Developing Effective Clinical Trainers: Strategies to Enhance Knowledge Translation

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Developing Effective Clinical Trainers: Strategies to Enhance Knowledge Translation

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Abstract

Continuing education and training provides a means to improve performance among health care professionals (HCP). Research shows, however, that continuing professional education activities have inconsistent effects on HCP competence, performance, and patient health outcomes. Furthermore, the trainer's role as a facilitator of knowledge translation (KT) has been understudied. To understand how clinical trainers support their trainees in translating what they learned into practice, we conducted 16 in-depth interviews with expert trainers. These interviews yielded a variety of KT-enhancing strategies, including tailoring training activities to their trainees' needs. In addition, participants recommended trainers familiarize themselves with their trainees' work environments, be able to identify their knowledge deficits, and devote time to provide trainees with post-training support. Creating an effective training, one that leads to transfer, requires active planning, communication, and command of the training topic by skilled trainers.

Keywords

knowledge translation, training transfer, training evaluation, continuing professional education, instructional design

Introduction

With advances in the treatment and care of HIV/AIDS, health care professionals (HCP) face growing challenges in caring for a patient population with complex health care needs (Gallant et al., 2011). Continuing professional education (CPE) and other developmental opportunities are commonly used to address these challenges and have been linked to improvements in HCP performance and patient health (Forsetlund et al., 2009). Research shows, however, that CPE activities differ in their ability to increase HCP's competence and performance, and have inconsistent effects on patient health outcomes (Marinopoulos et al., 2007).

A variety of factors affect whether a CPE trainee is able to apply new knowledge and skills acquired during training to their clinical practice, a concept commonly referred to as *knowledge translation* (KT; Davis et al., 2003; Graham et al., 2006; Jacobson, Butterill, & Goering, 2003; McKibbon et al., 2010; Thomas et al., 2006). The World Health Organization defines KT (also called knowledge transfer, training transfer, and implementation) as "the synthesis, exchange, and application of knowledge by relevant stakeholders to accelerate the benefits of global and local innovation in strengthening health systems and improving people's health" (Landry, Amara, Pablos-Mendes, Shademani, & Gold, 2006, p.597). Although difficult to measure, KT is often the sought outcome of CPE events.

Research points to three main areas that influence whether translation occurs: (a) trainee characteristics, (b) training characteristics, and (c) organizational characteristics (Aguinis & Kraiger, 2009; Grossman & Salas, 2011; Lim & Morris, 2006; Roche, Pidd, & Freeman, 2009). Notably missing in the literature is the *trainer's* role in facilitating KT. Although leading scholars have hypothesized that ineffective trainers can lead to failed transfer (Salas & Kosarzycki, 2003; Swanson, 2001; Tannenbaum & Yukl, 1992), few studies have explored the relationship between trainer attributes and trainee KT. Considering most trainers acquire their training-related skills on the job (Bunch, 2007) and there are few formal programs to become a CPE trainer, we argue that to improve the efficacy of training programs, it is essential to understand trainer attributes and actions that lead to or hinder KT.

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Setting and Objectives of the Study

The federally funded AIDS Education and Training Centers (AETCs) provide training and capacity-building assistance to HCPs on the delivery of quality care to people living with HIV/AIDS. This is accomplished through a nationwide network of 11 regional centers, 5 national centers, and over 130 local performance sites. The AETCs have trained more than 1 million HCPs over the last two decades (Health Resources and Services Administration, 2010). Between July 2008 and June 2009, the AETCs delivered 19,300 training events to more than 148,000 trainees. The majority of trainees were nurses (33%) and physicians (17%) working primarily in hospital/hospital-based clinics (20%), community health centers (12%), and community-based organizations (8%).

Given the volume of trainings the AETCs provide and their potential impact on health care outcomes, evaluation of KT in relation to these programs is important. In comparison to the estimate that not more than 15% of what trainees learn is transferred to the job (Cromwell & Kolb, 2004), 54% of AETC trainees report changes in practice behavior following training (Bashook et al., 2010). This finding suggests that AETCs may be especially successful in assisting their trainees implement new knowledge and skills. The current study was designed to understand how AETC clinical trainers support trainees during the translation process. The main objective of this study was to identify strategies trainers use to increase the likelihood of KT.

Methods

We conducted in-depth interviews with AETC clinical trainers to explore strategies employed to assist trainees in the translation process. To obtain our sample, we contacted regional AETC program directors to describe the study and request they nominate four of their regional clinical trainers. The recruitment criteria required that participants be (a) a physician, an advanced practice nurse, a registered nurse, a physician's assistant, a dentist, or a pharmacist; (b) a core AETC trainer with more than 3 years of training delivery experience; and (c) experienced in developing training curriculum. Two of the nominated clinical trainers from each region were selected at random to receive an email describing the project and asking for their participation. We then followed up with each trainer to schedule an interview.

