
Scaling Up and Tailoring the “Putting Public Health in Action” Training Curriculum

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Despite access to a growing menu of evidence-based interventions, public health practitioners continue to underuse them, in part because practitioners may require new knowledge, skills, and resources to do so. Numerous foundations, universities, governmental agencies, and consultants are providing trainings to address the gaps in practitioners’ capacity. To most significantly affect population health, these trainings need to reach practitioners who may have limited access to on-site trainings. Despite the number of organizations offering trainings, little is known about how to scale up trainings to efficiently extend their reach or how to tailor trainings to the needs of different intervention. The Cancer Prevention and Control Research Network and its collaborating centers have developed a training curriculum and delivered it in both in-person and distance formats to a range of audiences. The purpose of this article is to describe the training curriculum and findings from the Network’s evaluation of approaches used to scale up delivery of the “Putting Public Health Evidence in Action” curriculum and tailor content for specific evidence-based interventions.

Keywords: workforce development; training; health promotion; community intervention

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► INTRODUCTION

Public health and other community-based practitioners increasingly are being asked to adapt, implement, and evaluate evidence-based health promotion and disease prevention interventions (Bunnell et al., 2012; O’Donnell, 2012). Despite access to a growing menu of evidence-based interventions (EBIs), practitioners continue to underuse them, in part because EBI adoption and implementation require knowledge, skills, and resources that local practitioners may not currently have (Armstrong, Waters, Crockett, & Keleher, 2007; Gantner & Olson, 2012; Leeman et al., 2015; Leeman et al., 2016). Numerous foundations, universities, governmental agencies, and consultants are providing trainings to address the gaps in practitioners’

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capacity (Jacobs et al., 2014; Mainor et al., 2014). Many of these trainings address similar objectives and are designed to build practitioners' capacity to conduct community assessments, engage partners, prioritize goals, select and adapt EBIs to fit both goals and context, implement the adapted EBIs, and evaluate processes and outcomes (Brownson, Baker, Leet, Gillespie, & True, 2011). To fully influence population health, these trainings need to have a broad reach to practitioners, particularly those working in low-income, rural, and other underserved settings. Despite the number of organizations offering trainings, little is known about how to scale up trainings to efficiently extend their reach (Leeman et al., 2017).

The Cancer Prevention and Control Research Network (CPCRN) and its collaborating centers have developed a training curriculum called "Putting Public Health Evidence in Action" and have delivered it in both in-person and distance formats to a range of audiences (Fernandez et al., 2014). The purpose of this paper is to describe the training curriculum and findings from the CPCRN's evaluation of approaches used to scale-up delivery of the curriculum and tailor content for specific EBIs.

► BACKGROUND

The Cancer Prevention and Control Research Network

The CPCRN is funded by the Centers for Disease Control and Prevention in collaboration with the National Cancer Institute and is one of several thematic research networks within the Centers for Disease Control and Prevention's Prevention Research Centers program. CPCRN includes eight centers nationwide that collaborate on research and practice initiatives to accelerate EBI adoption and implementation. For most of its 18-year funding history, CPCRN has included a cross-center workgroup that focused on building community-based practitioners' capacity to select, adopt, and implement evidence-based health promotion and disease prevention interventions (Ribisl et al., 2017).

CPCRN's Conceptual Framework for Building Capacity to Use EBIs

The CPCRN's capacity building work is guided by the Interactive Systems Framework (ISF) for Dissemination and Implementation, developed by Wandersman et al. (2008; Wandersman, Chien, & Katz, 2012). The ISF describes how three systems interact to promote the use of EBIs: (1) *synthesis and translations systems* identify, translate, and disseminate EBIs; (2)

delivery systems adopt and implement EBIs; and (3) *support systems* provide training, technical assistance, and tools to increase delivery system capacity to adopt and implement EBIs. Viewed through the lens of the ISF, the CPCRN functions as a prevention support system that provides training, technical assistance, and tools to build the capacity of practitioners working in public health departments, prevention coalitions, community-based organizations, and other prevention delivery systems (Fernandez et al., 2014). The ISF describes two different types of delivery system capacity that are required to use EBIs effectively: general and EBI-specific. General capacity refers to the knowledge, skills, and resources needed to perform all components of the evidence-based decision-making process. These components include assessing the local context, identifying goals and objectives, selecting an EBI that aligns with the identified goals and objectives, adapting the EBI to fit with the local context, implementing the EBI, and evaluating processes and outcomes (Brownson et al., 2011; Chinman et al., 2008; Leeman et al., 2015). EBI-specific capacity refers to knowledge, skills, and resources needed to adapt, implement, and evaluate a specific EBI.

