Journal of Clinical and Translational Science

www.cambridge.org/cts

Measuring capacity to use evidence-based interventions in community-based organizations: A comprehensive, scoping review

Shoba Ramanadhan[1], Sitara L. Mahtani[2], Shinelle Kirk[3], Michelle Lee[4], Maggie Weese[1], Carol Mita[5] and Heather M. Brandt[6]

[1]Harvard T.H. Chan School of Public Health, Boston, MA, USA; [2]Dana-Farber Cancer Institute, Boston, MA, USA; [3]Boston Medical Center, Boston, MA, USA; [4]University of California San Francisco, San Francisco, CA, USA; [5]Countway Library, Harvard Medical School, Boston, MA, USA and [6]St. Jude Children's Research Hospital, Memphis, TN, USA

Implementation, Policy and Community Engagement Research Article

Cite this article: Ramanadhan S, Mahtani SL, Kirk S, Lee M, Weese M, Mita C, and Brandt HM. Measuring capacity to use evidence-based interventions in community-based organizations: A comprehensive, scoping review. *Journal of Clinical and Translational Science* **6**: e92, 1–15. doi: 10.1017/cts.2022.426

Received: 4 May 2022
Revised: 30 June 2022
Accepted: 6 July 2022

Keywords:
Community-based organizations; capacity-building; measurement; evidence-based interventions; implementation science

Address for correspondence:
S. Ramanadhan, ScD, MPH, 677 Huntington Ave, Boston, MA 02115, USA.
Email: sramanadhan@hsph.harvard.edu

Abstract

Introduction: Community-based organizations (CBOs) are well-positioned to incorporate research evidence, local expertise, and contextual factors to address health inequities. However, insufficient capacity limits use of evidence-based interventions (EBIs) in these settings. Capacity-building implementation strategies are popular, but a lack of standard models and validated measures hinders progress in the field. To advance the literature, we conducted a comprehensive scoping review. *Methods:* With a reference librarian, we executed a comprehensive search strategy of PubMed/Medline, Web of Science Core Collection, and EBSCO Global Health. We included articles that addressed implementation science, capacity-building, and CBOs. Of 5527 articles, 99 met our inclusion criteria, and we extracted data using a double-coding process *Results:* Of the 99 articles, 47% defined capacity explicitly, 31% defined it indirectly, and 21% did not define it. Common concepts in definitions were skills, knowledge/expertise, and resources. Of the 57 articles with quantitative analysis, 48 (82%) measured capacity, and 11 (23%) offered psychometric data for the capacity measures. Of the 99 studies, 40% focused exclusively on populations experiencing inequities and 22% included those populations to some extent. The bulk of the studies came from high-income countries. *Conclusions:* Implementation scientists should 1) be explicit about models and definitions of capacity and strategies for building capacity, 2) specify expected multi-level implementation outcomes, 3) develop and use validated measures for quantitative work, and 4) integrate equity considerations into the conceptualization and measurement of capacity-building efforts. With these refinements, we can ensure that the necessary supports reach CBO practitioners and critical partners for addressing health inequities.

Introduction

As trusted local actors, community-based organizations (CBOs) are well-positioned to incorporate research evidence, local expertise, and contextual factors to improve health [1–4]. These organizations often fill important gaps in reaching populations served ineffectively by traditional healthcare channels and offer a unique opportunity to promote health equity [4,5]. The scale of their potential impact is substantial – CBOs delivered about $200 billion in services in the US in 2017 [6]. The term CBOs refers to mission-driven organizations that address community needs and reflect community values, are typically nonprofit and led by a board of members, and deliver services in coordination with community stakeholders [7]. While CBOs can be core implementation channels for evidence-based interventions (EBIs), they face several challenges in this regard. Barriers include insufficient training and skills to use EBIs, competing priorities, balancing capacity-building and service delivery, insufficient organizational supports for the use of EBIs, and a lack of clarity around how to sustain successful EBIs [8–12]. These challenges are particularly relevant for CBOs working with communities that have been and/or are currently being marginalized and excluded from opportunities for health and wellbeing, where resource constraints are often heightened [5,9]. Building capacity for EBI use is a critical element of designing for dissemination and implementation, for example, as highlighted by Interactive Systems Framework and the push-pull-capacity model [13,14]. Capacity to use EBIs is a driver of implementation outcomes and, ultimately, health impact and is thus a critical area of focus [10]. Capacity-building to implement EBIs has attracted a fair amount of attention, with successes in increasing the adoption and implementation of EBIs, for example, among the staff of local health departments, policymakers, and some community-based settings [15,16,10].

It is difficult to capitalize on the capacity-building literature given a lack of consensus regarding the definition of capacity as a concept. The World Health Organization describes capacity as

© The Author(s), 2022. Published by Cambridge University Press on behalf of The Association for Clinical and Translational Science. This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence (https://creativecommons.org/licenses/by/4.0/), which permits unrestricted re-use, distribution, and reproduction in any medium, provided the original work is properly cited.

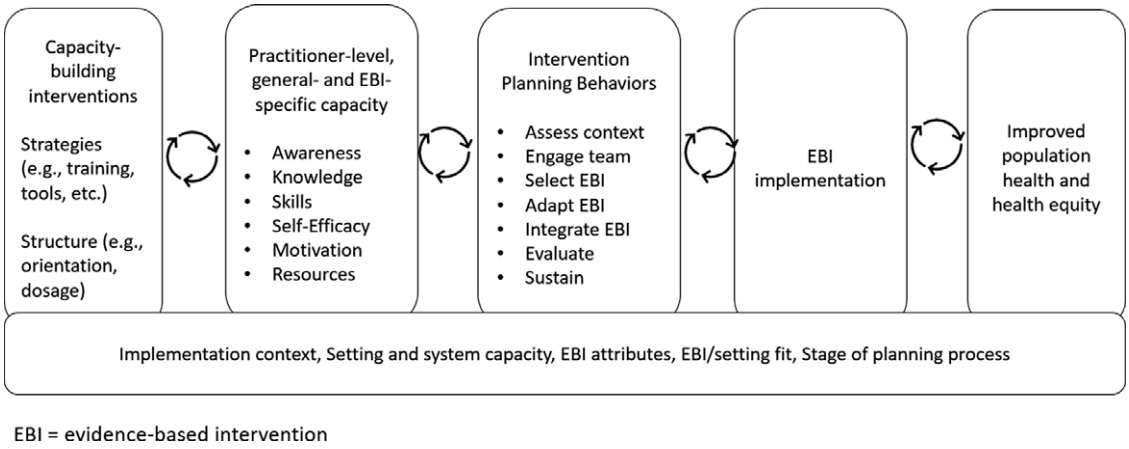


Fig. 1. Conceptual framework for the review, adapted from Leeman and colleagues [25].

the "knowledge, skills, commitment, structures, systems, and leadership to enable effective health promotion" [17]. This is echoed by an influential synthesis of the literature on capacity-building for EBI use, which describes capacity as having sufficient structures, personnel, and resources to utilize EBIs [10]. Further expanding potential conceptualizations, frameworks such as the Interactive Systems Framework attend to capacity in the systems integral to putting EBIs into practice, emphasizing general capacity and EBI-specific capacity [14].

Another limitation in the field is a shortage of validated measures of capacity generally [18,19] and for use in CBOs [10]. While the use of reliable and valid measures is integral to advancing knowledge regarding the capacity-building implementation strategies that warrant further attention, most measures have been inadequately assessed for psychometric properties [10,20]. Where validated measures exist, they were often developed for non-CBO practitioners, such as health department staff, and include items that would be irrelevant in CBOs, for example, items that ask about consultations with staff epidemiologists [21]. The measurement gaps matter, as limited data describe the link between capacity-building strategies, capacity, and implementation outcomes [22]. Burgeoning efforts to bridge this measurement gap have yielded essential assessment tools to improve the implementation of EBIs in local settings [21,23]. A final potential gap in the literature relates to the need to tailor capacity-building interventions to adjust for the context in which an EBI will be implemented. On one hand, CBOs serving marginalized populations are recognized as prime partners for delivering EBIs to advance health equity [4,5]. On the other, our previous work highlights a disconnect that practitioners working with marginalized populations perceive between capacity-building interventions and their needs and expertise [24]. We were unable to find an assessment of the extent to which these organizations are present in the capacity-building literature, prompting further attention. Given the importance of increasing CBO capacity to utilize EBIs in the service of improved population health and health equity, we conducted a scoping review to examine the available literature and identify important research gaps. Our study focused on researchers addressing capacity-building for EBI use in CBOs and asked 1) how is capacity defined and conceptualized, 2) to what extent are validated measures available and used, and 3) to what extent is equity a focus in this work? The inquiry is grounded in a systematic review of capacity-building for EBI use in community settings by Leeman and colleagues, which defines capacity as the general and program-specific awareness, knowledge, skills, self-efficacy, and motivation to use an EBI. The review also identified several capacity-building strategies shown to increase adoption and implementation, such as providing technical assistance in addition to training and tools [25]. We have adapted this work to serve as the conceptual framework for this review, as summarized in Fig. 1.

Materials and Methods

Design

A team of researchers conducted this review. Two of the authors (SR and HMB) have been studying the use of EBIs in community settings for more than 15 years. Three members of the team were students (of public health, medicine, and psychology) (MW, ML, SK), one member manages implementation science projects (SLM), and one member (CM) is a research librarian at Harvard Medical School's Countway Library. The team had the necessary complementary expertise to conduct the review. We did not register the scoping review given its exploratory nature. The researchers adapted the process described by Katz and Wandersman [26]. We utilized the PRISMA checklist for scoping reviews to support reporting [27] and have provided details as Supplemental File 1.

Step 1: Identify the research questions. 1) How are researchers defining and conceptualizing "capacity" and related outcomes to support the use of EBIs in CBOs? 2) To what extent are validated measures available and used? 3) To what extent are capacity-building studies attending to health equity?