All participants were interviewed between December 2008 and May 2009. Interviews were conducted via the telephone by one of the first two authors using a semistructured interview guide. Participants were asked to explain how they prepared for training events, to describe aspects of trainings that worked well for audiences, and to provide examples of how they assisted trainees with implementation issues. Interviews lasted approximately 1 hr and were audio recorded and transcribed. Participation was voluntary; respondents were asked to provide informed verbal consent using procedures approved by the University of California San Francisco Committee for Human Research.

Researchers took extensive notes during interviews and discussed their initial observations following each interview. Adjustments to the interview protocol were made during these conversations to ensure sufficient probing on key research domains. In addition, emerging themes and directions were documented to aid in the development of a coding framework. The first three authors read a cross-section of interviews to identify an initial set of analytic codes. This preliminary codebook was applied to a second set of interviews; codes were further modified and clarified through team discussions. After several revisions to the preliminary codes, the final codebook was applied to the entire data set. The coded data were entered into Atlas.ti©, a qualitative research software program used to organize data. The characteristics of the major themes were identified and explored.

Results

Our sample had representation from 10 of the 11 regional AETCs. Among the nominated clinical trainers, the overall response rate was 57% (16/28 contacted). Respondents had extensive experience in both providing direct HIV care to patients (M = 20 years) and delivering training to clinicians (M = 19 years). The sample consisted of nine physicians, three advanced practice nurses, three registered nurses, and one pharmacist.

Multiple themes emerged on common techniques that trainers use to assist trainees in the KT process. Based on the findings presented below, we constructed a framework (see Figure 1) that represents a continuing sequence of KT-enhancing strategies for utilization by program planners. The figure illustrates that in addition to having excellent communication and facilitation skills, trainers must also conduct supplemental activities to enhance KT.

Strategies That Enhance Knowledge Translation

In advance of training, identify needs within the clinical setting and among trainees. In general, participants stated that the methods and activities used to assist trainees differ depending on the topic and intensity of training. Participants emphasized the importance of determining the training scope prior to the event. Respondents recommended that trainings focus on identified professional practice gaps and involve all stakeholders during initial planning activities. When describing how trainings take shape, one participant stated,

> For the last couple of years, we haven't held a large conference here but have actually been going out and doing site visits and trainings based on what we have assessed their [trainees] needs to be . . . because they were all at different levels of capacity in treating HIV. (Nurse Trainer)

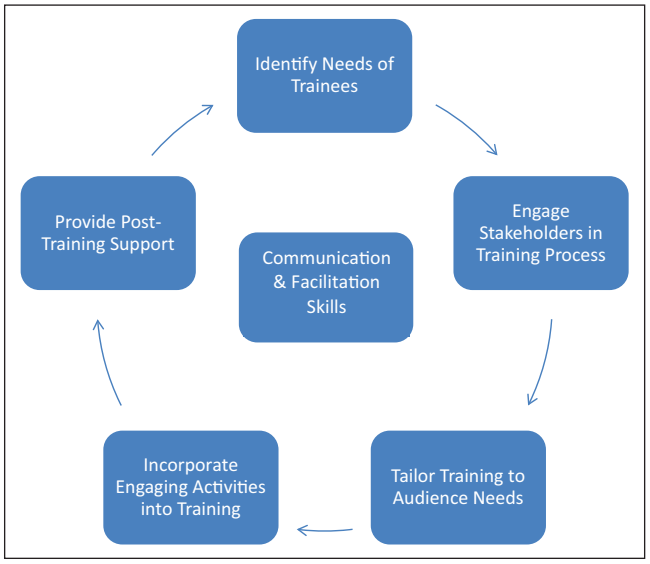

Figure 1. Sequence of knowledge translation–enhancing strategies

Almost all participants felt that familiarizing themselves with the target audience, trainees' work environments, and clinic leadership was a vital step. Participants described a number of methods used to gather this information, ranging from needs assessments to site visits and discussions with trainees. This information was a necessary component in the creation of training events that led to KT, as noted by the participant below:

> Overall, the ones that don't go well are those where I don't have a good feel for the audience: who they are, what professions they are, what the barriers are in their hospital, what kind of people they're seeing—the thing about not knowing your audience. I think when I go in and try to talk to people without really knowing what their practice setting is, I feel like I'm talking to a blank wall cause I don't know if I'm saying what they need to hear or addressing their barriers. (Physician Trainer)

Engage stakeholders in the training process and identify conducive training environments. Most participants thought trainees needed support from clinic leadership to implement training concepts, particularly if these concepts required policy changes or reallocating resources. Participants described the process of gaining buy-in from key stakeholders as a best practice for ensuring KT. This process often entailed direct communication with clinic leadership and staff on the value of implementing specific clinic policies and procedures. Participants also recommended that clinic leaders attend trainings to increase their understanding of particular issues and to demonstrate their commitment to improved care.

