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What is This?
Examining the Role of Training in Evidence-Based Public Health: A Qualitative Study

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The use of evidence-based public health (EBPH) approaches is generally recognized as essential to changing public health outcomes. However, using an EBPH decision-making process requires public health practitioners to have the skills to review the evidence and pick the most workable strategy to address the problem at hand for their population of interest and the local context. Although there has been a growing body of academic literature examining the skills needed to translate evidence-based programs in local settings, many public health practitioners have not had the opportunity to learn or develop these skills. This article reports on qualitative interviews conducted to evaluate the process and impact of an EBPH course. The course has been found to assist participants in integrating new and existing skills to make evidence-based decisions. However, participants emphasize that factors external to the course influence their ability to engage in the EBPH process they learned.

Keywords: evidence-based public health; training; evaluation

In the United States today, there are 59 state and territorial health departments, more than 3,000 local health departments, and numerous federal agencies that have their own as well as shared responsibilities. Even more diverse is the public health workforce, which consists of a broad range of individuals, with numerous job titles, all of which are working to maintain the health of the public (Tilson & Gebbie, 2004). Of these individuals, only 44% are identified as health professionals and even fewer are specifically trained in public health (Tilson & Gebbie, 2004). In an ideal situation, every public health practitioner would use scientific evidence to guide their decision making; however, this often is not the case (Brownson, Baker, Leet, & Gillespie, 2003). To use an EBPH decision-making process, public health practitioners need to have the skills to find and incorporate various forms of evidence. Although there has been a growing body of academic literature examining the skills needed to translate evidence-based programs in local settings, many public health practitioners have not had the opportunity to learn EBPH skills.

BACKGROUND

Evidence-based public health (EBPH) has been defined as “the development, implementation, and evaluation of effective programs and policies in public health through application of principles of scientific reasoning” (Brownson et al., 2003; Brownson, Gurney, & Land, 1999). More recently, the definition of EBPH has evolved to include a focus on community needs and preferences (Kohatsu, Robinson, & Torner, 2004). EBPH is seen as a decision-making process used to determine

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Brownson, 2005). The course takes an applied approach, using key principles of adult learning (Bryan, Kreuter, & Brownson, in press). More specifically, the course is structured to help participants know why and how evidence-based approaches are important, incorporate participants’ previous experiences, help participants apply course material through hands-on exercises, and adapt to participants’ diverse backgrounds. The course is tailored so that the materials are appropriate to the audience (e.g., practitioners working in chronic disease vs. cancer control or nutrition), individuals are referred to data that are readily available, and the faculty is multidisciplinary (e.g., representing epidemiology, behavioral sciences, and health economics).

In this article, we present findings from qualitative interviews of participants in our EBPH course from 2001 to 2004. The purpose of this article is twofold: (a) to understand the effects and utilization of the material from our EBPH course and (b) to describe more general issues faced by practitioners when using EBPH, including common definitions, barriers, and large-scale benefits. Qualitative methods were chosen to evaluate the course because they enable the researcher to identify participant needs, the effectiveness of specific course components, as well as the barriers to applying material learned in class in practice settings (Hatala & Guyatt, 2002). Qualitative evaluation is particularly useful for these purposes because it provides information and richness that cannot be gleaned from a quantitative survey or anticipated when creating those survey questions. Moreover, qualitative interviews can provide rich, contextual data that leave the training participants’ perspectives intact, thus learning from them in a more open-ended manner than would be possible through quantitative methods (Steckler, McLeroy, Goodman, Bird, & McCormick, 1992). By using a qualitative approach we will be better able to learn how to apply our findings, in other words learn how to create the appropriate changes to our course to enhance its effectiveness (Grypdonck, 2006).