Step 2: Conduct the search. Relevant studies were identified by searching the following databases: PubMed/Medline (National Library of Medicine), Web of Science Core Collection (Clarivate), and Global Health (C.A.B. International, EBSCO), on August 13, 2021. Controlled vocabulary terms (i.e., MeSH or Global Health thesaurus terms) were included when available and appropriate. The search strategies were designed and executed by a research librarian (CM). No language limits or year restrictions were applied, and bibliographies of relevant articles were reviewed to identify additional studies. We sought articles at the intersection of three core areas: 1) CBOs, 2) evidence-based practice, and 3) capacity-building. The search strategy used in PubMed included the combination of MeSH terms and keywords searched within the title and abstract was as follows:

https://doi.org/10.1017/cts.2022.426 Published online by Cambridge University Press

("Community Health Workers"[Mesh] OR "Community Health Services"[Mesh:NoExp] OR "Health Promotion"[Mesh:NoExp] OR "Organizations, Nonprofit"[Mesh:NoExp] OR "Health Education"[Mesh:NoExp] OR "Patient Education as Topic"[Mesh] OR "Consumer Health Information"[Mesh] OR community-based[tiab] OR community health[tiab] OR consumer health[tiab] OR health education[tiab] OR health promotion[tiab] OR Lady health worker*[tiab] OR Lay health worker*[tiab] OR Village health worker*[tiab] OR local organization*[tiab] OR non-clinical[tiab] OR non profit*[tiab] OR nonprofit*[tiab] OR prevention support[tiab] OR community organization*[tiab] OR "Public Health Practice"[Mesh:noexp] OR public health practic*[tiab]) **AND** ("Evidence-Based Practice"[Mesh:noexp] OR "Implementation Science"[Mesh] OR evidence based[tiab] OR evidence informed[tiab] OR effective intervention*[tiab] OR knowledge translation[tiab] OR implementation science[tiab] OR practice-based evidence [tiab]) **AND** ("Capacity Building"[Mesh] OR "Professional Competence"[Mesh:NoExp] OR "Staff Development"[Mesh] OR capacity[tiab] OR competencies[tiab] OR skills[tiab] OR work force[tiab] OR workforce[tiab] OR professional development[tiab] OR staff[tiab] OR practitioners[tiab] OR knowledge broker*[tiab]).

The search strategies for the other databases appear in Supplemental File 2. As noted elsewhere, terminology in this area has not been standardized [25]. The researchers worked with the librarian to identify a broad list of search terms to be sufficiently inclusive.

Step 3. Select articles based on the following inclusion/exclusion criteria. We imported search results into Covidence software. For each article, pairs of study team members reviewed the title and abstract. Inclusion criteria were as follows: 1) addressed CBOs AND health-focused EBIs AND capacity; 2) addressed practitioner capacity-building; 3) articles were retrievable as full-text in English. Exclusion criteria were as follows: 1) did not address the capacity of the workforce (e.g., related only to community capacity); 2) referred to capacity-building, but not in a substantive way; 3) capacity-building was explored, but not concerning EBIs; 4) article did not report on a study or conceptual model (e.g., letter to the editor). The research team reviewed and resolved conflicts at this stage as a team, with mediation by the lead author. The same process was utilized for the review of full-text articles. We included review articles to examine conceptualizations of capacity-building and to identify additional studies for inclusion.

Step 4. Extract and code data from the articles. Using Excel, pairs of researchers double-coded data for each article, and the first author resolved conflicts in the final stage. We drew on previous reviews of capacity-building to identify the fields to extract [25]. Basic study information included location (country plus state for US), conceptual vs. empirical piece, setting (e.g., CBO), types of practitioners targeted (e.g., CBO staff), health focus (e.g., obesity prevention), and extent to which the study focused on health equity. We also coded the use of qualitative and/or quantitative data. For capacity-building, we coded the level of focus and whether a definition of capacity was offered (directly, indirectly, or not at all). We coded for whether or not capacity was measured. For articles in which capacity was measured quantitatively, we assessed whether or not psychometric data were provided. Finally, we extracted the identified outcomes of capacity-building highlighted by the article.

A few categories deserve further explanation. To describe the health equity focus, the team coded presence or absence of an emphasis on at least one of the following: 1) For US studies, NIH-designated US health disparity populations as defined by NIMCHD [28], including Blacks/African Americans, Hispanics/Latinos, American Indians/Alaska Natives, Asian Americans, Native Hawaiians, and other Pacific Islanders, socioeconomically disadvantaged populations, underserved rural populations, and sexual and gender minorities; 2) other underserved populations from high-income countries (e.g., medically underserved communities, incarcerated populations, disabled populations); and 3) populations from low- and middle-income countries. For articles with a focus on these populations, we also coded whether the study included these populations (e.g., including racial and ethnic minorities as part of a general recruitment effort) or focused on them (e.g., a study that delivered a capacity-building intervention to organizations serving low-income communities).

Step 5. Analyze and summarize the data. Once the dataset was finalized, the data were summarized using descriptive statistics. All analyses were conducted using Microsoft Excel.

Results

Search Results

As seen in Fig. 2, the initial search yielded 5527 articles, 285 full-text articles were screened, and a pool of 99 articles was retained for the review. This process is visualized according to the PRISMA reporting standards [29].

Core attributes of the 99 included articles are presented in Table 1.

As seen in Table 1, the included studies were published between 1997 and 2021. About half (47%) were published between 1997 and 2014 and the remainder from 2015 to August 2021. A total of 80 were based in the US, 9 were from other high-income countries, 2 explicitly referenced findings in low- and middle-income countries, and 8 did not specify.

Question 1: How Did Researchers Define Capacity in the Context of CBO Practitioners using EBIs?

Of the 99 articles, 47 defined capacity explicitly (47%), another 31 defined it indirectly (31%), and 21 did not define it at all (21%). Of those that offered direct or indirect definitions, 34 concepts were described, with an average of 3.3 per article. Common concepts included practitioner-level attributes, for example, knowledge and skills, organization-level attributes, for example, leadership and fiscal resources, and system-level attributes, for example, partnerships and informal systems. Among the concepts that were infrequently mentioned, a few related to the broader functioning of groups, communities, or the larger political environment. Overall, 162 concepts (64% of total) were at the practitioner level, 80 (30%) were at the organization level, and 14 (5%) were at the system-level attributes. Concepts mentioned five or more times are presented in Table 2.

We also examined how researchers linked practitioner capacity and capacity-building efforts to key outcomes at multiple levels and across short- and long-term timeframes (Fig. 3).

Question 2: To What Extent Did Quantitative Studies Measure Capacity, and to What Extent were Psychometric Data Provided?

A total of 57 articles (57%) included quantitative analytic components, and of those, 48 (82%) measured capacity and 11 (23%)

https://doi.org/10.1017/cts.2022.426 Published online by Cambridge University Press

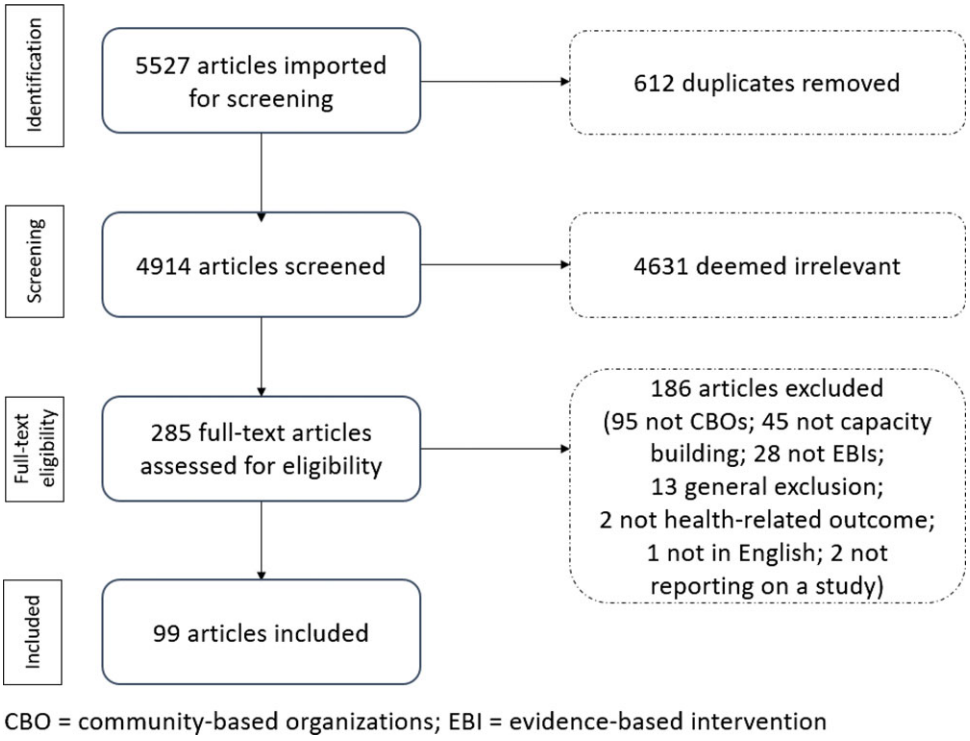


Fig. 2. PRISMA flow chart.

offered psychometric data for the capacity measures. The foci and types of psychometric data presented are summarized below.

1. Acosta and colleagues [30] used a combination of a Getting to Outcomes approach and the Consolidated Framework for Implementation Research [31,32] in this study of positive youth development. They defined practitioner prevention capacity in terms of perceived efficacy (ability to complete necessary tasks on one's own) and behaviors (conducting the necessary implementation tasks, both related to the approach broadly and the intervention specifically. They offered reliability data for each core capacity scale and drew on previously utilized scales.
2. Allen and colleagues [33] conducted a survey that emphasized the importance of skills, availability of skilled staff, organizational supports, and use of research evidence before and after receiving training on evidence-based decision-making. The team scored the perceived importance of each of the ten key skills and the availability of staff members with that skill. Additionally, measures included frequency of using research evidence and work unit and agency expectations and supports for evidence-based decision-making. Finally, a list of steps taken to enhance capacity for evidence-based decision-making was utilized. The measures were validated through five rounds of review by an expert panel, cognitive testing with former state chronic disease directors, and test-retest reliability assessment with state health department staff.
3. Brock and colleagues [34] examined the capacity for a community advisory board (including CBO representatives) to implement an evidence-based obesity program using participatory processes. They used a 63-item survey to capture 13 domains, including capacity efforts (decision-making, conflict resolution, communication, problem assessment, group roles, and resources); capacity outcomes (trust, leadership, participation and influence, collective efficacy); and sustainability outcomes (sustainability, accomplishments, and community power). They reported reliability data for the survey items.
4. Brown and colleagues [35] described measures as part of a protocol for a hybrid, Type 3 cluster-randomized trial examining coalition and prevention program support through technical assistance. Their measure of coalition capacity included cohesion (e.g., sense of unity and trust) and efficiency (e.g., focus and work ethic) for internal team processes.
5. Chinman and colleagues [31] conducted a study based on the Getting to Outcomes framework. For the capacity assessment, they use 23 items to measure self-efficacy (in terms of how much help would be needed) for Getting to Outcomes activities (e.g., conducting a needs assessment). They conducted a factor analysis and assessed the internal consistency reliability of this scale. A separate set of 16 items examined attitudes towards steps of the program process, for example, conducting a formal evaluation. They conducted a factor analysis and calculated internal consistency reliability.
6. Chinman and colleagues [36] conducted a study with the Getting to Outcomes framework and examined prevention capacity as knowledge and skills. The Knowledge Score averaged seven items and examined how much help the respondent would need to carry out a given prevention activity, for example, supporting program sustainability. Internal consistency reliability data were presented. The Skills Score averaged six items and assessed respondents' frequency of engaging in the prevention activities; internal consistency reliability data were presented.
7. Chinman and colleagues [37] conducted a trial drawing on the Getting to Outcomes framework and key capacity measures focused on efficacy. A five-item efficacy scale focused on

https://doi.org/10.1017/cts.2022.426 Published online by Cambridge University Press