CPCRN's Training Curriculum: Building General Capacity

During the CPCRN's 2009-2014 funding cycle, a cross-center workgroup developed the "Putting Public Health Evidence in Action" curriculum to build practitioners' general capacity for evidence-based decision making. The curriculum builds on prior curricula developed by Chinman et al. (2008) and the National Cancer Institute (Boyle & Homer, n.d.) and includes content similar to the curriculum developed by Brownson and colleagues (Brownson et al., 2011; Jacobs et al., 2014). Delivery of CPCRN's training has been shown to have a positive impact on participants' competencies related to EBI adoption and implementation (Escoffery, Carvalho, & Kegler, 2012).

As outlined in Table 1, the curriculum includes seven modules that address each component of the evidence-based decision making process. Each module is designed to apply adult learning principles by including opportunities for interaction, reflection, and application (Setliff, Porter, Malison, Frederick, & Balderson, 2003). A distinctive feature of the curriculum is the inclusion of tools that serve as the basis for group activities during the training and that participants can apply to guide evidence-based decision making when they return to their worksites. Examples of tools include a checklist for assessing implementation

TABLE 1
Putting Public Health Evidence in Action Training Modules and Learning Tools

<i>Training Modules</i>	<i>Learning Objectives</i>	<i>Learning Tools</i>
Defining evidence	<ul style="list-style-type: none"> • Define evidence-based decision making • Describe three types of EBS (program, policy, strategy) 	<ul style="list-style-type: none"> • NA
Community assessment/goals and objectives	<ul style="list-style-type: none"> • Discuss how community assessment can improve processes for selecting, adapting, and evaluating an evidence-based approach • Know what types of questions to answer using community assessment • Identify sources of secondary and primary data • Know how to develop health goals and behavioral/environmental objectives based on community assessment data 	<ul style="list-style-type: none"> • Guide to prioritizing and writing goals and objectives
Planning for evaluation	<ul style="list-style-type: none"> • Define different types of evaluation • Identify measurable outcomes for each program objective • Create an evaluation plan corresponding to program activities and objectives 	<ul style="list-style-type: none"> • Evaluation plan template
Finding EBIs	<ul style="list-style-type: none"> • Know where to find EBIs • Apply criteria for evaluating EBIs and the websites where they are disseminated 	<ul style="list-style-type: none"> • List of websites that disseminate EBIs
Selecting EBIs	<ul style="list-style-type: none"> • Describe basic and detailed fit criteria for selecting EBIs • Assess fit of alternative EBIs with community assessment data and stakeholder priorities • Select an EBI that fits or has the potential to fit 	<ul style="list-style-type: none"> • EBI comparison tool
Adapting EBIs	<ul style="list-style-type: none"> • Define what is meant by adaptation • Describe the process and steps to adapting interventions for different communities and settings • Discuss when and how adaptations can and cannot be made without affecting the effectiveness 	<ul style="list-style-type: none"> • EBI adaptation tool
Implementing EBI	<ul style="list-style-type: none"> • Describe key tasks in planning for and implementing an intervention • Discuss importance of engaging community and organizational partners • Develop an implementation work plan 	<ul style="list-style-type: none"> • Organizational Readiness checklist • Work plan • Templates for Project charter and Plan, Do, Study, Act cycles

NOTE: EBI = evidence-based intervention.

readiness and a template for developing an evaluation plan. Furthermore, the curriculum materials and tool-based activities are designed to be adapted to the priorities of different audiences (e.g., obesity prevention vs. cancer screening) so that activities and illustrations pertain to health problems, EBIs, and practice settings that are relevant to participants. For example, the curriculum includes PowerPoint (PPT) slides and activities for use with audiences that are focused on community-based obesity prevention (e.g., activities have participants apply tools to search for obesity prevention EBIs and to identify allowable adaptations, assess readiness for, and create implementation and evaluation plans for *Body and Soul*, an obesity prevention EBI). Similarly, for participants working in cancer prevention and control, the curriculum includes alternative versions of PPTs and activities that are related to colorectal cancer screening EBIs.

The CPRN curriculum is available online for public health educators to adopt and adapt. Online materials include PPT slides and speakers' notes for each module, tools, tool-based activities, and a facilitator's guide (<http://cpcrn.org/pub/evidence-in-action/>). Between 2009 and 2014, CPRN members delivered the curriculum in a traditional, in-person format in 14 workshops to 600+ practitioners nationwide.

