K., Durrheim, D. N., Clough, A. R., Speare, R, & Saggers, S. (2015). Using a participatory action research framework to listen to Aboriginal and Torres Strait Islander people in Australia about pandemic influenza. *Rural & Remote Health 15*(3):2923.

Noyes, J., Booth, A., Lewin, S., Carlsen, B., Glenton, C., Colvin, C. J., Garside, R., Garside, R., Bohren, M., Rashidian, A., Wainwright, M., Tuncalp, O., Chandler, J., Flottorp, S., Pantoja, T., Tucker, J. D., & Munthe-Kaas, H. (2018). Applying GRADE-CERQual approach to qualitative evidence synthesis findings-paper 6: How to assess relevance of the data. *Implementation Science, 13* (Supplement 1): 4, 51-61. doi: 10.1186/s13012-017-0693-6.

*Peterson, P., McNabb, P., Maddali, S. R., Heath, J., & Santibanez. S. (2019). Engaging communities to reach immigrant and minority populations: The Minnesota immunization networking initiative (mini), 2006-2017. *Public Health Reports 134*(3):241-248.

Pope, C., Ziebland, S., & Mays, N. (2000). Analysing qualitative data. *BMJ: British Medical Journal, 320,* 114-116.

*Rowel, R., Sheikhattari, P., Barber, T. M., & Evans-Holland, M. (2012). Introduction of a guide to enhance risk communication among low-income and minority populations: A grassroots community engagement approach. *Health Promotion Practice 13*(1):124-132.

*Schoch-Spana, M., Sell, T. K., & Morhard, R. (2013). Local health department capacity for community engagement and its implications for disaster resilience. *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science 11(2)*:118-129.

*Shih, R. A., Acosta, J. D., Chen, E. K., Carbone, E. G., Xenakis, L., Adamson, D. M., & Chandra, A. (2018). Improving disaster resilience among older adults insights from public health departments and aging-in-place efforts. Santa Monica, CA.

*Stajura, M., Glik, D., Eisenman, D., Prelip, M., Martel, A., & Sammartinova, J. (2012). Perspectives of community- and faith-based organizations about partnering with local health departments for disasters. *International Journal of Environmental Research and Public Health 9*(7):2293-2311.

Tracy, S. J. (2018). A phronetic iterative approach to data analysis in qualitative research. *Journal of Qualitative Research, 19*, 61-76.

6.0 APPENDIX

Table 6.1. Illustrative Excerpt of Process Showing Development of Descriptive and Synthesized Themes

Descriptive Codes: a priori and Emergent	Verbatim Text from Article Linked to Descriptive Code	Descriptive Themes: Families of Codes	Synthesized Theme: Interpretive Grouping of Descriptive Themes
Training needs [a priori Code] Training needs of CBPs in collaborations [Emergent Code]	. Agencies can improve their partnerships through cross-training activities and by coordinating emergency response efforts (Kamau, 2017) . A representative from a local public health department in this region reported that they provided successful emergency preparedness training to human service agencies in their community settings, encouraging them to promote personal preparedness planning and to participate in county response efforts (Hipper, 2015) . Annual conferences and forums for all human service agencies held at the county or regional level can extend social service capacity and pro- mote broad engagement in emergency preparedness (Hipper, 2015) . All participants identified training in coordination, outreach to reduce mental health stigma, and cultural competence as priority training needs (Laborde, 2011) . CBO leaders indicated on their profile form that they wanted to learn whom they could partner with to provide resources to their community and how best to prepare for a disaster and coordinate community outreach (Laborde, 2011)	. One type of CBP training need is: How to develop collaborations, engage in constructive interactions, and coordinate efforts. . One type of CBP training need is: How to facilitate knowledge acquisition and enact coordinated efforts *within* organizations and among its employees/volunteers . How to train downstream, at-risk populations reached through collaborations and CBP organizations (employees and volunteers) . When participating in training, CBP employees and volunteers are more likely to engage when they have the unambiguous support of their leadership and organizational culture.	Finding 5: Effective trainings for community-based partners are likely to *target* specific learners and learning needs.

Training needs [a priori Code) Training needs within CBPs' organizations [Emergent Code]	. Need for more widely available preparedness training for CBOs, emergency responders, medical personnel, law enforcement, and firefighters (Cha, 2016). Members of the Deaf and hard of hearing community ((Cha, 2016). . Most black community leaders and clinical providers were unaware of local disaster response resources (Laborde, 2011)	. When participating in training, the curriculum help with the integration of learning expectations across local, state, regional, and federal jurisdictions as well as emergency and advocacy perspectives.	
Training Needs [a priori Code] Training needs of CBPs for engaging at-risk populations [Emergent Code]	. Need for more widely available preparedness training (Cha, 2016). . Members of the Deaf and hard of hearing community (Cha, 2016) . Public health department representatives also expected that human service agencies would assist with communication to clients during health emergencies. However, some agencies were hesitant about being asked to serve as ''trusted intermediaries'' for the transmission of health-oriented information that was out-side the scope of their professional expertise (Hipper, 2015). . Informants from one local health department contemplated what further reach into the community was possible via social media, if only they had sufficient IT expertise and infrastructure (Schoch-Spana, 2013).		
Training Facilitators/ Barriers [a priori Code] Training Facilitators when Deciding to Participate [Emergent Code]	. Leadership was needed to engage the broad community of human service agencies without a specific disaster mission (Hipper, 2015) . Agency leaders stressed the lack of time to devote to training and education and the difficulties of taking any time		

	away from work directly related to the agency's mission (Hipper, 2015) . Having employers sponsor the training would encourage participation (Laborde, 2011)		
Training Barriers [a priori Code] Training Barriers when Deciding to Participate [Emergent Code]	Training should involve collaboration across different emergency, state, federal, and advocacy agencies (Kamau, 2017)		