Table 1. *Description of included publications (n = 99)*

Citation	Country and US State(s) if applicable	Target Practitioners	Health focus	Capacity measured	Measure psycho-metrics presented	Health equity focus (None / Close to None, Included, Primary)
Acosta et al. 2013 [30]	US - ME	Program staff	Positive youth development	Yes	Yes	None
Ai et al. 2021 [62]	US - KS	Program staff	Positive youth development	No	No	None
Allen et al. 2015 [63]	US - MA	FBO staff	Cancer control	Yes	No	Primary
Allen et al. 2016 [64]	US - MA	FBO staff	Cancer control	No	No	Primary
Allen et al. 2018 [33]	US - GA	Multiple	Chronic disease prevention	Yes	Yes	None
Allen et al. 2020 [65]	US - MA	FBO staff	Cancer control	Yes	No	Primary
Ayala et al. 2007 [66]	US - Western region	CBO staff	HIV prevention	Yes	No	Primary
Ayer et al. 2020 [67]	US - NY	Program staff	Mental health	Yes	No	Included
Bach-Mortensen et al. 2018 [9]	Multiple countries	Program staff	Multiple	No	No	None
Berman et al. 2018 [68]	US - KS, MO	Multiple	Childhood obesity	No	No	Included
Bravo et al. 2019 [69]	US - CA	Program staff	Clinical preventive services	No	No	Primary
Brock et al. 2019 [34]	US - NC, VA	Community partners	Childhood obesity	Yes	Yes	Primary
Brodowski et al. 2013 [70]	US - KS, NE	Program staff	Child abuse and neglect prevention	No	No	None
Brook & Akin 2019 [71]	US	Program staff	Multiple	No	No	Included
Brown et al. 2005 [72]	US - CA	CBO staff	STI prevention	No	No	Included
Brown et al. 2010 [73]	US - PA	Coalition members, Program staff	Risky behavior prevention in youth	Yes	No	Included
Brown et al. 2015 [74]	US - PA	Coalition members, Program staff	Crime prevention	Yes	No	Included
Brown et al. 2021 [35]	US - PA and MO	Program staff	Substance abuse prevention	Yes	Yes	None
Brownson et al. 2018 [10]	US	Program staff	Multiple	No	No	None
Bull & Dale 2021 [75]	Scotland	Program staff	General health promotion	Yes	No	Included
Cambon et al. 2017 [76]	France	Multiple	Multiple	No	No	None
Cannon et al. 2019 [77]	US - CA	Program staff	Substance abuse prevention	Yes	No	Included
Carroll-Scott et al. 2012 [78]	US - CA	CBO staff	Not specified	Yes	No	Included
Chilenski et al. 2016 [79]	US - IA, PA	Multiple	Not specified	No	No	Primary
Chilenski et al. 2018 [80]	US - IA, PA	Multiple	Youth substance abuse and problem behaviors	Yes	No	Primary

(*Continued*)

https://doi.org/10.1017/cts.2022.426 Published online by Cambridge University Press

Table 1. (*Continued*)

Citation	Country and US State(s) if applicable	Target Practitioners	Health focus	Capacity measured	Measure psycho-metrics presented	Health equity focus (None / Close to None, Included, Primary)
Chinman et al. 2005 [81]	US	Program staff	Substance abuse prevention	No	No	None
Chinman et al. 2008 [31]	US - CA, SC	Program staff	Substance abuse prevention	Yes	Yes	None
Chinman et al. 2012 [36]	US - ME	CBO staff	Substance abuse prevention	Yes	Yes	None
Chinman et al. 2012 [82]	US - Northeast region	Program staff	Mental health, Homelessness	No	No	Primary
Chinman et al. 2013 [83]	US - AL, GA	Program staff	STI prevention, Pregnancy prevention	Yes	No	Primary
Chinman et al. 2013 [37]	US - ME	Coalition members, Program staff	Positive youth development	Yes	Yes	None
Chinman et al. 2016 [84]	US - AL, GA	Program staff	STI prevention, Pregnancy prevention	Yes	No	Primary
Chinman et al. 2018 [85]	US - CA	Program staff	Substance abuse prevention	No	No	Primary
Claussen et al. 2017 [86]	Canada	Multiple	Domestic violence	No	No	None
Collins et al. 2006 [87]	US - Multiple	Program staff	HIV prevention	No	No	Included
Collins et al. 2007 [22]	US	CBO staff	HIV prevention	No	No	Included
Collins & Sapiano 2016 [88]	US	Program staff	HIV prevention	No	No	Included
Crowley et al. 2012 [89]	US - IA, PA	Multiple	Youth substance abuse prevention	Yes	No	Primary
Douglas et al. 2019 [90]	US - OK	Program staff	Chronic disease prevention	Yes	No	Primary
Duffy et al. 2012 [91]	US - SC	Program staff	Pregnancy prevention	Yes	No	None
Escoffery et al. 2012 [92]	US - GA	Multiple	Chronic disease prevention, Cancer control	Yes	No	None
Escoffery et al. 2015 [93]	US	Program staff	Cancer control	No	No	Included
Exner-Cortens et al. 2021 [94]	Canada	Teachers and community facilitators	Domestic violence	Yes	No	None
Fazelipour & Cunningham 2019 [95]	Australia, Canada, New Zealand	Multiple	Multiple	No	No	Primary
Feinberg et al. 2008 [96]	US - PA	Coalition members, Program staff	Youth problem behaviors and positive youth development	No	No	None
Fernández et al. 2014 [97]	US - Multiple	Multiple	Cancer control	Yes	No	Included
Flaspohler et al. 2008 [98]	Broadly applicable	Not specified	Multiple	No	No	None
Florin et al. 2012 [99]	US - RI	Program staff	Substance abuse prevention	Yes	No	None
Gandelman et al. 2006 [100]	US	Program staff	HIV prevention	Yes	No	Included

(*Continued*)

https://doi.org/10.1017/cts.2022.426 Published online by Cambridge University Press

Table 1. (*Continued*)

Citation	Country and US State(s) if applicable	Target Practitioners	Health focus	Capacity measured	Measure psycho-metrics presented	Health equity focus (None / Close to None, Included, Primary)
Genat et al. 2016 [101]	Australia	Program staff	Nutrition	No	No	Primary
Gregory et al. 2012 [102]	US - MD	CBO staff	Multiple	No	No	Primary
Haggerty et al. 2017 [103]	US - WA	CBO staff	Positive youth development	No	No	Included
Hannon et al. 2010 [104]	US - Multiple	Coalition members, Program staff	Cancer control	Yes	No	Included
Harshbarger et al. 2006	US	CBO staff	HIV prevention	No	No	Primary
Hawe et al. 1997 [105]	Broadly applicable	Program staff	Not specified	Yes	No	None
Haynes et al. 2014 [106]	US - GA	Multiple	Cancer control	No	No	Primary
Homel et al. 2015 [107]	Australia	Not specified	Crime prevention	No	No	Primary
Honeycutt et al. 2012 [108]	US - GA	Multiple	Nutrition	No	No	Primary
House et al. 2017 [38]	US - Multiple	Program staff	Pregnancy prevention	Yes	Yes	Primary
Hunter et al. 2009 [109]	US - Multiple	Program staff	Substance abuse prevention	Yes	No	Primary
Katz & Wandersman 2016 [26]	Multiple countries	Not specified	Not specified	No	No	None
Kegeles & Rebchook 2005 [110]	US - Multiple	Multiple	HIV prevention	No	No	Primary
Kegeles et al. 2015 [111]	US - Multiple	CBO staff	HIV prevention	No	No	Primary
Kelly et al. 2000 [112]	US - Multiple	CBO staff	HIV prevention	No	No	Included
Kietzman et al. 2019 [113]	US - CA	CBO staff	Multiple	No	No	Primary
Leeman et al. 2015 [25]	Multiple countries	CBO staff	Not specified	Yes	No	None
Leeman et al. 2017 [114]	Multiple countries	CBO staff	Not specified	No	No	None
Leyva et al. 2017 [115]	US - MA	FBO staff, CBO staff	Cancer control	Yes	No	Primary
MacGregor et al. 2013 [116]	Canada	Multiple	Youth violence prevention	Yes	No	Included
MacLean et al. 2003 [117]	Canada	Multiple	Cardiovascular disease	Yes	No	None
Mainor et al. 2018 [118]	US - NC, OR	Program staff	General health promotion	No	No	None
Martinez et al. 2014 [119]	US - PR	CBO staff	Multiple	Yes	No	Primary
Matheson et al. 2020 [120]	New Zealand	Not specified	Multiple	Yes	No	Primary
Miller et al. 2012 [121]	US - MI	CBO staff	Strengthening families for youth with incarcerated parents	No	No	Primary

(*Continued*)

https://doi.org/10.1017/cts.2022.426 Published online by Cambridge University Press

Table 1. (*Continued*)

