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# Cancer Control Planners' Perceptions and Use of Evidence-Based Programs

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# **Abstract**

The Cancer Prevention and Control Research Network (CPCRN) surveyed 282 cancer control planners to inform its efforts to increase the use of evidence-based cancer control programs (EBPs; programs that have been scientifically tested and successfully changed behavior). Respondents included planners from organizations in state Comprehensive Cancer Control coalitions as well as other governmental and non-governmental organizations, and community-based coalitions. Respondents provided information about personal and organizational characteristics, their cancer control programs, their attitudes toward EBPs, and their awareness and use of Web-based

resources for EBPs. Although findings showed strong preferences for cancer control programs that have been shown to work, less than half of respondents (48%) had ever used EBP resources. Regardless of whether they had used EBP resources, almost all respondents (97%) indicated that further training would help them and their organization adopt and adapt EBPs for use in their communities. The most frequently endorsed training needs were finding and securing additional resources (such as funding and technical assistance), followed by adapting EBPs for cultural appropriateness. The CPCRN consortium is using these findings to develop a Web-based interactive training and decision support tool that is responsive to the needs identified by the survey respondents.

The U.S. National Cancer Institute calls for increased adoption of evidence-based programs (EBPs; interventions that are scientifically tested and successful in changing behavior) in their Strategic Plan for Leading the Nation. Cancer control planners face increasing pressure from their organizations and funders to use evidence-based programs, but there are limited resources and support to help them find, adopt or adapt, and use EBPs.<sup>2</sup> Barriers to using EBPs include lack of formal public health training and experience in reviewing and assessing scientific literature,<sup>3</sup> lack of knowledge about available EBPs and where to find them,<sup>4</sup> and limited skills in adapting EBPs for use with a specific community while maintaining the core elements that make them effective.<sup>5</sup> Many planners also face organization-level barriers, such as limited funding or time for finding and using EBPs, or a champion within the organization who supports and promotes the use of EBPs.<sup>6, 7</sup> Finally, planners and organizations often experience tension between implementing EBPs with fidelity versus re-inventing EBPs to fit the local context.<sup>8, 9</sup> We surveyed cancer control planners' about their current attitudes about and use of EBPs and awareness and use of EBPrelated resources to better understand their needs and determine what actions might enhance their use of EBPs.

Many Web-based resources promoting the use of evidence-based programs and strategies are available to cancer control planners, but there are limits to how far these resources go in supporting planners' adaptation and implementation of EBPs. 4 Cancer Control P.L.A.N.E.T. (Plan, Link, Act, Network with Evidence-based Tools) is a web portal designed to take cancer control planners through five steps to find, implement, and evaluate EBPs. 10 Each step links users with additional web-based resources, including the Guide to Community Preventive Services, <sup>11</sup> which offers systematic reviews of the scientific literature for cancer prevention and control intervention strategies (such as interventions to promote cancer screening and healthful eating). In some cases, the Guide website contains links to specific programs in Cancer Control P.L.A.N.E.T.'s Research-Tested Intervention Programs (R-TIPs). 12 R-TIPs links users with programs and materials for interventions that have been successfully tested; R-TIPs also provides a link to Using What Works; <sup>13</sup> which allows users to download materials from the Using What Works training workshop. Users of P.L.A.N.E.T. and R-TIPs find the site useful, but surveys of these Web sites' users indicates that very few users adopt or adapt the EBPs on R-TIPs. More commonly, users view several of the EBPs on R-TIPs "for inspiration" and then design their own programs. 14 Thus, it appears that these resources may not be sufficient to increase the adoption and implementation of EBPs. 15

The Cancer Prevention and Control Research Network (CPCRN), funded by the Centers for Disease Control and Prevention and the National Cancer Institute, was created to accelerate the adoption of evidence-based cancer control in communities. <sup>16</sup> There are currently eight funded research centers participating in the CPCRN, located at major universities across the United States (listed in Acknowledgements). Each center partners with community-based organizations to conduct training and practice-based research. <sup>17</sup> The CPCRN formed the

Evidence-Based Approaches Workgroup to address gaps in our community partners' awareness of and capacity to use EBPs.