Approaches to Scaling-Up Trainings

In-person trainings allow participants to work together on activities, to network with others doing work similar to their own, and to learn from the experiences of their peers (Jacobs et al., 2014). However, delivering the trainings in person is resource-intensive for both the trainers and participants, who must take time off from work and travel to the training site. The full training takes 2 days and therefore requires that participants who have traveled from a distance to spend the night in a hotel. With increasing frequency, travel restrictions, budget cuts, and staff shortages are preventing participants from attending in-person trainings (Ballew et al., 2013). Videoconferences, webinars, and online modules have potential to reduce barriers to practitioners' participation by reducing travel costs and time away from the office (Jacobs et al., 2014). Distance formats may, however, lose the interactive, hands-on quality critical to adult learning (Setliff et al., 2003).

The CPRN has applied a blended learning approach to scale up its curriculum that incorporates webinars, videoconferences, and online learning modules (See Table 2). *Videoconferences* are delivered by CPRN staff to remote classrooms using videoconferencing technology that allows participants to see both the instructor and presentation materials (e.g., PPTs) and

also allows the instructor to see participants. Health educators staff the remote classrooms and facilitate group activities and discussions. Each classroom includes 10 to 25 participants. *Webinars* are delivered using the Adobe Connect webinar platform. Participants sign into the webinars from their personal computers. They only see presentation materials but can interact with the instructor and other participants via audio and via an on-screen chat box. *Online learning modules* include a modified version of the PPT presentations used for in-person trainings with voice-over narration. Online modules also include interactive elements such as short quizzes that provide immediate feedback. Because they are the most expensive format to develop, CPRN staff identified those aspects of the curriculum that could be most effectively delivered in an online module while ensuring that they maintain the same learning outcomes. Three training modules for online delivery were adapted, scripted, and professionally recorded. Table 2 provides an overview of how CPRN's general training has been delivered in distance formats.

Tailoring Trainings to Build EBI-Specific as Well as General Capacity

Trainings that build practitioners' general capacity to engage in evidence-based decision making provide a foundation of essential skills and knowledge (Jacobs et al., 2014). Training also is needed to build practitioners' capacity to adopt and implement specific EBIs (Katz & Wandersman, 2016). To build EBI-specific capacity, the CPRN offered additional trainings to a subset of the participants who attended the general trainings. CPRN staff queried participants to see which EBIs they were planning to implement in the next six months. CPRN staff then engaged individuals with expertise in those EBIs to partner in developing short topic-specific presentations. The new trainings were all delivered via webinar and are described in greater detail in Table 3.

Since little is known about how to extend the reach of EBI trainings and tailor curriculum content for specific EBIs, the purpose of this article is to evaluate training participants' satisfaction with the adaptations to content and delivery format of eight trainings conducted over 3 years with local practitioner audiences.

► METHOD

Design

The study employed a cross-sectional survey design. Satisfaction surveys with closed- and open-ended

TABLE 2
Modules and the Training Formats Used to Deliver Them

<i>Modules</i>	<i>Videoconferencing</i>	<i>Online Module</i>
Defining evidence		x
Community assessment		x
Planning for evaluation		x
Finding EBI	x	
Selecting EBI	x	
Adapting EBI	x	
Implementing EBI	x	

NOTE: EBI = evidence-based intervention. Webinars were used only for EBI-specific training.

TABLE 3
EBI-Specific Trainings (Delivered Via Webinar)

<i>EBI</i>	<i>Topics</i>
Healthy Corner Store Interventions (North Carolina)	<ul style="list-style-type: none"> • Engaging Partners and Prioritizing Your Focus • Prioritizing Intervention Strategies and Communication • Planning and Next Steps
Obesity Prevention Interventions (North Carolina)	<ul style="list-style-type: none"> • Selecting EBIs and Engaging Community Partners • Nuts and Bolts of Implementation • Mastering Evaluations
Community Physical Activity and Healthy Corner Store Interventions Combined (Oregon)	<ul style="list-style-type: none"> • Engaging Partners • RE-AIM and Its Application to Your Project • Sustainability and Strategies for Maintaining Demand

NOTE: EBI = evidence-based intervention; RE-AIM = reach, effectiveness, adoption, implementation, maintenance.

questions were administered to participants following the completion of each round of trainings.

Sample/Setting

This study was conducted in North Carolina and Oregon. In North Carolina, the University of North Carolina's CPRN center partnered with the North Carolina Institute of Public Health to deliver six general EBI trainings to 189 local public health practitioners across the state (including 12 repeat attendees). Twenty-two of these practitioners also participated in EBI-specific webinars following the general training. In Oregon, the Oregon Health & Science University (OHSU) CPRN center provided two trainings to 63 recipients of the OHSU Knight Cancer Institute Community Partnership Program grants, which awards funding for community-driven cancer prevention and

control projects from organizations throughout the state of Oregon. Six trainees also participated in EBI-specific webinars following the general training.