Citation	Country and US State(s) if applicable	Target Practitioners	Health focus	Capacity measured	Measure psycho-metrics presented	Health equity focus (None / Close to None, Included, Primary)
Mitchell et al. 2002 [122]	US - Multiple	CBO staff	General health promotion	No	No	None
Mueller et al. 2017 [123]	US - Multiple	CBO staff	Pregnancy prevention	No	No	None
Napoles et al. 2013 [124]	US	CBO staff	General health promotion	No	No	Primary
Nargiso et al. 2013 [39]	US - RI	Coalition members	Substance abuse prevention	Yes	Yes	None
Nu'Man et al. 2007 [125]	US	Program staff	HIV prevention	Yes	No	Included
Owczarak 2012 [126]	US - WI	CBO staff	HIV prevention	No	No	Included
Palinkas et al. 2020 [40]	US	Program staff	Mental health, substance abuse prevention	Yes	Yes	None
Peterson et al. 2015 [127]	US - WI	Multiple	Preventing falls among older adults	No	No	None
Pettman et al. 2013 [41]	Australia	Multiple	General health promotion	Yes	Yes	None
Porteny et al. 2020 [128]	US - MA, NY, FL, PR	Program staff	Mental and physical disability prevention	Yes	Yes	Primary
Ramanadhan et al. 2012 [129]	US - MA	CBO staff	Cancer control	No	No	Primary
Ramanadhan et al. 2017 [130]	US - MA	CBO staff	Cancer control	Yes	No	Primary
Ramanadhan et al. 2021 [24]	US - MA	Program staff	General health promotion	No	No	Primary
Roeseler et al. 2011 [131]	US - CA	Multiple	Tobacco control	No	No	Included
Sauaia et al. 2016 [132]	US - CO	Program staff	General health promotion	Yes	No	None
Schoenberg et al. 2021 [133]	US - KY	Program staff	General health promotion	No	No	Primary
Serrano et al. 2020 [134]	Worldwide	Program staff	Not specified	Yes	Yes	None
Sherman & Steiner 2018 [135]	US - MI	CBO staff	Dementia	No	No	None
Veniegas et al. 2009 [136]	US - CA	CBO staff	HIV prevention	Yes	No	Included
Villaruel et al. 2010 [137]	US - AZ, CO, MI	CBO staff	HIV prevention	No	No	Primary
Whitaker et al. 2021 [138]	US - GA	Program staff	Mental health	No	No	Primary
Wilcox et al. 2013 [139]	US	Multiple	Healthy aging	No	No	None
Williams et al. 2019 [140]	US - Multiple	Program staff	Chronic disease prevention	No	No	Primary
Wingfield et al. 2012 [141]	US - GA, NC, SC	FBO staff, CBO staff	Cancer control	No	No	Primary
Yost et al. 2016 [142]	Canada	Multiple	General health promotion	Yes	No	None

CBO = community-based organization; FBO = faith-based organization.

https://doi.org/10.1017/cts.2022.426 Published online by Cambridge University Press

Table 2. *Concepts that appeared in five or more articles, among the 78 studies that offered explicit or indirect definitions of capacity, ordered by decreasing frequency*

Concept	Number of articles	Percent
Skills (e.g., for actions needed to use EBIs)	51	65%
Knowledge/expertise (e.g., information about the program)	42	54%
Resources (e.g., constraints or supports on action)	25	32%
Attitudes (e.g., stance on using EBIs)	14	18%
Motivation (e.g., drive to seek EBIs)	12	15%
Self-efficacy/confidence (e.g., a sense that the implementer can take the needed action)	11	14%
Implementation behaviors (e.g., conducting a step in the EBI)	11	14%
Ability (e.g., being capable of implementation)	11	14%
Infrastructure (e.g., formal systems in the organization)	7	9%
Sufficient workforce (e.g., the number and type of needed staff)	7	9%
Leadership (e.g., ability to generate enthusiasm for the EBI)	7	9%
Social networks (e.g., connections among implementers)	7	9%
Organization culture/support (e.g., perceived interest in EBIs at the organization level)	6	8%
Technical/technology (e.g., necessary hardware and software)	5	6%
Readiness (e.g., willingness to address the issue at hand)	5	6%

EBI = evidence-based intervention.

respondents' comfort with engaging in program activities related to asset development. The second efficacy scale focused on comfort implementing the 10-step Getting to Outcomes process. Internal consistency reliability was reported for both scales.

8. House and colleagues [38] drew on the Getting to Outcomes framework and assessed change in capacity for program partners to use EBIs. Relevant items focused on knowledge and confidence in using the Getting to Outcomes process for EBI implementation. Scale reliability data were presented.
9. Nargiso and colleagues [39] examined general capacity of a prevention-focused coalition grounded in the Systems Prevention Framework. Coalitions rated themselves on a 5-point scale for ten items across five domains of capacity: mobilization, structure, task leadership, cohesion, and planning/implementation. They also had an overall coalition capacity score which was a standardized average across the scores. Experts also rated the coalitions regarding leadership, turnover, meetings, visibility, and technological capacity. Inter-rater reliability between participants and experts was calculated. Additionally, the team measured innovation-specific capacity. Experts rated the understanding, partnerships, knowledge of local decision-making related to policy, membership support, and quality of strategic plan. Once more, inter-rater reliability between participants and experts was calculated.
10. Palinkas and colleagues [40] created a measurement for program sustainment that includes a section on "infrastructure and capacity to support sustainment." Seven items address relevant concepts and data for inter-item reliability, convergent validity, and discriminant validity were presented.
11. Pettman and colleagues [41] measured capacity in terms of implementation behaviors, knowledge, confidence, and attitudes. Although they did not provide psychometric data in the report, they reported using adapted versions of previously validated items.

Table 3. *Populations of focus as described in reviewed studies, with some studies addressing the needs of multiple populations (n = 99 articles)*

Population	Number
Hispanic/Latino	18
African American	16
Underserved (no specifics provided)	21
Low-income	15
Lesbian, gay, bisexual, transgender, queer (LGBTQ+)	10
Racial/ethnic minorities (no specifics provided)	9
Native American	5
Unhoused	3
Rural	4
Asian or Pacific Islander	1
Incarcerated	1
Aboriginal	1
People with disabilities	2

Question 3: To What Extent were Studies Focused on Health Equity?

Of the 99 studies, 40 focused exclusively on populations experiencing inequities (40%), 22 included those populations (22%), and 37 did not focus on populations experiencing inequities (37%). As shown in Table 3, the most commonly studied populations included Hispanics/Latinos, African Americans, populations described in the article as "underserved" or low-income, and LGBTQ + populations. We note that the reference to underserved populations did not always include a description of how that was operationalized. Several other priority populations were only represented by one or a small number of studies, for example, people living in rural areas or with disabilities.

Discussion

This scoping review used a comprehensive search strategy to examine how the capacity for EBI use in CBOs is defined and measured. Broadly, our work highlights the need for those addressing capacity-building for EBI use in CBOs to 1) be explicit about models and definitions of capacity-building as implementation strategies, 2) specify expected impacts and outcomes across multiple levels, 3) develop and use validated measures for quantitative work, and 4) integrate equity considerations into the conceptualization and measurement of capacity-building efforts.

https://doi.org/10.1017/cts.2022.426 Published online by Cambridge University Press

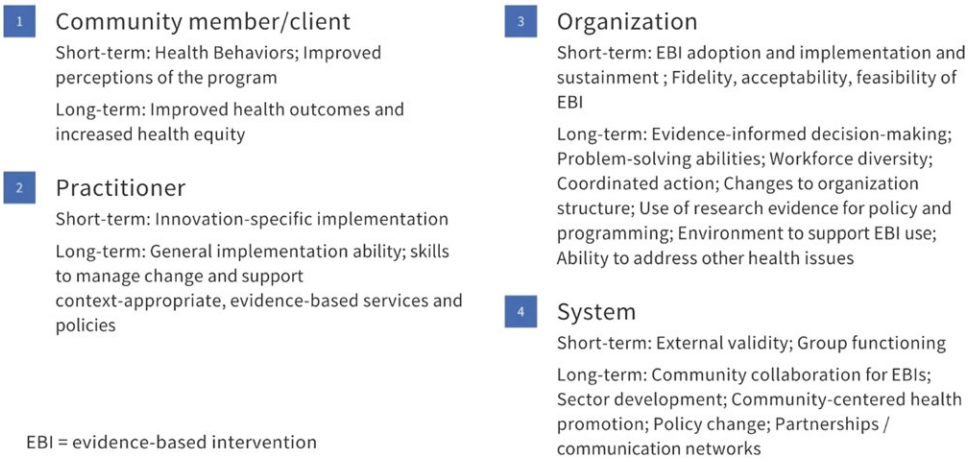


Fig. 3. Range of outcomes linked to capacity-building activities ($n = 99$ articles).

First, our results emphasize the need for researchers to be more explicit about their definitions of capacity as a target and capacity-building as a means to support implementation. We found that fewer than half of the articles reviewed offered an explicit definition of capacity. Core concepts covered in definitions centered on practitioner-level attributes, including skills, knowledge, and self-efficacy, though these were not always defined either. At the same time, discussions of practitioner capacity also included organization- and system-level attributes. The variation illustrates the lack of consensus in the field regarding the core dimensions of practitioner capacity [10,42]. Understanding capacity-building efforts as implementation strategies may help prompt reporting that includes details about the involved actors, actions, targets of action, temporality/ordering, dose, expected outcomes, and justification for selection [43].

In terms of expected impact, the overall takeaway was that *capacity-building is a long-term, dynamic, system-oriented process that transforms resources into short- and long-term change at multiple levels*. Expected impacts ranged from community member/client and practitioner outcomes to organization- and system-level change, echoing other recent reviews of capacity-building [19]. In the context of an outcomes model, such as the Proctor model [44], we might think of short-term impacts of capacity-building as driving implementation outcomes and longer-term outcomes that include a system's increased ability to utilize research evidence and address new challenges [45]. Viewing capacity-building in the context of professional development prompts the addition of evaluation not only of practitioner skills, knowledge, etc., but also attitudes towards EBIs, job satisfaction and tenure, and other essential supports for EBI delivery in community settings [46]. As summarized in Fig. 4, the review offers a number of extensions to both the dimensions of capacity that warrant further attention as well as to the organization- and system-level outcomes that may result.

The results also highlight a need to improve the use and reporting of validated measures for quantitative assessments. While most quantitative studies measured capacity (48 of 57), only 11 (or 23%) offered psychometric data for these measures. This relates to a broader gap in implementation science highlighted by Lewis and Dorsey, that too few measures have psychometric data, most measures are not applied in different contexts or for different populations, and there are no minimal reporting standards for measures [47]. By increasing the testing of capacity measures for reliability and predictive validity, researchers can address gaps identified through this and previous reviews [20,48]. Other useful potential additions to the literature include identifying "gold standard" measures, determining how and when to measure capacity, gathering data from multiple levels and dynamic systems, and capturing change over time [49]. There is a particular opportunity for implementation scientists to ensure that reporting offers a detailed description of context related to the multiple levels involved in capacity-building, going beyond the required elements to expand on information central to advancing health equity [50–52].