> You need buy-in if you're going to change a system and that certainly doesn't apply to all trainings. If you want systems change, then you need the players to be the ones that can actually effect change. (Physician Trainer)

Interviewees recommended holding trainings in clinical environments or settings favorable to training as a factor that influences the success of training. Nearly all participants told us that on-site training (i.e., in trainees' workplaces) was the most effective environment for clinical training. Respondents noted that on-site training promoted relationship building, allowed for highly relevant content to be discussed, and allowed trainers to observe the clinical environment and address barriers. Although on-site training did not guarantee that KT would occur, it provided trainers with numerous opportunities to enhance training plans.

Tailor training design and content to target audience. Respondents recommended tailoring trainings, which required that trainers take trainees' professional practice gaps, professional roles, and work environments into account when developing training curricula. This allowed for the incorporation of content most applicable to trainees. The incorporation of case-based discussions was also a common trainer technique that helped make trainings salient to trainees. Many participants felt that tailoring improved training outcomes, including a pharmacist trainer that stated, "I think it went well because we knew the audience; we knew specifically what they wanted. They gave us specific questions and we were able to tailor the presentation to that and consequently the feedback was excellent."

In addition to developing thoughtful curricula, it was equally important to create "actionable" products for trainees. Some respondents created easy to understand tools and provided reference materials for use during KT. The following quote illustrates this strategy:

> People had a lot of trouble with anal cytologies until I started incorporating into my presentation an actual video of myself doing an anal exam on a patient. I did it in real life, my clinic, my patient and then had my patient come with me [to training] and actually say not only was that me you saw, but I'm here to tell you that it wasn't painful, it wasn't uncomfortable, I understood why it was being done and it was important. (Physician Trainer)

Create dynamic training activities. Participants were able to provide a variety of examples on how to create an effective training leading to KT. Most of these examples included activities (role-play, small group exercises, and teach backs)

that made trainees think about both the training content and its intended implementation. The majority of respondents considered the incorporation of interactive skills-building activities to positively influence the training environment. A physician trainer touched on this when stating, "what made it [training] go well is that the design of the training included a wide variety of different kinds of activities and modules so as to match different learning needs of people."

Another recommendation involved devoting time during training for participants to do "real work" (e.g., practice administering and interpreting rapid HIV test results). Many participants also suggested trainers build informal time into trainings, for casual discussions, and leave time at end for trainees to discuss specific cases individually. The following quote illustrates the value of informal time:

> The best part of the training: you give your lecture and it's all well and then one or two people hang out afterwards and ask you about a specific patient or say, "I tried to get our doc to do that but they wouldn't do it." Sometimes those conversations you have before and afterwards are much more fruitful in some ways, because you are hearing their specific issues and you're able to respond to that instead of just downloading information. So that's a good training tip, always leave yourself time to hang out afterwards and tell people, "I'm happy to stay and talk to you about these things or I'd love to tour your clinic and talk to your staff." (Physician Trainer)

Communicate clearly and be flexible in facilitation. Trainer characteristics (i.e., approach to training and behavior) influence all stages of the training process. Participants described training events that required trainers with strong communication skills who were also adept, flexible, and approachable during the trainings. Some participants provided examples of trainings with audiences that were different from what they prepared for (e.g., training social workers on drug interactions); in these cases, it was important for trainers to be able to gauge the audiences' needs and to be flexible in the delivery of training content. Trainer's willingness to allow for trainee-directed learning (i.e., trainer allows audience to steer training based on their needs) was also identified as a KT-enhancing strategy. This concept is described in the following physician trainer quote, "so it really turned into an effective training session because people were focusing on the things they wanted to learn; not so much what we thought they wanted to learn."

Some participants noted a distinction between the skills required to facilitate a didactic presentation and those required to deliver a skills-building workshop. Most participants stated that skills-building trainings were more effective than didactic presentations, primarily because they require more active involvement from trainees. These sessions also require more effort by skillful trainers, as described by the following participant:

> Its [interactive, skills-building training] definitely more demanding . . . I could be sick as a dog and still give a lecture from the power points, but the facilitation piece involves being able to be both thinking about your content and listening to what they're [trainees] saying, analyzing it, reflecting on it and translating it for the other participants. It's a much more complicated mental task. (Physician Trainer)