In North Carolina, the general EBI trainings evolved from an exclusive 2-day, in-person training to a blended training that included both in-person sessions and online modules. In Oregon, general EBI trainings were delivered using a blended format that integrated online modules with a 1-day videoconference, in which North Carolina trainers delivered the training content concurrently for two community OHSU locations, providing easier access for attendees in rural regions of the state.

Measures

Surveys were administered following each training. For this article we report findings from survey questions that addressed participants' satisfaction with the

TABLE 4
Findings From Participant Evaluation of Trainings Survey

<i>Training</i>	<i>Evaluation Response Rates</i>	<i>Satisfied Overall, Agree/Strongly Agree</i>	<i>Relevant to Job, Agree/Strongly Agree</i>	<i>Intend to Apply, Yes</i>
General capacity-building training				
In-person	133/189 (70%)	88%	93%	NA
Videoconferencing	55/63 (87%)	75%	93%	91%
Online modules ^a	555/895 (62%)	92%	90%	74%
EBI-specific training				
Webinars	20/28 (71%)	80%	85%	85%

NOTE: EBI = evidence-based intervention.
^aData collected after each online module.

training overall, perceptions that content was relevant to their job, and intent to apply what they learned. The item were as follows:

- I was satisfied with the training overall (Likert-type 5-point scale; *strongly disagree-strongly agree*).
- This training provided content that is relevant to my daily job (Likert-type 5-point scale; *strongly disagree-strongly agree*).
- Do you intend to apply new skills/information that you learned in this training to your job activities? (yes/no).

Open-ended questions asked participants what they most liked and what they would recommend to improve trainings.

Analysis

Descriptive analyses were conducted detailing the frequency and percentage of responses to each survey question. Thematic analysis was applied to synthesize responses to open-ended questions. Two members of the team read all responses and independently identified themes and then met to compare themes and reconcile any discrepancies (Miles & Huberman, 1994).

► FINDINGS

Two hundred fifty-two practitioners participated in trainings; 189 in North Carolina and 63 in Oregon. Over half of participants worked in local health departments (52.8%) and community organizations (15.1%). Many participants (41.3%) held positions as health educators. For the general EBI training, 133 of 189 (70%) of

in-person training participants and 55 of 63 (87%) of videoconference training participants completed surveys. For the online modules, surveys were administered following each module, and participants completed a total of 555 surveys. Twenty of the 29 (71%) participants in the EBI-specific trainings completed posttraining surveys.

Quantitative Findings

Table 4 provides a summary of findings from close-ended survey questions. Participants' perceptions of the general training's relevance to their job remained steady across delivery formats. Their overall satisfaction with trainings was similar for the in-person and online module training formats, with 88% and 92% satisfied, respectively, but dropped to 75% satisfaction with the videoconferencing. Satisfaction with the EBI-specific training webinars was 80% ($n = 20$). Participants also varied in their reported intent to apply what they learned, with fewer (74%) reporting that they intended to apply what they learned in the online modules compared to 91% and 85% for the videoconferencing and EBI-specific webinars, respectively.

Qualitative Findings

Four factors were identified that influenced practitioners' satisfaction with trainings: interaction with peers and trainers, tools they could use, comprehensive versus tailored content, and ability to fit trainings into busy work schedules. Practitioners appreciated the opportunity for *interaction with peers and trainers*. One participant reported that the most beneficial aspects of the trainings included the team activities, immediate feedback from presenters, and hearing other

participants. Interaction with peers was greatest at the in-person trainings and occurred during both group activities and breaks. Participants in the EBI-specific webinar trainings appreciated the opportunity webinars provided for networking with peers working on similar EBIs. Several participants made observations similar to the following, “It was helpful to hear of the struggles other communities have had. I was also encouraged to get feedback about the work we have already done.” Participants reported that videoconferencing limited interactions with both peers and trainers. One participant noted that the training could have rather been done “at worksite if was all electronic.”

Across training modes, practitioners appreciated the opportunity for hands-on activities that included *tools they can use* when they return to their worksites. As noted by one participant, “I will move forward with confidence in my current position and use as many of the tools as often as possible.”

The *comprehensive content* offered in the general capacity building trainings was appreciated. In the words of one participant,

It was beneficial to see how all of the moving parts to EBS [evidence-based strategies] and public health work together. It provided me a confidence in what I learned in my MPH program. Equally as beneficial were the resources to find strategies, understanding how to adapt the strategies, understanding the evaluation process more concretely, and being introduced to PDSA [plan, do, study, act cycles].