Last, we saw that several studies addressed health inequities, with 62 of the 99 studies focusing or including populations experiencing health inequities. Our work and the broader literature emphasize supporting CBOs in EBI delivery to address health inequities [24,53,54]. At the same time, almost all of the studies that specified a location were grounded in high-income countries. Given that capacity-building is intended to be quite context-specific, this suggests an important gap in the peer-reviewed literature. Stakeholders and researchers in low- and middle-income countries have highlighted gaps in the availability, depth and breadth, support, and local customization based on in-country expertise of capacity-building interventions for EBI use [55,56]. As these gaps are addressed, it may be useful to draw on recent advances in implementation science frameworks that provide guidance on how to operationalize the incorporation of equity goals into implementation planning [57–60].

As with any study, we must ground our findings in the context of a set of limitations. First, we coded data from peer-reviewed articles, many of which had strict word limits. Thus, an activity may have taken place (e.g., validation of a measure) separately from article content. Second, the review focused exclusively on peer-reviewed literature. We are aware of many capacity-building initiatives undertaken by national and international organizations that would not have been included based on our search parameters. Third, we did not examine the details of qualitative assessments of capacity in this analysis but will do so in future work. Finally, although we attempted to build a comprehensive search strategy, we may not have found all of the relevant articles in the field. We tried to reduce this risk by relying on the expertise of a professional librarian. At the same time, several strengths outweigh these weaknesses. First, to our knowledge, this is the first comprehensive review of capacity-building measures for

https://doi.org/10.1017/cts.2022.426 Published online by Cambridge University Press

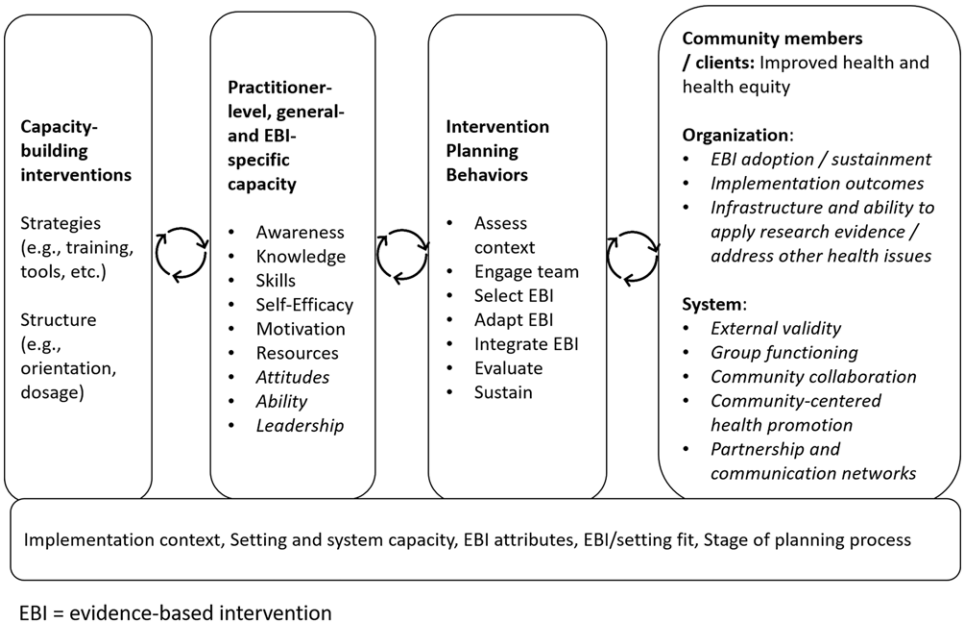


Fig. 4. Model of practitioner-level capacity-building, with extensions from review in italics.

CBOs. Given the importance of CBOs for EBI delivery in support of health equity, this is a significant contribution. Second, we used duplicated screening and coding processes throughout to maintain rigor. Finally, the experience of the team with implementation science, health equity, and CBOs allowed for thoughtful consideration of the research questions and also the interpretation of results.

As measures for capacity among CBOs are strengthened, it will be critical to ensure that the definitions and models resonate with implementers and supporting systems. This may prompt the addition or broadening of some conceptualizations. As noted by Trickett, capacity-building has typically focused on building support for a given research-based resource, but if the goal is sustained use of research evidence, evaluations should also question how this work builds towards other goals in practice and community settings [61]. Through clear specification of capacity-building implementation strategies, use of validated measures for multi-level outcomes, and an intentional equity frame, we can develop high-impact supports for CBO practitioners, a set of critical institutions for addressing health inequities.

Supplementary material. To view supplementary material for this article, please visit https://doi.org/10.1017/cts.2022.426

Acknowledgments. Research reported in this publication was supported by the National Cancer Institute of the National Institutes of Health under Award Numbers U54CA156732 (SR) and P30CA021765 (HB). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health. The work was also supported by a Dean's Activation Award from the Harvard T.H. Chan School of Public Health (SR) and the American Lebanese and Syrian Associated Charities of St. Jude Children's Research Hospital (HB). The funding bodies did not influence the design of the study and collection, analysis, or interpretation of data or the writing of the manuscript.

Disclosures. The authors have no conflicts of interest to declare.

References

1. **Kerner J, Rimer B, Emmons K.** Introduction to the special section on dissemination: dissemination research and research dissemination: how can we close the gap? *Health Psychology* 2005; **24**(5): 443–446.
2. **Brownson RC, Baker EA, Leet TL, Gillespie KN, True WR.** *Evidence-Based Public Health*. Oxford University Press, 2011.
3. **Institute of Medicine**. *Challenges and Successes in Reducing Health Disparities: Workshop Summary*. Institute of Medicine, 2008.
4. **Wilson MG, Lavis JN, Travers R, Rourke SB.** Community-based knowledge transfer and exchange: helping community-based organizations link research to action. *Implementation Science* 2010; **5**(33): 71.
5. **Griffith DM, Allen JO, DeLoney EH, *et al.*** Community-based organizational capacity building as a strategy to reduce racial health disparities. *The Journal of Primary Prevention* 2010; **31**(1-2): 31–39. DOI 10.1007/s10935-010-0202-z.
6. **Wyman O.** SeaChange capital, alliance for strong families and communities, association APHS, *A National Imperative: Joining Forces to Strengthen Human Services in America*, 2018.
7. **Wilson MG, Lavis JN, Guta A.** Community-based organizations in the health sector: a scoping review. *Health Research Policy and Systems* 2012; **10**(1): 36. DOI 10.1186/1478-4505-10-36.
8. **Stephens KK, Rimal RN.** Expanding the reach of health campaigns: community organizations as meta-channels for the dissemination of health information. *Journal of Health Communication* 2004; **9**(sup1): 97–111.
9. **Bach-Mortensen AM, Lange BCL, Montgomery P.** Barriers and facilitators to implementing evidence-based interventions among third sector organisations: a systematic review. *Implementation Science* 2018; **13**(1): 103. DOI 10.1186/s13012-018-0789-7.
10. **Brownson RC, Fielding JE, Green LW.** Building capacity for evidence-based public health: reconciling the pulls of practice and the push of research. *Annual Review of Public Health* 2018; **39**(1): 27–53. DOI 10.1146/annurev-publhealth-040617-014746.
11. **Bach-Mortensen AM, Montgomery P.** What are the barriers and facilitators for third sector organisations (non-profits) to evaluate their services? A systematic review. *Systematic Reviews* 2018; **7**(1): 13.
12. **Hailemariam M, Bustos T, Montgomery B, Barajas R, Evans LB, Drahota A.** Evidence-based intervention sustainability strategies: a systematic review. *Implementation Science* 2019; **14**(1): 1–12.