METHODOLOGY

A total of 293 individuals took the EBPH course between 2001 and 2004. Of these, 147 were from Missouri and 139 were from other parts of the United States. Participants from Missouri and other parts of the United States were contacted using the e-mail address they provided for course registration and asked if they would be willing to participate in a quantitative and/or qualitative evaluation of the course. A total of 40 e-mail addresses were invalid for a total of 246 participants receiving the survey.
Approximately 43% \((n = 107)\) of these course participants responded to the quantitative online survey. One of the major findings from these online surveys was that many of the respondents felt that there were factors beyond the course that affected their utilization of the course material. We conducted qualitative interviews to get a more complete understanding of these barriers and to get a more complete understanding of the factors that facilitated participants’ ability to use the material from the EBPH course. We conducted these interviews with approximately 20% of the respondents to the quantitative survey. These individuals were included for the current qualitative evaluation because they represented a range of job titles, they indicated on the quantitative survey that they had attempted to use the information presented in the course, and they were willing and available to take part in a follow-up telephone interview. The interviews were intended to complement the data from the quantitative surveys (results reported in Dreisinger et al., 2008). The interviews were conducted over the telephone during work hours, and on average the interview lasted 22 min. The interviewers were trained on phone during work hours, and on average the interview lasted 22 min. The interviewers were trained on the instrument to ensure comparable delivery of the interview protocol.

The interviewers asked open-ended questions about the general definition of EBPH and the facilitators and barriers to using EBPH approaches within their work. Participants were also asked to comment on the utility of specific modules within the Evidence-Based Public Health course (overview, community assessment, quantifying the issue, developing a concise statement of the issue, searching and summarizing the scientific literature, developing and prioritizing program and policy options, action planning, evaluation—including economic, process, impact, and outcome). The study was approved by the Saint Louis University institutional review board.

The interviews were audiotaped with permission of the participant and professionally transcribed. The authors analyzed the transcripts using deductive focused coding techniques (Patton, 2002). That is, the transcripts were reviewed to identify themes in the participant comments. The themes were then organized into categories that two of the authors reviewed and refined. Subsequently, two additional authors reviewed the data to determine the level of agreement or disagreement with assignment of a comment to a particular category. Discussions were held to reach consensus on category labels, descriptions and assignment of comments to categories, and the appropriate category for each comment. This process allowed new categories to emerge and established categories to evolve.

RESULTS

Course-Specific Comments

Some participants indicated that the course was beneficial as a reminder of things they already knew. In particular, participants noted the benefit of having an opportunity to have the various components of EBPH (quantitative and qualitative assessment, prioritization, planning and evaluation) presented as a process that pieced together information they had picked up in a number of other places. By bringing the pieces together, individuals stated that they were better able to take the information and put it into practice. Moreover, by having the review they were reminded of topics, issues, and skills that they had not considered for some time.

I know one thing that was significant was almost the continued relearning. You lose stuff over the years and it is continued exposure that allows you to pull it back out of those recesses in your mind. So probably the most significant thing though would be taking it from theory to helping me taking it to practice.

I think the broad sense of it was I had kind of a working knowledge but I think seeing the comprehensiveness and how the pieces fit together and how this wasn’t just something that . . . that there was a logic to how it all fit together. Then, too, I think the comprehensiveness of how you actually go through setting up the hypothesis and setting up the intervention project, how you document, do evaluation. I think that that whole comprehensive process was probably a little bit of an eye-opener for me about how many different stages and how they all interrelate.

Participants also indicated they thought that the course was particularly beneficial because they did not have a public health background (e.g., a master of public health degree).

And the longer I’ve been here, probably the more applicable it’s been to me; the more I understand it. I was very new to the public health field when I went through that course and, again, the longer I’m here, the more . . . the more real it becomes . . . more useful. It is continually reinforced within the work that we do on a day-to-day basis, because it is . . . it’s a priority within our department, and certainly within the country.

Others found that the course was helpful because it provided a common base for health department staff.
The course has helped us all to have that common base. Some people were more familiar with some of the things from the course, others really didn’t.

**Definition of EBPH**

Many of the participants thought EBPH could best be understood as a process of finding and using appropriate data sources to identify problems and issues, and identifying appropriate techniques to create changes to achieve desired outcomes. In other words, they recognized that EBPH is not a specific intervention(s) but rather a process of making decisions about programs and policies that is based on an evaluation of reliable data and previous work. As one participant commented, EBPH can be considered a guide for getting “your ducks in a row” before you plan a program, and EBPH ensures more objective decision making.

Well, in my mind it would be more like a step-by-step guide on what things need to be done before you begin. And what things you need to research before you begin. So just to have your plan ready and your ducks in a row before you just go out there and say “let’s go do a program.”

I would probably say it’s basing public health decisions, or policy decisions, on objective factors. You would work to take evidence and objective information from a source, a reliable source, such as a journal or census data origin, but a reliable source, and basing your assumptions and measuring your outcomes based on those parameters.