The comprehensive overview that the training provided was particularly helpful to practitioners who were new to evidence-based decision making. More experienced practitioners requested that trainings, particularly online modules, be designed so that they could go at their own pace, rather than having to wait for the recorded narrator to finish talking prior to progressing to the next slide. Although they appreciated the general training, practitioners also requested “follow-up training—how do we move to “the next level”?” and noted, “It would be nice to work from a personal experience and discuss EBI interventions the participants are currently working on.” Participants also appreciated the webinars that focused on a specific EBI because they were able to learn from both instructors and peers about their experiences implementing the same or similar EBIs.

Practitioners’ reported the greatest difficulty *fitting trainings into busy work schedules* when trainings were delivered in a webinar format. Each round of

webinars involved three scheduled sessions that participants signed into from their worksites. The other trainings were either delivered off-site (in-person and teleconferenced) or could be accessed online at the trainees’ convenience (online modules).

► DISCUSSION

The CPCRN’s “Putting Public Health Evidence in Action” curriculum provides public health educators with seven comprehensive, ready-to-use training modules and tools that address each step required to adapt, implement, and evaluate evidence-based health promotion and disease prevention interventions (Brownson et al., 2011). The curriculum is available free of charge for public health educators to download, adapt, and use as they build capacity of public health and other community-based practitioners to adopt and implement EBIs. Findings from this evaluation suggest that the large majority of participants in the training were satisfied with its content and found it relevant to their jobs. Evaluation findings also provide guidance on the delivery formats that health educators might use to take the training to scale.

Evaluation findings suggest that participants value the interaction possible in face-to-face trainings. They also value the flexibility of online modules that allow them to participate when it is most convenient to their work schedules. The lowest percentage of participants were satisfied with videoconferencing, which had the disadvantage of both limited interaction and the requirement that participation occur at a prescribed time and place. Based on these findings, the CPCRN is moving forward with a blended approach to training delivery that couples a 1-day, in-person workshop with online modules. The blended approach provides participants with opportunities to network with peers and interact with the instructor while reducing travel costs (overnight housing) and time away from work. To support a blended approach, CPCRN has already transitioned three of its modules into online formats and plans to transition additional modules over time so that public health educators using the curriculum can tailor the delivery format by selecting which modules they will deliver in person versus through online modules.

Findings suggest that practitioners also valued the EBI-specific training. Because of the focus on a limited number of EBIs, fewer practitioners participated in the EBI-specific trainings. In addition to the cost of hiring external consultants with expertise in the EBI, substantial CPCRN staff and investigator time was required to develop the EBI-specific trainings. Thus, the EBI-specific trainings were more resource-intensive and had more limited reach

than the general trainings. Nonetheless, participants valued the opportunity they provided for practitioners and trainers to share their experiences planning and implementing a specific EBI. Although 80% of participants were satisfied with the EBI-specific trainings, webinars were not well attended, and participants reported that they had difficulty fitting them into their work schedules. Additional research is needed to further explore the best approaches to use in delivering EBI-specific trainings.

► CONCLUSIONS

There is a growing number of available EBIs, and numerous websites are disseminating those EBIs to public health practitioners. The focus now needs to be on building practitioners' capacity to adopt and implement those interventions appropriately (Brownson et al., 2011). Numerous organizations are offering trainings with the goal of building practitioners' capacity. Most of these trainings focus on a common set of elements, and evidence suggests that they increase practitioners' self-reported competency (Jacobs et al., 2014). The number of individuals with the expertise required to deliver trainings is limited, a fact that is exacerbated by the need for trainers to stay abreast of the rapidly growing number of websites that are disseminating EBIs and materials to support their implementation. The CPCRN's "Putting Public Health Evidence in Action" curriculum provides a resource to support health educators' efforts to build public health and other community-based practitioners' capacity to adopt and implement EBIs. The curriculum includes PPTs, speakers' notes, and interactive exercises that are built around ready-to-use tools. Furthermore, CPCRN continues to update the curriculum to incorporate new information and resources. The challenge now is to identify the best ways to scale trainings to reach more of the public health workforce. The findings from this study suggest that face-to-face delivery is important to practitioners because it provides opportunities for peer networking and interaction with both training materials and instructors. To expand their reach, trainings might be delivered face-to-face in short workshops and then supplemented with online module trainings that practitioners take at their convenience. This evaluation assessed participants' perceptions of the training. Future evaluations would benefit from data on the effects that different delivery modes have on participants' competency and practice.

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