13. **Orleans CT.** Increasing the demand for and use of effective smoking-cessation treatments reaping the full health benefits of tobacco-control science and policy gains–in our lifetime. *American Journal of Preventive Medicine* 2007; **33**(6 Suppl): S340–8.
14. **Wandersman A, Duffy J, Flaspohler P, *et al.*** Bridging the gap between prevention research and practice: the interactive systems framework for dissemination and implementation. *American Journal of Community Psychology* 2008; **41**(3-4): 171–181.
15. **McCracken JL, Friedman DB, Brandt HM, *et al.*** Findings from the community health intervention program in South Carolina: implications for reducing cancer-related health disparities. *Journal of Cancer Education* 2013; **28**(3): 412–419. DOI 10.1007/s13187-013-0479-8.
16. **Fagan AA, Hanson K, Briney JS, David Hawkins J.** Sustaining the utilization and high quality implementation of tested and effective prevention programs using the communities that care prevention system. *American Journal of Community Psychology* 2012; **49**(3-4): 365–377. DOI 10.1007/s10464-011-9463-9.
17. **Smith BJ, Tang KC, Nutbeam D.** WHO health promotion glossary: new terms. *Health Promotion International* 2006; **21**(4): 340–345.
18. **Crisp BR, Swerissen H, Duckett SJ.** Four approaches to capacity building in health: consequences for measurement and accountability. *Health Promotion International* 2000; **15**(2): 99–107.
19. **DeCorby-Watson K, Mensah G, Bergeron K, Abdi S, Rempel B, Manson H.** Effectiveness of capacity building interventions relevant to public health practice: a systematic review. *BMC Public Health* 2018; **18**(1): 684.
20. **Chaudoir SR, Dugan AG, Barr CH.** Measuring factors affecting implementation of health innovations: a systematic review of structural, organizational, provider, patient, and innovation level measures. *Implementation Science* 2013; **8**(1): 22.
21. **Stamatakis KA, Ferreira Hino AA, Allen P, *et al.*** Results from a psychometric assessment of a new tool for measuring evidence-based decision making in public health organizations. *Evaluation and Program Planning* 2017; **60**(1): 17–23. DOI 10.1016/j.evalprogplan.2016.08.002.
22. **Collins C, Phields ME, Duncan T.** An agency capacity model to facilitate implementation of evidence-based behavioral interventions by community-based organizations. *Journal of Public Health Management & Practice* 2007;Suppl:; **13**(Supplement): S16–23.
23. **Reis RS, Duggan K, Allen P, Stamatakis KA, Erwin PC, Brownson RC.** Developing a tool to assess administrative evidence-based practices in local health departments. *Frontiers in Public Health Services and Systems Research* 2014; **3**(3): 2–e43.
24. **Ramanadhan S, Galbraith-Gyan K, Revette A, *et al.*** Key considerations for designing capacity-building interventions to support evidence-based programming in underserved communities: a qualitative exploration. *Translational Behavioral Medicine* 2021; **11**(2): 452–461. DOI 10.1093/tbm/ibz177.
25. **Leeman J, Calancie L, Hartman MA, *et al.*** What strategies are used to build practitioners' capacity to implement community-based interventions and are they effective?: a systematic review. *Implementation Science* 2015; **10**(1): 80.
26. **Katz J, Wandersman A.** Technical assistance to enhance prevention capacity: a research synthesis of the evidence base. *Prevention Science* 2016; **17**(4): 417–428. DOI 10.1007/s11121-016-0636-5.
27. **Tricco AC, Lillie E, Zarin W, *et al.*** PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Annals of Internal Medicine* 2018; **169**(7): 467–473. DOI 10.7326/M18-0850.
28. National Institutes of Minority Health and Health Disparities. NIMHD - Overview, May 5, 2021. (https://www.nimhd.nih.gov/about/overview/)
29. **Moher D, Liberati A, Tetzlaff J, Altman DG, Group P.** Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Annals of Internal Medicine* 2009; **151**(4): 264–269.
30. **Acosta J, Chinman M, Ebener P, *et al.*** An intervention to improve program implementation: findings from a two-year cluster randomized trial of Assets-Getting To Outcomes. *Implementation Science* 2013; **8**(1): 87. DOI 10.1186/1748-5908-8-87.
31. **Chinman M, Hunter SB, Ebener P, *et al.*** The getting to outcomes demonstration and evaluation: an illustration of the prevention support system. *American Journal of Community Psychology* 2008; **41**(3-4): 206–224.
32. **Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander JA, Lowery JC.** Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implementation Science* 2009; **4**(1): 50.
33. **Allen P, O'Connor JC, Best LA, Lakshman M, Jacob RR, Brownson RC.** Management practices to build evidence-based decision-making capacity for chronic disease prevention in Georgia: a case study. *Preventing Chronic Disease* 2018; **15**(3): E92. DOI 10.5888/pcd15.170482.
34. **Brock DP, Estabrooks PA, Hill JL, *et al.*** Building and sustaining community capacity to address childhood obesity: a 3-year mixed-methods case study of a Community-Academic Advisory Board. *Family and Community Health* 2019; **42**(1): 62–79. DOI 10.1097/fch.0000000000000212.
35. **Brown LD, Chilenski SM, Wells R, *et al.*** Protocol for a hybrid type 3 cluster randomized trial of a technical assistance system supporting coalitions and evidence-based drug prevention programs. *Implementation Science* 2021; **16**(1): 1–13.
36. **Chinman M, Acosta J, Ebener P, *et al.*** Establishing and evaluating the key functions of an interactive systems framework using an assets-getting to outcomes intervention. *American Journal of Community Psychology* 2012; **50**(3-4): 295–310. DOI 10.1007/s10464-012-9504-z.
37. **Chinman M, Acosta J, Ebener P, *et al.*** Intervening with practitioners to improve the quality of prevention: one-year findings from a randomized trial of assets-getting to outcomes. *The Journal of Primary Prevention* 2013; **34**(3): 173–191.
38. **House LD, Tevendale HD, Martinez-Garcia G.** Implementing evidence-based teen pregnancy-prevention interventions in a community-wide initiative: building capacity and reaching youth. *Journal of Adolescent Health* 2017; **60**(3s): S18–s23. DOI 10.1016/j.jadohealth.2016.08.013.
39. **Nargiso JE, Friend KB, Egan C, *et al.*** Coalitional capacities and environmental strategies to prevent underage drinking. *American Journal of Community Psychology* 2013; **51**(1-2): 222–231.
40. **Palinkas LA, Chou CP, Spear SE, Mendon SJ, Villamar J, Brown CH.** Measurement of sustainment of prevention programs and initiatives: the sustainment measurement system scale. *Implementation Science* 2020; **15**(1): 71. DOI 10.1186/s13012-020-01030-x.
41. **Pettman TL, Armstrong R, Jones K, Waters E, Doyle J.** Cochrane update: building capacity in evidence-informed decision-making to improve public health. *Journal of Public Health* 2013; **35**(4): 624–627.
42. **Simmons A, Reynolds RC, Swinburn B.** Defining community capacity building: is it possible? *Preventive Medicine* 2011; **52**(3-4): 193–199.
43. **Proctor EK, Powell BJ, McMillen JC.** Implementation strategies: recommendations for specifying and reporting. *Implementation Science* 2013; **8**(1): 1.
44. **Proctor E, Silmere H, Raghavan R, *et al.*** Outcomes for implementation research: conceptual distinctions, measurement challenges, and research agenda. *Administration and Policy in Mental Health and Mental Health Services Research* 2011; **38**(2): 65–76.
45. **Ramanadhan S, Viswanath K.** Engaging Communities to Improve Health: Models, Evidence, and the Participatory Knowledge Translation (PaKT) Framework. In: Fisher EB, Cameron L, Christensen AJ, *et al.*, eds. *Principles and Concepts of Behavioral Medicine: A Global Handbook*. Springer Science & Business Media; 2018. 679–712.
46. **Allen LM, Palermo C, Armstrong E, Hay M.** Categorising the broad impacts of continuing professional development: a scoping review. *Medical Education* 2019; **53**(11): 1087–1099. DOI 10.1111/medu.13922.
47. **Lewis CC, Dorsey C.** Advancing Implementation Science Measurement. In: Albers B, Shlonsky A, Mildon R, eds. *Implementation Science 3.0*. Springer International Publishing; 2020. 227–251. DOI 10.1007/978-3-030-03874-8_9.
48. **Emmons KM, Weiner B, Fernandez M, Tu SP.** Systems antecedents for dissemination and implementation: a review and analysis of measures. *Health Education & Behavior* 2012; **39**(1): 87–105. DOI 10.1177/1090198111409748.

https://doi.org/10.1017/cts.2022.426 Published online by Cambridge University Press