Apart from evaluation surveys of those attending EBP training sessions or using EBP resources, we were unable to find audience research assessing cancer control planners' perceptions of EBPs or their needs for EBP training. We elected to conduct a survey of community-based cancer control planners to assess their awareness of and willingness to use EBPs, their awareness and use of current EBP resources, and their perceived training needs to use EBPs. We reasoned that knowledge gained from this survey would serve as a critical first step in identifying gaps in cancer control planners' awareness and capacity to use EBPs and enable the Evidence-Based Approaches Workgroup and other dissemination and implementation scientists to create resources to fill these gaps.

### **Methods**

# Sample

CPCRN partner organizations include (but are not limited to) government agencies, health care delivery organizations, voluntary health and service organizations, community-based organizations, and members of state Comprehensive Cancer Control coalitions. To meet the goals of obtaining a representative sample of our partner organizations and collecting all data in a 3-month time period, Centers agreed that it would be feasible to complete 30 or more partner surveys each, for a total of at least 240 surveys.

#### **Procedures**

The survey was conducted during January-March 2008. Each CPCRN center contacted representatives from their partner organizations by telephone or e-mail. Contacts included an invitation to complete the survey, and information about how to access the survey on-line. Respondents were offered a \$20 gift card as an incentive to complete the survey. They were given the option to complete a paper version of the survey; those who preferred this option received and returned the survey via e-mail, fax, or postal mail. Respondents received a gift card from Amazon.com via e-mail after completing the survey (some partner organizations prohibit their employees' acceptance of incentives or gifts in return for completing surveys, so respondents were given the option to decline the gift card). These procedures were reviewed by the Institutional Review Boards at each CPCRN center and at the Centers for Disease Control and Prevention.

### **Survey Questionnaire**

**Survey development**—The Workgroup identified four key areas of assessment: 1) ability to recognize the definition of "evidence-based," 2) perceived importance of using evidence-based approaches, 3) awareness and use of currently available EBP resources, and 4) perceived training needs required to use EBPs. The Workgroup generated a pool of items for each of these four areas, both creating new items and identifying existing items from Using What Works<sup>13</sup> and Cancer Control P.L.A.N.E.T. evaluations. The final survey included items measuring respondents' current cancer control program development processes, perceptions of EBPs, awareness and use of existing EBP resources (e.g., Guide, P.L.A.N.E.T., and R-TIPs), and personal and organization characteristics. The survey is available on the CPCRN Web site (http://www.cpcrn.org/ebasurvey).

**Pilot tests**—We pilot tested an early version of the survey at two EBP training sessions in Texas in collaboration with the Texas Comprehensive Cancer Control Coalition. These sessions provided an opportunity to examine clarity of items and response options.

Discussion following the administration of the draft survey also led to the development of additional items.

At a session held during the CDC Cancer Conference in 2007, we projected draft survey questions on a screen, and attendees (n=63) used individual handheld audience response devices to provide their answers.<sup>18</sup> The majority of participants (66%) indicated that at least 50% of their professional time was spent planning and implementing community-level cancer control programs. They reported very limited use of on-line resources such as Google Scholar (17%), and the Cochrane Collaboration (21%) for finding published research about EBPs. More participants reported using the Community Guide (59%) and Cancer Control P.L.A.N.E.T. (72%); however, use of R-TIPS was low (35%).

Audience responses to questions assessing attitudes about EBPs suggested several potential barriers to using EBPs. For example, participants agreed with statements such as "EBPs don't come with much information about how to implement them" (55%) but did not agree with statements like "EBPs are easy to get or find" (32%), and "EBPs are easy to adapt" (24%). We presented the data to conference participants and then engaged them in a discussion about the findings. The pilot data and subsequent discussion indicated that the items were acceptable, relevant and able to capture variations in use of online resources and attitudes about EBPs among community-level program planners. We made final modifications to survey items and response categories based on this pilot test.

# **Statistical Analyses**

Analyses were restricted to respondents who reported performing (developing, adopting, or adapting) one or more cancer control programs in the past 12 months, in order to capture only the perspectives of those currently or recently engaged in cancer control programs. We calculated descriptive statistics (frequencies, means and standard deviations) to describe respondents' characteristics, cancer control program development processes, perceptions of and training needs for EBPs, and awareness and use of existing EBP resources (defined as ever having used the Guide, P.L.A.N.E.T., and/or R-TIPS). To determine whether experience using existing EBP resources was associated with EBP knowledge, beliefs, and training needs, we compared responses about EBP beliefs and knowledge, and perceived training needs to adopt, adapt, and implement EBPs between respondents who had ever used EBP resources and those who had never used EBP resources using chi-square and independent t-tests. We also assessed whether prior use of existing EBP resources was associated with respondents' use or adaptation of EBPs.