**Benefits of Using an Evidence-Based Approach**

Participants identified a number of benefits to using an evidence-based approach to public health. One of the major benefits of this approach was seen as being better able to garner funds for programs.

It makes us more solid, and it offers more opportunities for additional funding. We do it to be a solid strong organization. I think that shows when you apply for other grants or funding, or additional programs, they come back and look and say “let’s do go a program.”

Participants also noted that using evidence-based approaches enabled them to make good decisions and get desired outcomes.

If it’s evidence-based you’ve got the support and the data that’s going to say here’s what we’re doing and here’s the outcomes we saw. Obviously, the Missouri Department of Health pushes us to have evidence-based programs that may or may not exist for certain programs. But we value it and we would like to create some of our own, saying, look, here’s the number, here’s the data. We like data-driven decisions. I think data-driven decisions are the best ones you can make. And if that’s a program you need some supporting data, rather than a feel-good kind of thing.

**Essential Role of Leadership Support**

Given the benefits of EBPH approaches, the participants were asked to identify factors that helped to encourage or facilitate the use of these approaches. Without fail each participant stated the same thing: upper management and/or leadership support. For EBPH approaches to be implemented, leadership needs to see it as important.

Leadership definitely values it. I mean, I’m the administrator and our administrative staff like evidence-based decisions, meaning I want the data to support why or why we are not making the choice or making a decision.

There is a lot of value placed on EBPH. I know the leadership values it, and the leadership has a strong influence on what happens within the agency. I think that because the leadership does value it, it trickles down.

**Barriers to Using an Evidence-Based Approach**

Although there are many benefits to using an evidence-based approach, participants also identified a number of barriers. For example, some participants indicated that it is difficult to get an organization to use EBPH when there are differences of opinion as to what EBPH entails.

I think the barrier is . . . what does that mean? I mean, what does evidence-based decision making mean, period? Do you know what I mean? I mean, I think if you ask 10 people, they’re going to give you maybe five or six different answers at least. If we don’t know what it means and what format or what terminology, [how can we apply it away] from an academic setting, it’s an interesting question.

Other participants stated that the day-to-day activities sometimes get in the way of using EBPH. Participants indicated that some people see EBPH as too time consuming.

The leadership very strongly supports evidence-based decision making; however, a lot of times the work gets in the way of a common sense and good logic.
And so the lower you go on the hierarchical scale, it seems they just want to get the work done, and don’t have the time to stop and check the research.

Others indicated that to use evidence-based processes it is important to have all staff members share an understanding of public health, and they often are not able to hire staff with formal public health training.

In our agency we don’t have the luxury of hiring only people with public health degrees. We have a lot of staff that are hired on with very little public health experience but may have very good clinical or other skills to bring into the job, so we’re constantly in the training mode.

Inadequate funding was also seen as a barrier to using evidence-based processes. The participants stressed that it is difficult to do what “needs to be done” when there isn’t enough money.

Barriers we’re seeing at a community level or at a contract level that sometimes there just isn’t enough resources to come up to the point of what an evidence-based intervention would suggest. A lot of what we’re trying to think through at times is if there is an evidence base, then how can we look at best practices.

In addition to resource shortages, participants indicated that even when staff members recognize the importance of evidence-based processes, they may lack the authority to use them.

Yeah, some of the external influences, I think. We may . . . lack of resources. We may know what the number one priority is, but we may not be able to act on that, without the available resources or without the available authority to do so. We are . . . in the State Health Agency we are under state law, of course, and regulations in whatever agency policies are in place. So there’s . . . the other competing factors are whatever political issues may be involved, lack of resources, lack of authority as a state agency. I mean, we have authority for a lot of things, but it may not be for everything that we want in terms of changing public health policy and practice. I mean, just an example of that would be with the confidentiality limits on data. So it does limit what we can do in some regards.

This was seen as being exacerbated by tremendous turnover in leadership within many departments of health. Sometimes new leadership within a department does not understand the importance of evidence-based processes, so they “go to the wayside.”

Well we have had so many structural changes over the past few years, and seen that those things that are less obviously evidence based are going by the wayside.

We have had multiple transitions here (in the department of health). We’re in transition four since elections. It takes a lot of energy to do this and do it right. If your energies are places where you don’t even know if you’ve got a job the next day, or what job it’s going to be, it’s very difficult. We have lost lots of good top management as a part of reorder, essential people that were what your agency needed to take you to higher levels.