49. **Ebbesen LS, Heath S, Naylor PJ, Anderson D.** Issues in measuring health promotion capacity in Canada: a multi-province perspective. *Health Promotion International* 2004; **19**(1): 85–94. DOI 10.1093/heapro/dag408.
50. **Bragge P, Grimshaw JM, Lokker C, *et al.*** AIMD - a validated, simplified framework of interventions to promote and integrate evidence into health practices, systems, and policies. *BMC Medical Research Methodology* 2017; **17**(1): 38. DOI 10.1186/s12874-017-0314-8.
51. **Hoffmann TC, Glasziou PP, Boutron I, *et al.*** Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide. *BMJ* 2014; **348**(mar07 3): g1687–g1687. DOI 10.1136/bmj.g1687.
52. **Pinnock H, Slack R, Pagliari C, Price D, Sheikh A.** Understanding the potential role of mobile phone-based monitoring on asthma self-management: qualitative study. *Clinical & Experimental Allergy* 2007; **37**(5): 794–802.
53. **Ramanadhan S, Aronstein D, Martinez-Dominguez VL, Xuan Z, Viswanath K.** Designing capacity-building supports to promote evidence-based programs in community-based organizations working with underserved populations. *Progress in Community Health Partnerships* 2020; **14**(2): 149–160.
54. **Chambers DA, Kerner J.** Closing the gap between discovery and delivery. *Dissemination and Implementation Research Workshop: Harnessing Science to Maximize Health* 2007
55. **Betancourt TS, Chambers DA.** Optimizing an era of global mental health implementation science. *JAMA Psychiatry* 2016; **73**(2): 99–100.
56. **Turner MW, Bogdewic S, Agha E, *et al.*** Learning needs assessment for multi-stakeholder implementation science training in LMIC settings: findings and recommendations. *Implementation Science Communications* 2021; **2**(1): 1–27.
57. **Chinman M, Woodward EN, Curran GM, Hausmann LRM.** Harnessing implementation science to increase the impact of health equity research. *Medical Care* 2017; **55**(Suppl 9 2): S16–s23. DOI 10.1097/mlr.0000000000000769.
58. **Woodward EN, Matthieu MM, Uchendu US, Rogal S, Kirchner JE.** The health equity implementation framework: proposal and preliminary study of hepatitis C virus treatment. *Implementation Science* 2019; **14**(1): 26. DOI 10.1186/s13012-019-0861-y.
59. **Woodward EN, Singh RS, Ndebele-Ngwenya P, Melgar Castillo A, Dickson KS, Kirchner JE.** A more practical guide to incorporating health equity domains in implementation determinant frameworks. *Implementation Science Communications* 2021; **2**: 1–16.
60. **Eslava-Schmalbach J, Garzón-Orjuela N, Elias V, Reveiz L, Tran N, Langlois EV.** Conceptual framework of equity-focused implementation research for health programs (EquIR). *International Journal for Equity in Health* 2019; **18**(1): 80. DOI 10.1186/s12939-019-0984-4.
61. **Trickett EJ.** Ecology, wicked problems, and the context of community interventions. *Health Education & Behavior* 2019; **46**(2): 204–212.
62. **Ai J, Horn EM, Bigelow KM.** Examining implementation and sustainability of positive behavior support in child care centers. *Child & Youth Care Forum* 2022; **51**: 267–290.
63. **Allen JD, Torres MI, Tom LS, *et al.*** Enhancing organizational capacity to provide cancer control programs among Latino churches: design and baseline findings of the CRUZA Study. *BMC Health Services Research* 2015; **15**(1): 147. DOI 10.1186/s12913-015-0735-1.
64. **Allen JD, Torres MI, Tom LS, Leyva B, Galeas AV, Ospino H.** Dissemination of evidence-based cancer control interventions among Catholic faith-based organizations: results from the CRUZA randomized trial. *Implementation Science* 2016; **11**(1): 74. DOI 10.1186/s13012-016-0430-6.
65. **Allen JD, Shelton RC, Kephart L, *et al.*** Examining the external validity of the CRUZA study, a randomized trial to promote implementation of evidence-based cancer control programs by faith-based organizations. *Translational Behavioral Medicine* 2020; **10**(1): 213–222. DOI 10.1093/tbm/iby099.
66. **Ayala G, Chion M, Diaz RM, *et al.*** Accion Mutua (Shared Action): a multipronged approach to delivering capacity-building assistance to agencies serving latino communities in the United States. *Journal of Public Health Management and Practice* 2007; **13**(Supplement): S33–9.
67. **Ayer L, Dunbar MS, Martineau M, *et al.*** Evaluation of the connections to care (C2C) initiative: interim report. *Rand Health Quarterly* 2020; **9**(1): 5.
68. **Berman M, Bozsik F, Shook RP, *et al.*** Evaluation of the healthy lifestyles initiative for improving community capacity for childhood obesity prevention. *Preventing Chronic Disease* 2018; **15**(3 Pt 2): E24. DOI 10.5888/pcd15.170306.
69. **Bravo RL, Kietzman KG, Toy P, Duru OK, Wallace SP.** Linking primary care and community organizations to increase colorectal cancer screening rates: the HAPPI project. *Salud Publica de México* 2019; **61**(4): 427–435.
70. **Brodowski ML, Counts JM, Gillam RJ, *et al.*** Translating evidence-based policy to practice: a multilevel partnership using the interactive systems framework. *Families in Society: The Journal of Contemporary Social Services* 2013; **94**(3): 141–149. DOI 10.1606/1044-3894.4303.
71. **Brook J, Akin B.** Using theory of change as a framework for examining community context and philanthropic impact. *Evaluation and Program Planning* 2019; **77**(4): 101708. DOI 10.1016/j.evalprogplan.2019.101708.
72. **Brown NL, Luna V, Ramirez MH, Vail KA, Williams CA.** Developing an effective intervention for IDU women: a harm reduction approach to collaboration. *AIDS Education and Prevention* 2005; **17**(4): 317–333. DOI 10.1521/aeap.2005.17.4.317.
73. **Brown LD, Feinberg ME, Greenberg MT.** Determinants of community coalition ability to support evidence-based programs. *Prevention Science* 2010; **11**(3): 287–297. DOI 10.1007/s11121-010-0173-6.
74. **Brown LD, Feinberg ME, Shapiro VB, Greenberg MT.** Reciprocal relations between coalition functioning and the provision of implementation support. *Prevention Science* 2015; **16**(1): 101–109.
75. **Bull ER, Dale H.** Improving community health and social care practitioners' confidence, perceived competence and intention to use behaviour change techniques in health behaviour change conversations. *Health and Social Care in the Community* 2021; **29**(1): 270–283. DOI 10.1111/hsc.13090.
76. **Cambon L, Petit A, Ridde V, *et al.*** Evaluation of a knowledge transfer scheme to improve policy making and practices in health promotion and disease prevention setting in French regions: a realist study protocol. *Implementation Science* 2017; **12**(1): 83. DOI 10.1186/s13012-017-0612-x.
77. **Cannon JS, Gilbert M, Ebener P, *et al.*** Influence of an implementation support intervention on barriers and facilitators to delivery of a substance use prevention program. *Prevention Science* 2019; **20**(8): 1200–1210. DOI 10.1007/s11121-019-01037-x.
78. **Carroll-Scott A, Toy P, Wyn R, Zane JI, Wallace SP.** Results from the data & democracy initiative to enhance community-based organization data and research capacity. *American Journal of Public Health* 2012; **102**(7): 1384–1391. DOI 10.2105/ajph.2011.300457.
79. **Chilenski SM, Perkins DF, Olson J, *et al.*** The power of a collaborative relationship between technical assistance providers and community prevention teams: a correlational and longitudinal study. *Evaluation and Program Planning* 2016; **54**(6): 19–29. DOI 10.1016/j.evalprogplan.2015.10.002.
80. **Chilenski SM, Welsh J, Olson J, Hoffman L, Perkins DF, Feinberg ME.** Examining the highs and lows of the collaborative relationship between technical assistance providers and prevention implementers. *Prevention Science* 2018; **19**(2): 250–259. DOI 10.1007/s11121-017-0812-2.
81. **Chinman M, Hannah G, Wandersman A, *et al.*** Developing a community science research agenda for building community capacity for effective preventive interventions. *American Journal of Community Psychology* 2005; **35**(3-4): 143–157.
82. **Chinman M, Hannah G, McCarthy S.** Lessons learned from a quality improvement intervention with homeless veteran services. *Journal of Health Care for the Poor and Underserved* 2012; **23**(3 Suppl): 210–224. DOI 10.1353/hpu.2012.0125.
83. **Chinman M, Acosta J, Ebener P, Driver J, Keith J, Peebles D.** Enhancing quality interventions promoting healthy sexuality (EQUIPS): a novel application of translational research methods. *Clinical and Translational Science* 2013; **6**(3): 232–237. DOI 10.1111/cts.12031.

84. **Chinman M, Acosta J, Ebener P, Malone PS, Slaughter ME.** Can implementation support help community-based settings better deliver evidence-based sexual health promotion programs? A randomized trial of Getting To Outcomes(R). *Implementation Science* 2016; **11**(1): 78. DOI 10.1186/s13012-016-0446-y.
85. **Chinman M, Ebener P, Malone PS, Cannon J, D'Amico EJ, Acosta J.** Testing implementation support for evidence-based programs in community settings: a replication cluster-randomized trial of Getting To Outcomes(R). *Implementation Science* 2018; **13**(1): 131. DOI 10.1186/s13012-018-0825-7.
86. **Claussen C, Wells LM, Aspenlieder L, Boutilier S.** Developing domestic violence primary prevention capacity through a community of practice project: learnings from Alberta, Canada. *Cogent Medicine* 2017; **4**(1): 1333697–1333697.
87. **Collins C, Harshbarger C, Sawyer R, Hamdallah M.** The diffusion of effective behavioral interventions project: development, implementation, and lessons learned. *AIDS Education and Prevention* 2006; **18**(4): 5–20. DOI 10.1521/aeap.2006.18.supp.5.
88. **Collins CB, Sapiano TN.** Lessons learned from dissemination of evidence-based interventions for HIV prevention. *American Journal of Preventive Medicine* 2016; **51**(4): S140–S147. DOI 10.1016/j.amepre.2016.05.017.
89. **Crowley DM, Greenberg MT, Feinberg ME, Spoth RL, Redmond CR.** The effect of the PROSPER partnership model on cultivating local stakeholder knowledge of evidence-based programs: a five-year longitudinal study of 28 communities. *Prevention Science* 2012; **13**(1): 96–105. DOI 10.1007/s11121-011-0250-5.
90. **Douglas MR, Lowry JP, Morgan LA.** Just-in-time training of the evidence-based public health framework, Oklahoma, 2016-2017. *Journal of Public Health Management & Practice* 2019; **25**(1): E7–E10. DOI 10.1097/phh.0000000000000773.
91. **Duffy JL, Prince MS, Johnson EE.** Enhancing teen pregnancy prevention in local communities: capacity building using the interactive systems framework. *American Journal of Community Psychology* 2012; **50**(3-4): 370–385. DOI 10.1007/s10464-012-9531-9.
92. **Escoffery C, Carvalho M, Kegler MC.** Evaluation of the prevention programs that work curriculum to teach use of public health evidence to community practitioners. *Health Promotion Practice* 2012; **13**(5): 707–715. DOI 10.1177/1524839912437787.
93. **Escoffery C, Hannon P, Maxwell AE, *et al.*** Assessment of training and technical assistance needs of Colorectal Cancer Control Program Grantees in the U.S. *BMC Public Health* 2015; **15**(1): 49. DOI 10.1186/s12889-015-1386-1.
94. **Exner-Cortens D, Wells L, Lee L, Spiric V.** Building a culture of intimate partner violence prevention in Alberta, Canada through the promotion of healthy youth relationships. *Prevention Science* 2021; **22**(1): 40–49. DOI 10.1007/s11121-019-01011-7.
95. **Fazelipour M, Cunningham F.** Barriers and facilitators to the implementation of brief interventions targeting smoking, nutrition, and physical activity for indigenous populations: a narrative review. *International Journal for Equity in Health* 2019; **18**(1): 1–12.
96. **Feinberg ME, Ridenour TA, Greenberg MT.** The longitudinal effect of technical assistance dosage on the functioning of communities that care prevention boards in Pennsylvania. *The Journal of Primary Prevention* 2008; **29**(2): 145–165. DOI 10.1007/s10935-008-0130-3.
97. **Fernández ME, Melvin CL, Leeman J, *et al.*** The cancer prevention and control research network: an interactive systems approach to advancing cancer control implementation research and practice. *Cancer Epidemiology, Biomarkers & Prevention* 2014; **23**(11): 2512–2521.
98. **Flaspohler P, Duffy J, Wandersman A, Stillman L, Maras MA.** Unpacking prevention capacity: an intersection of research-to-practice models and community-centered models. *American Journal of Community Psychology* 2008; **41**(3-4): 182–196.
99. **Florin P, Friend KB, Buka S, Egan C, Barovier L, Amodei B.** The interactive systems framework applied to the strategic prevention framework: the Rhode Island experience. *American Journal of Community Psychology* 2012; **50**(3-4): 402–414.
100. **Gandelman AA, Desantis LM, Rietmeijer CA.** Assessing community needs and agency capacity – an integral part of implementing effective evidence-based interventions. *AIDS Education and Prevention* 2006; **18**(4 Suppl A): 32–43. DOI 10.1521/aeap.2006.18.supp.32.
101. **Genat B, Browne J, Thorpe S, MacDonald C.** Sectoral system capacity development in health promotion: evaluation of an Aboriginal nutrition program. *Health Promotion: Journal of Australia* 2016; **27**(3): 236–242. DOI 10.1071/he16044.
102. **Gregory H Jr, Van Orden O, Jordan L, *et al.*** New directions in capacity building: incorporating cultural competence into the interactive systems framework. *American Journal of Community Psychology* 2012; **50**(3-4): 321–333. DOI 10.1007/s10464-012-9508-8.
103. **Haggerty KP, Barton VJ, Catalano RF, *et al.*** Translating grand challenges from concept to community: the, communities in action. *Journal of the Society for Social Work & Research* 2017; **8**(1): 137–159. DOI 10.1086/690561.
104. **Hannon PA, Fernandez ME, Williams RS, *et al.*** Cancer control planners' perceptions and use of evidence-based programs. *Journal of Public Health Management & Practice* 2010; **16**(3): E1–8. DOI 10.1097/PHH.0b013e3181b3a3b1.
105. **Hawe P, Noort M, King L, Jordens C.** Multiplying health gains: the critical role of capacity-building within health promotion programs. *Health Policy* 1997; **39**(1): 29–42. DOI 10.1016/s0168-8510(96)00847-0.
106. **Haynes V, Escoffery C, Wilkerson C, Bell R, Flowers L.** Adaptation of a cervical cancer education program for African Americans in the faith-based community. *Preventing Chronic Disease* 2012; **2014**;11: E67. DOI 10.5888/pcd11.130271.
107. **Homel R, Freiberg K, Branch S.** CREATE-ing capacity to take developmental crime prevention to scale: a community-based approach within a national framework. *Journal of Criminology* 2015; **48**(3): 367–385. DOI 10.1177/0004865815589826.
108. **Honeycutt S, Carvalho M, Glanz K, Daniel SD, Kegler MC.** Research to reality: a process evaluation of a mini-grants program to disseminate evidence-based nutrition programs to rural churches and worksites. *Journal of Public Health Management & Practice* 2012; **18**(5): 431–439. DOI 10.1097/PHH.0b013e31822d4c69.
109. **Hunter SB, Chinman M, Ebener P, Imm P, Wandersman A, Ryan GW.** Technical assistance as a prevention capacity-building tool: a demonstration using the getting to outcomes® framework. *Health Education & Behavior* 2009; **36**(5): 810–828.
110. **Kegeles SM, Rebchook GM.** Challenges and facilitators to building program evaluation capacity among community-based organizations. *AIDS Education and Prevention* 2005; **17**(4): 284–299. DOI 10.1521/aeap.2005.17.4.284.
111. **Kegeles SM, Rebchook G, Tebbetts S, Arnold E.** Facilitators and barriers to effective scale-up of an evidence-based multilevel HIV prevention intervention. *Implementation Science* 2015; **10**(1): 50. DOI 10.1186/s13012-015-0216-2.
112. **Kelly JA, Somlai AM, DiFranceisco WJ, *et al.*** Bridging the gap between the science and service of HIV prevention: transferring effective research-based HIV prevention interventions to community AIDS service providers. *American Journal of Public Health* 2000; **90**(7): 1082–1088.
113. **Kietzman KG, Toy P, Bravo RL, Duru OK, Wallace SP.** Multisectoral collaborations to increase the use of recommended cancer screening and other clinical preventive services by older adults. *Gerontologist* 2019; **59**(Suppl 1): S57–S66. DOI 10.1093/geront/gnz004.
114. **Leeman J, Calancie L, Kegler MC, *et al.*** Developing theory to guide building practitioners' capacity to implement evidence-based interventions. *Health Education & Behavior* 2017; **44**(1): 59–69. DOI 10.1177/1090198115610572.
115. **Leyva B, Allen JD, Ospino H, *et al.*** Enhancing capacity among faith-based organizations to implement evidence-based cancer control programs: a community-engaged approach. *Translational Behavioral Medicine* 2017; **7**(3): 517–528. DOI 10.1007/s13142-017-0513-1.
116. **MacGregor JC, Kothari A, LeMoine K, Labelle J.** Linking research to action for youth violence prevention: community capacity to acquire, assess, adapt and apply research evidence. *Canadian Journal of Public Health* 2013; **104**(5): e394–e399.
117. **MacLean DR, Farquharson J, Heath S, Barkhouse K, Latter C, Joffres C.** Building capacity for heart health promotion: results of a