### Results

We received completed surveys from 282 members of our community partner organizations. Of these, 240 (85%) met our criterion of having developed, adopted, and/or adapted one or more cancer control programs in the past 12 months and were included in the analyses described below.

### Respondents' Characteristics and Professional Settings

Most respondents had a graduate or professional degree and worked in local-level health organizations with 50 or fewer staff (Table 1). The majority (73%) spent at least half of their time planning and/or implementing health promotion or cancer control programs, and about half (46%) reported attending meetings of their state's Comprehensive Cancer Control programs (data not shown). Most of the participants had access to the Internet at work (80%).

# Respondents' Development and Adoption of Cancer Control Programs

Most respondents reported developing new cancer control programs in the past year (69%) as well as using (68%) or adapting (69%) cancer control programs developed by others (Table 2). Those who had ever used an EBP resource were more likely to report adapting a program someone else developed than those who had never used such a resource (79% v. 65%,  $\chi^2$  (1) = 5.84, p < .05). Respondents who had used or adapted programs (n=206) were asked why they had chosen these programs; the most common reason was that there was scientific evidence saying the program works (Table 2).

The characteristics of programs that respondents rated as most important when choosing cancer control programs were "consistent with our organization's mission," "has been shown to work," "addresses our organization's needs," and "cost effective" (Table 3, all rated > 4.3 on a 5-point scale). Respondents placed lowest value on whether other organizations were using a program. Respondents' prior use of EBP resources was not significantly associated with their ratings of these characteristics.

# Respondents' Awareness and Use of EBP Resources

Respondents' awareness and use of Web-based EBP resources was low (see Figure 1). More respondents were aware of the Cancer Control P.L.A.N.E.T. than the other resources, although only 49% had heard of it and 36% had used P.L.A.N.E.T. Respondents were least familiar with R-TIPs; 22% had heard of it and 13% had used it. Overall, 65% of respondents had heard of at least one of these resources, and 48% had used at least one of them. The remaining analyses compared those who had ever used any resource (n=114) with those who had not (n=126), to determine whether experience with EBP resources predicted attitudes about EBPs or perceived training needs.

# Perceptions of EBPs and Perceived Training Needs

Almost all respondents (92%), regardless of their prior use of EBP resources, agreed that a program is "evidence-based" if it has been effective in changing people's behavior (Table 4). EBP resource users were more likely than non-users to agree that a program is also evidence-based if it changes intentions (46% v. 31%,  $\chi^2$  =5.47, p = .02). Most respondents' attitudes toward EBPs were neutral (near the mid-point of the scale, see Table 4). EBP resource use was associated with stronger agreement with some positive statements about EBPs, including "EBPs are easy to find or get," and "the research that shows that an EBP works is reassuring." Resource users also agreed more strongly with the statement that their funding agency encourages them to use EBPs. Regardless of exposure to EBP resources, most respondents were "somewhat confident" they could adapt an EBP to fit their community's needs (M = 4.05, SD = 0.79).

In spite of respondents' ability to define EBPs and their confidence they could adapt EBPs to fit their community, most agreed that training would help their organization adapt and implement EBPs (see Table 5). Prior use of EBP resources was not associated with endorsing the need for any given training topic. Most respondents indicated their organizations needed training on finding and securing additional resources (e.g., funding and technical assistance); respondents perceived the least need for training to recruit participants. Although there were no statistically significant differences between users and non-users of EBP resources, there were a few training needs where the differences between groups exceeded 10%. More respondents who had used EBP resources perceived training needs in the areas of program adaptation (both adapting programs for cultural appropriateness and identifying which program aspects can and cannot be changed). More respondents who had never used EBP resources identified training needs in finding available resources.