Provide post-training support. Many participants discussed the importance of the implementation process not ending after the training event is conducted. "It doesn't just end with the training," one participant said. Participants developed a variety of techniques to keep trainees connected to the training topic. Participants described how they followed up with trainees and clinic leadership to gauge whether training was being implemented effectively and how they could further assist. Some participants maintained relationships with trainees or clinics and continued to discuss cases related to the training topics. Implementing policy changes required the most post-training support and required time investments by clinics and trainers. In addition, some participants established coaching relationships with trainees and developed KT action plans. This excerpt illustrates one participant's thoughts on coaching:

> So it's breaking the change down. We help coach them. It's very much like the gym; it's not that the trainer teaches you anything new, it's that you have a commitment to each other and someone's bugging you about it. Nagging you, creative, gentle, kind nagging is actually a major part of the coaching phenomenon. (Physician Trainer)

In addition to follow-up support, participants also talked about the benefits of building strong working relationships with trainees. Some participants worked in settings where everyone knew each other; sometimes this allowed for easier access into clinics and feeling well connected to potential trainees. Some trainers used the "adopt-a-clinic" model, whereas others worked to establish longitudinal programs, where a continuum of training was provided over time. In the absence of longitudinal training, participants suggested providing refreshers/booster sessions to trainees. A physician trainer illustrates this when stating,

> You need to go longitudinal, so you can go back and say, "Did it work? Didn't it work?" If you just give it [training] to them and leave, you don't know whether they were able to transfer it or not.

Discussion

The literature on KT suggests that aspects of the trainee, training, and organizational setting influence transfer. Key *trainer* characteristics are often subsumed under the training

category, thus making it difficult to understand the discrete role trainers play in the KT process. The current study explored how clinical trainers design trainings that facilitate KT. The findings from this study highlight the difficulties involved in achieving KT and emphasize the responsibilities of trainers in this process. We identified a variety of strategies trainers can employ to increase the likelihood of KT. These activities should be tailored to the audience and may differ depending on the topic and intensity of training. Creating an effective training—one leading to KT—requires active planning, communication, and command of the training topic. In addition, trainers must be familiar with the trainees' work environments, be able to identify their knowledge deficits, and devote time to provide trainees with post-training support.

Our study identified five strategies, in addition to adept communication and facilitation skills, which increased the likelihood of KT among trainees (see Figure 1). The first strategy consists of identifying trainees' professional practice gaps, a concept consistent with principle guidelines outlined by the Accreditation Council for Graduate Medical Education (www.acgme.org). The second strategy involves the process of engaging stakeholders and obtaining buy-in from clinic leadership on training concepts. This is an important step, as front-line staff and leadership may have different perceptions of their clinics' needs, and obtaining supervisory support has been widely supported in influencing KT (Blume, Ford, Baldwin, & Huang, 2010; Clarke, 2002; Grossman & Salas, 2011). The above strategies yield information about trainees and their work environments, which is required to tailor trainings to the audiences' needs, our third strategy. In addition to making the training salient to the audience, our sample recommended the incorporation of interactive activities that both engaged the audience and kept them focused on the application of training concepts. The final recommendation centers on providing support to trainees after training events, a strategy not yet employed by all trainers in our sample.

Trainers described the aforementioned techniques and their influence on KT in detail but acknowledged that the activities require both time and rapport building with trainees and their clinics. Overall, our participants noted the importance of conducting specific activities both before (e.g., collecting data on trainees and their needs) and after (e.g., following up with trainees and helping to resolve KT barriers encountered) the training, but these activities were not easily implemented. For example, an effective training is formed with the main objective in mind (e.g., increasing anal cytology screening), but this means the trainer needs to consider all components that could lead to successful KT, ranging from details on the screening method, to billing, and patient education. Most trainers were not able to invest this level of effort for all of their trainings; some trainers focused only on the training event itself.

Although this study identified valuable teaching and support strategies, it was not without limitations. A purposeful sample of experienced trainers was recruited for participation, which may have led to sampling bias. Purposeful sampling was used as a method to allow for the selection of information-rich cases from which in-depth knowledge about the phenomenon being studied could be gained (Patton, 2002). Although AETC directors nominated potential participants, individuals on the list were contacted at random with emphasis on representation from all regional AETCs. The sample recruited included both seasoned and newer trainers from diverse professional backgrounds.

Our study shows that some trainers strongly believe in the value of coaching trainees and providing follow-up support after training events. However, more research needs to be done to evaluate the outcomes associated with post-training activities. Furthermore, we are uncertain of whether follow-up support is widespread among AETC trainers and whether the AETC program structure is sufficient to sustain or encourage this level of effort. The findings from this study provide insight into important strategies for developing effective clinical trainers. Program planners, trainers, and managers can use the lessons from this study to increase the likelihood that training will result in improvements in care.

Authors' Note

This study was approved (IRB# 11-05600; expiration date: February 22, 2014) by the University of California San Francisco's Committee on Human Research.

Declaration of Conflicting Interests

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