https://doi.org/10.1017/cts.2022.426 Published online by Cambridge University Press

5-year experience in Nova Scotia, Canada. *American Journal of Health Promotion* 2003; **17**(3): 202–212.
118. **Mainor AG, Decosimo K, Escoffrey C, *et al.*** Scaling up and tailoring the, putting public health in action, training curriculum. *Health Promotion Practice* 2018; **19**(5): 664–672. DOI 10.1177/1524839917741486.
119. **Martinez G, Sardinas LM, Acosta-Perez E, Medina L, Rivera M, Pattatucci A.** Capacity needs in community-based organizations for enhancing translational research in Puerto Rico. *Progress in Community Health Partnerships* 2014; **8**(1): 53–60. DOI 10.1353/cpr.2014.0009.
120. **Matheson A, Walton M, Gray R, Wehipeihana N, Wistow J.** Strengthening prevention in communities through systems change: lessons from the evaluation of Healthy Families NZ. *Health Promotion International* 2019; **35**(5): 947–957. DOI 10.1093/heapro/daz092.
121. **Miller AL, Krusky AM, Franzen S, Cochran S, Zimmerman MA.** Partnering to translate evidence-based programs to community settings: bridging the gap between research and practice. *Health Promotion Practice* 2012; **13**(4): 559–566. DOI 10.1177/1524839912438749.
122. **Mitchell RE, Florin P, Stevenson JF.** Supporting community-based prevention and health promotion initiatives: developing effective technical assistance systems. *Health Education & Behavior* 2002; **29**(5): 620–639. DOI 10.1177/109019802237029.
123. **Mueller T, Tevendale HD, Fuller TR, *et al.*** Teen pregnancy prevention: implementation of a multicomponent, community-wide approach. *Journal of Adolescent Health* 2017; **60**(3): S9–S17. DOI 10.1016/j.jadohealth.2016.11.002.
124. **Napoles AM, Santoyo-Olsson J, Stewart AL.** Methods for translating evidence-based behavioral interventions for health-disparity communities. *Preventing Chronic Disease* 2013; **10**(4): E193. DOI 10.5888/pcd10.130133.
125. **Nu'Man J, King W, Bhalakia A, Criss S.** A framework for building organizational capacity integrating planning, monitoring, and evaluation. *Journal of Public Health Management & Practice* 2007; **13**(Supplement): S24–32.
126. **Owczarzak J.** Evidence-based HIV prevention in community settings: provider perspectives on evidence and effectiveness. *Critical Public Health* 2012; **22**(1): 73–84. DOI 10.1080/09581596.2011.566918.
127. **Peterson DJ, Christiansen AL, Guse CE, Layde PM.** Community translation of fall prevention interventions: the methods and process of a randomized trial. *Journal of Community Psychology* 2015; **43**(8): 1005–1018. DOI 10.1002/jcop.21728.
128. **Porteny T, Alegría M, Del Cueto P, *et al.*** Barriers and strategies for implementing community-based interventions with minority elders: positive minds-strong bodies. *Implementation Science Communications* 2020; **1**(1): 1–13.
129. **Ramanadhan S, Crisostomo J, Alexander-Molloy J, *et al.*** Perceptions of evidence-based programs by staff of community-based organizations tackling health disparities: a qualitative study of consumer perspectives. *Health Education Research* 2012; **27**(4): 717–728. DOI 10.1093/her/cyr088.
130. **Ramanadhan S, Minsky S, Martinez-Dominguez V, Viswanath K.** Building practitioner networks to support dissemination and implementation of evidence-based programs in community settings. *Translational Behavioral Medicine* 2017; **7**(3): 532–541. DOI 10.1007/s13142-017-0488-y.
131. **Roeseler A, Hagaman T, Kurtz C.** The use of training and technical assistance to drive and improve performance of California's Tobacco Control Program. *Health Promotion Practice* 2011; **12**(6 Suppl 2): 130s–143s. DOI 10.1177/1524839911419297.
132. **Sauaia A, Tuitt NR, Kaufman CE, Hunt C, Ledezma-Amorosi M, Byers T.** Project TEACH: a capacity-building training program for community-based organizations and public health agencies. *Journal of Public Health Management & Practice* 2016; **22**(3): 298–300. DOI 10.1097/PHH.0b013e318273870b.
133. **Schoenberg NE, Bowling B, Cardarelli K, *et al.*** The Community Leadership Institute of Kentucky (CLIK): a collaborative workforce and leadership development program. *Progress in Community Health Partnerships* 2021; **15**(1): 95–105.
134. **Serrano N, Diem G, Grabauskas V, *et al.*** Building the capacity - examining the impact of evidence-based public health trainings in Europe: a mixed methods approach. *Global Health Promotion* 2020; **27**(2): 45–53.
135. **Sherman CW, Steiner SC.** Implementing sustainable evidence-based interventions in the community: a fidelity-focused training framework for the Savvy Caregiver Program. *Journal of Applied Gerontology* 2018; **37**(12): 1450–1471. DOI 10.1177/0733464816684623.
136. **Veniegas RC, Kao UH, Rosales R, Arellanes M.** HIV prevention technology transfer: challenges and strategies in the real world. *American Journal of Public Health* 2009; **99 Suppl 1**(S1): S124–30. DOI 10.2105/ajph.2007.124263.
137. **Villarruel AM, Gal TL, Eakin BL, Wilkes A, Herbst JH.** From research to practice: the importance of community collaboration in the translation process. *Research and Theory for Nursing Practice* 2010; **24**(1): 25–34.
138. **Whitaker DJ, Self-Brown S, Weeks EA, *et al.*** Adaptation and implementation of a parenting curriculum in a refugee/immigrant community using a task-shifting approach: a study protocol. *BMC Public Health* 2021; **21**(1): 1–13.
139. **Wilcox S, Altpeter M, Anderson LA, *et al.*** The healthy aging research network: resources for building capacity for public health and aging practice. *American Journal of Health Promotion* 2013; **28**(1): 2–6. DOI 10.4278/ajhp.121116-CIT-564.
140. **Williams SL, Kaigler A, Armistad A, Espey DK, Struminger BB.** Creating a public health community of practice to support American Indian and Alaska Native communities in addressing chronic disease. *Preventing Chronic Disease* 2019; **16**(23): S303.
141. **Wingfield JH, Akintobi TH, Jacobs D, Ford ME.** The SUCCEED Legacy Grant program: enhancing community capacity to implement evidence-based interventions in breast and cervical cancer. *Journal of Health Care for the Poor and Underserved* 2012; **23**(2 Suppl): 62–76. DOI 10.1353/hpu.2012.0081.
142. **Yost J, Mackintosh J, Read K, Dobbins M.** Promoting awareness of key resources for evidence-informed decision-making in public health: an evaluation of a webinar series about knowledge translation methods and tools. *Frontiers in Public Health* 2016; **4**: 72.

https://doi.org/10.1017/cts.2022.426 Published online by Cambridge University Press