# **Discussion**

The cancer control planners in our survey report that they both develop new programs and adopt or adapt programs developed by others. They understand the concept of "evidence-based" programs and place high value on programs backed by scientific evidence, suggesting that low implementation of EBPs is not due to lack of knowledge that using EBPs is good public health practice. However, many respondents had not heard of the major EBP resources for cancer control programs we asked about, and over half had never used any of these resources. All survey respondents were affiliated with organizations that partner with the Cancer Prevention and Control Research Network, which emphasizes the use of EBPs and EBP resources; therefore, it seems probable that our survey may overestimate cancer control planners' awareness and use of these resources. True rates of EBP and EBP resource use may be even lower among cancer control planners in other organizations. Those who had used EBP resources reported more positive beliefs about EBPs, but similar perceived training needs to those who had not used resources.

Our findings point to the need for an evidence-based practice training tool that increases awareness of existing resources and takes cancer control planners through the process of finding, choosing, adapting, implementing and evaluating EBPs. Planners' perceived training needs suggest that they understand that all of these activities are important, but need interactive training with applications to their own practice to grasp how to perform these activities.<sup>7, 19</sup> In addition, intervention characteristics (i.e., ease in implementation, use with similar population and low cost) and organizational variables such as fit with organizational mission and needs were highly ranked as important program characteristics in choosing a cancer prevention program. These factors also have been found to be important facilitators to use of EBPs in other studies.<sup>20, 21</sup> Trainings or technical assistance that focus on adopting or adapting EBPs should incorporate these topics of program selection and fit with the organization to assist community planners with these steps.<sup>5</sup>

Given how many planners were unaware of EBP resources that have been available for several years, any interactive training program designed to meet this need must be actively disseminated and promoted to planners and their organizations. Otherwise, it is unlikely that community-based cancer control organizations will be aware of the training or make its use a priority for their employees. In addition, EBPs should be developed and packaged with implementation manuals and supporting materials so that they are easier for community based organizations to implement.<sup>22</sup> Promotion of the EBP resources (through channels such as RTIPS and the *Community Guide*) and enhancing organizational capacity for implementing evidence-based strategies are other proven strategies to increase EBP adoption and implementation.<sup>23</sup> A robust training program should provide education on packaged EBPs and their sources and how to consider and address issues related to organizational capacity. The use of these strategies will enhance the capacity of cancer control planners to successfully transfer science-based programs to their local communities. We are currently in the process of developing a Web-based, interactive training program with these features to address cancer control planners' needs identified by this survey.

# **Strengths and Limitations**

This is the first survey we are aware of that assessed general community-based cancer control planners' perceptions and use of EBPs. Others have assessed attitudes and use of EBPs within the context of evaluating specific trainings<sup>2</sup>, <sup>14</sup> and a study to understand dissemination of evidence-based physical activity guidelines.<sup>24</sup> We surveyed cancer control planners from a variety of organizations across several states and acquired valuable information about their use of EBPs and perceived training needs. Dissemination and

implementation researchers can use our findings to inform the development of approaches to increase use of EBPs.

There are some important limitations to this survey. First, we used a convenience sample of CPCRN partners. Most of our sample came from the seven states where the eight CPCRNs are located. More importantly, due to working with the CPCRN and attending our training activities, our survey sample likely actually provides an overestimate of cancer control planners' awareness of, value for, and use of EBPs and EBP resources. However, we also found that our survey respondents reported lower awareness and use of EBP resources than attendees at the trainings and CDC conference where we pilot tested the survey. Our findings suggest the importance of approaching cancer control planners in their communities to learn about their beliefs about and training needs for EBPs, as those planners who are attending EBP trainings and conference sessions about EBPs may not be representative of all community-based planners.

All of our findings are based on self-report data. Given our partners' relationship with the CPCRN, there is a possibility they felt some pressure to overstate positive beliefs about or use of EBPs. However, the low overall ratings of some of the positive statements about EBPs in Table 4 make this possibility seem unlikely. Our sample size was large enough to provide reliable estimates for the entire sample and for users v. non-users of EBP resources, but was too small to perform subgroup analyses by characteristics such as partner organization type or survey respondents' position type. We captured whether respondents had ever used EBP resources, but did not measure the extent of EBP resource use; in future studies, it would be beneficial to assess whether "dose" of EBP resource use (visiting a resource several times, viewing all relevant parts of the Web site, etc.) are associated with EBP perceptions and use.