As the last quote indicated, turnover in public health leadership was at least in part a function of more general instability of state government. Instability of state government was seen as a barrier to evidence-based processes because new governors and political appointees were seen as creating policy that was not necessarily consistent with evidence-based processes.

The barriers that I might identify . . . it has a lot to do with the instability of state government at the moment. And the instability . . . or not the instability . . . but the . . . we have had multiple transitions here.

In particular, our health department doesn’t do a lot of its own policy generation so most of our policy comes from the outside from the advocates. And trying to get the advocates aligned and to see things the right way.

**DISCUSSION**

The benefits of evidence-based processes and decision making have long been touted in clinical medicine (Hatala & Guyatt, 2002) and more recently in public health practice. Despite its importance, there are sparse data from practitioners (the users and target audience) on the quality and impact of training programs to enhance information about evidence-based processes. Similarly, there are not enough data to assess if these programs changed the learners’ behaviors or the benefit and barriers to using EBPH (Hatala & Guyatt, 2002).

The data reported are from a sample of participants who took an EBPH course provided anywhere from 2 to 5 years prior to this evaluation. These data provide a relatively long-term perspective on the benefits and challenges to using the information from the course, and more generally EBPH approaches. Our findings suggest that the course was worthwhile as a way to synthesize information and translate theory to practice for individuals who already have a background in
public health. The course was also seen as beneficial because it provided a foundation, a common base, for those who did not have prior public health experiences or knowledge. Participants in the evaluation saw many benefits to using EBPH approaches, including better, more effective, program and policy initiatives; better overall decision making; and improved likelihood of obtaining funding.

Given the benefits of using evidence-based processes, it is important to develop strategies to address the challenges identified. One way to do this is to ensure regular training opportunities for staff at all levels of the public health infrastructure. Although the quantitative data collected as part of the evaluation suggest that in-person training is preferable to other modes of delivery, it may be important to consider multiple and complementary modes of delivery. For example, it may be possible to provide the in-person training to a core group of individuals in a health department who then train others using materials on compact discs and Web-based materials.

It is not only important to consider various modes of delivery but also to recognize the needs of different audiences. We have found that state-level employees may have different experiences and training than local public health employees or community members. In addition, diverse cultural groups both within the continental United States and internationally have different learning styles. These differences require modification in the emphasis of certain sections of the course to meet the needs, interests, and perspectives of these different groups (Brownson et al., in press). Lastly, regardless of the group, there are academic and practice tensions. Ideally, these can be used to help translate theory to practice. In reality the limited time allotted for the course (sometimes as little as three days) sometimes restricts the discussion necessary for these benefits to be realized.

In addition, participants noted that there are challenges in terms of resources for using evidence-based strategies and adapting programs to the local population and context. Recent discussions at the end of our courses have included opportunities for individuals to discuss and problem-solve regarding how to work across departments and areas to maximize resources for engaging in this work. We are also exploring the use of online learning tools that will allow trainees to better localize data.

**Limitations**

Our results are based on a small sample of practitioners from a variety of states. Moreover, these are individuals who at least made an attempt to use the material from the course. The results may, therefore, not be generalizable to all participants in our courses.

**Conclusion**

The participants noted that there are several factors outside the actual course content that influenced their ability to use EBPH approaches. A key factor to using these processes was leadership support. The participants also identified a number of challenges, in particular the regular turnover of health department leadership and staff and limited time and resources. Although we recognize that this course can provide information to individuals, their ability to use this information depends on the broader organizational, social, and political atmosphere, which is often in flux. One way to address this is to develop a similar training course specifically for health department leadership and policy makers. More than 10 years ago, the Institute of Medicine (IOM) identified several reasons why public health interventions were not reaching their potential impact (Institute of Medicine, 1996). One of the key findings from the report was that efforts were unsuccessful because they may have used an intervention approach whose effectiveness had not been established in the scientific literature. Given that the participants identified leadership support as the key factor in implementing evidence-based processes, this may well be the most important next step. Training programs such as this are essential for improving public health practice across the globe (Brownson et al., in press; Koplan, Puska, Jousilahti, Cahill, & Huttunen, 2005). Through evaluations such as this one, we can learn more about the impacts of training programs and gain valuable information for improving future efforts.

**REFERENCES**