#### **Conclusions**

If we are to increase cancer control planners' use of EBPs, we need to assess their current use of and attitudes toward EBPs and EBP resources to identify the next steps in improving EBP dissemination and implementation. In this convenience sample of cancer control planners, we found high value for EBPs, and those who had used EBP resources rated them as useful. Most cancer control planners surveyed indicated that further training is necessary for their organization to successfully adopt and implement EBPs. Their training requests indicate recognition of the importance of the various steps in the process of finding, adapting, implementing, and evaluating EBPs; now they need training tools that offer detailed, interactive guidance in how to perform each of these steps.

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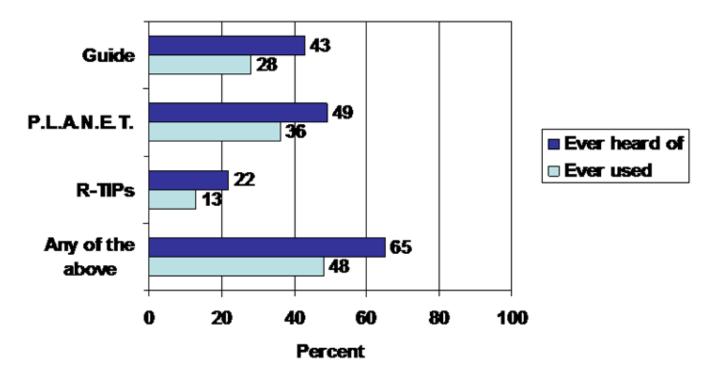
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**Figure 1.** Survey respondents' (N=240) awareness and use of EBP resources.

 $\label{eq:Table 1} \textbf{Table 1}$  Partner Organization and Respondent Characteristics, N=240

Characteristic	Fraguera (NI)	%
	Frequency (N)	-/0
Partner Organization Type	50	20.9
Government Agency	50	20.8
Health Care Delivery Organization	50	20.8
Voluntary Health Organization	20	8.3
Charitable Foundation	13	5.4
Advocacy	8	3.3
Professional Organization	4	1.7
Voluntary Service Organization	4	1.7
Community Coalition	10	4.2
State Comprehensive Cancer Coalition/Program Members	5	2.1
Other	65	27.1
Don't Know/Missing	11	4.6
Partner Organization Size		
< 25 Staff	110	45.8
25–50 Staff	26	10.8
50–100 Staff	18	7.5
> 100 Staff	68	28.3
Don't Know/Missing	18	7.5
Populations Served by Partner Organization		
African American	194	80.8
American Indian or Alaskan Native	94	39.2
Asian	120	50.0
Hispanic or Latino	167	69.6
Native Hawaiian or Pacific Islander	85	35.4
White	175	72.9
Level of Respondents' Cancer Control Work		
Federal	9	3.8
State	61	25.4
Local	155	64.6
Don't Know/Missing	15	6.3
Respondents' Position in Partner Organization		
Health Educator	43	17.9
Healthcare Provider, Non-Physician	13	5.4
Healthcare Provider, Physician	5	2.1
Program Planner or Manager	88	36.7
Researcher/Program Evaluator	14	5.8
Lay Health Worker	3	1.3
Luj Ilouiui Worker	3	1.5

Characteristic	Frequency (N)	%
Community Outreach Coordinator	25	10.4
Other	41	17.1
Missing	8	3.3
Respondents' Education Level		
Technical or Vocational School	2	0.8
Some College	13	5.4
College Graduate	72	30.0
Graduate or Professional Degree	143	59.6
Don't Know/Missing	10	4.2
Respondents' Internet Access		
Usually Access the Internet at Home	37	15.4
Usually Access the Internet at Work	192	80.0
High Speed Internet at Usual Place of Access	220	91.7

Note. Most respondents reporting "other" organization type worked at non-profit organizations and community-based organizations. Respondents could select one or more populations served by their organization, so frequencies for this characteristic sum to more than 100%.

 $\label{eq:Table 2} \textbf{Respondents' Cancer Control Program Development and Adoption, $N=240$}$ 

	Frequency (N)	%
Sources of Cancer Control Programs <sup>+</sup>		
Respondent developed own program in past 12 months	166	69.2
Respondent used a program someone else developed in past 12 months	164	68.3
Respondent <u>adapted a program that someone else developed</u> in past 12 months	166	69.2
Reasons for Choosing Cancer Control Programs Adopted in Past Year*		
There was scientific evidence saying the program works	109	52.9
It was available for free, or low cost	91	44.2
It was easy to implement	89	43.2
We had used it (or something like it) before	70	34.0
People in our community requested this type of program	68	33.0
The program fit our budget	55	26.7
Other organizations like ours are using this program	52	25.2
Our funding agency encouraged us to use this program	42	20.4
Technical assistance was available to help us with this program	40	19.4
We felt it was better than the alternatives	34	16.5
We didn't know of any alternatives	11	5.3

 $<sup>^{+}</sup>$ Respondents could select more than one program source, so percentages sum to more than 100%.

<sup>\*</sup> Analysis restricted to respondents who had used or adapted a program someone else developed (N=206). Respondents could select more than one reason for choosing a program, so percentages sum to more than 100%.

 $\label{thm:control} \textbf{Table 3}$  Perceived Importance of Program Characteristics When Choosing Cancer Control Programs, N=240

The Program is	Mean	St Dev
Consistent with our organization's mission	4.6	0.8
Has been shown to work	4.5	0.7
Addresses our organization's needs	4.4	0.8
Cost effective	4.4	0.8
Used in populations like ours	4.3	0.8
Consistent with our organization's image	4.2	1.1
Available for free, or low cost	4.1	0.9
Easy to use	4.1	0.9
Easy to evaluate	3.9	0.9
Results could be easily observed	3.8	1.0
Innovative	3.7	1.0
Technical assistance available	3.5	1.0
Able to be used on a trial basis	3.2	1.1
Other organizations are using it	2.8	1.1

Items were rated on a 5-point Likert-type scale, where 1 = Not at all important and 5 = Extremely important.

**Table 4**Respondents' Beliefs About EBPs by Prior Use of Resources, N=240

A cancer control program is "evidence-based" if it was found to be effective in	Never Used Resources, % Endorsing (N = 126)	Used Any Resource, % Endorsing (N = 114)
Reaching a large number of people	29.4	36.8
Increasing knowledge	70.6	73.7
Changing behavior	92.9	91.2
Changing intentions	31.0	45.6*
Beliefs About EBPs	Never Used Resources, Mean	Used Any Resource, Mean
The research that shows that an EBP works is reassuring	4.0	4.3**
Using an EBP keeps our organization from getting the credit we could get for a new program	3.5	3.7
I know where to find EBPs	3.4	4.2**
EBPs won't work better than what we are doing already	3.4	3.5
People in our community have more confidence in a program that has worked somewhere else	3.4	3.4
Our funding agency encourages us to use EBPs	3.4	4.0**
People in our community would not respond well to an EBP developed somewhere else	3.3	3.5
Considering the time it takes to adapt an EBP for our service population, we might as well develop our own program	3.3	3.5
EBPs are easy for us to adapt for use in our community	3.3	3.3
EBPs lack real world evidence	3.3	3.5
Scientists don't agree about what is evidence-based	3.0	3.1
EBPs are easy to implement	3.0	2.9
EBPs don't come with very much information about how to implement them	3.0	3.1
EBPs are too costly	3.0	3.1
EBPs require more resources than other programs	2.8	3.1
EBPs are easy to find or get	2.8	3.0*

#### Note.

Participants rated each belief on a 1–5 scale where 1 = strongly disagree, 5 = strongly agree. Negative statements about EBPs were reverse-scored so that higher numbers reflect more positive beliefs about EBPs.

<sup>\*</sup> indicates p < .05

<sup>\*\*</sup> indicates p < .01

<sup>\*</sup> indicates p < .05.

 Table 5

 Perceived Training Needs for Implementation of Evidence-Based Cancer Control Programs, N=240

Training Need	Never Used Resources, % Endorsing (N=126)	Used Any Resource, % Endorsing (N=114)
How to find and secure additional resources (e.g., funding, technical assistance, etc.)	81.0	70.2
How to assess and utilize current available resources	64.3	59.7
How to obtain program materials	62.7	57.9
How to develop an implementation and evaluation plan	61.9	64.9
How to adapt a program and materials for cultural appropriateness	58.7	70.2
How to identify what program aspects can and cannot be changed	54.0	64.9
How to implement and evaluate a program	54.0	56.1
How to pilot test a program with the intended audience	50.8	50.9
How to involve other stakeholders/partners	50.0	49.1
How to recruit participants	46.0	46.5

There were no significant differences in perceived training needs between respondents who had and had not used resources.