Approaches *TRAIN* Affiliates are taking to evaluate Public Health Training

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DISSERTATION

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DEDICATION

To Gina, Arianna, and Harold, whose support, patience, love and company helped me reach my academic accomplishments.

And to the younger generation of my family, that this event may inspire them to achieve even higher goals, because if we can see the invisible, we can do the impossible.

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MA

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LIST OF ABBREVIATIONS

ACA	Affordable Care Act
AJPH	American Journal of Public Health
APHA	American Public Health Association
ASTHO	Association of State and Territorial Health Officials
CDC	Centers for Disease Control and Prevention
COL	Council on Linkages between Practice and Academia
CSRA	Civil Service Reform Act
DrPH	Doctor of Public Health
DUA	Data Use Agreement
HIPAA	Health Insurance Portability and Accountability Act
HRSA	Health Resources and Services Administration
ICS	Incident Command System
IOM	Institute of Medicine
IRB	Institutional Review Board
IT	Information Technology
JPHMP	Journal of Public Health Management and Practice
LHDs	Local Health Department(s)
LMS	Learning Management System
NACCHO	National Association of City and County Health Officials
NALBOH	National Association of Local Boards of Health
NIMS	National Incident Management System
MS	Microsoft
PHF	Public Health Foundation
PHTC	Public Health Training Center
PIM	Performance Improvement Manager
ROI	Return on Investment
RWJF	Robert Wood Johnson Foundation
SES	Senior Executive Service
SWOT	Strengths, Weaknesses, Opportunities and Threats
TRAIN	TrainingFinder Real-time Affiliate Integrated Network
UIC	University of Illinois at Chicago

SUMMARY

This mixed methods study included seven of the twenty eight TRAIN (TrainingFinder Real-Time Affiliate Integrated Network) Affiliate agencies. They voluntarily agreed to participate, released their quantitative data previous Data Use Agreement (DUA) signature, and responded to forty nine questions in a structured interview. Quantitative data were analyzed to design a brief profile of the participating Affiliates, while interviews' provided context about the organizations' training practices and helped answer to the study question of "what approach are TRAIN Affiliates taking to evaluate public health training".

Institutional Review Board (IRB) approval from UIC was granted in March 2014. As of early 2014, the seven participating Affiliates together have 595 Course Providers creating courses for public health professionals in seven states, and 5,889 active courses for their 270,588 active learners. More than half of the courses (55.5%) are for Intermediate level learners, while 38.9% are introductory, and the remaining 5.3% are at an advanced skill level. Study findings include: a) Public Health Accreditation is causing support for training and workforce development, b) training is mostly decentralized in the TRAIN Affiliates, c) by default, TRAIN Course Providers are responsible for training evaluation, d) TRAIN as the learning management system appears underutilized, as TRAIN Administrators have other responsibilities beyond TRAIN, and e) Affiliates are mostly using level 1 and 2 of the Kirkpatrick training evaluation, and plans to use level 3 are recently starting.

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I. BACKGROUND AND PROBLEM STATEMENT

A. Background and Context

The need to better prepare the workforce to adequately meet the demands of public health is well documented. First, public health as a discipline recognizes that a prepared workforce is a critical component of the public health infrastructure for executing the essential services (Cioffi, Lichtveld, and Tilson 2004, 186-192; Baker et al. 2005, 303-318); thus, the workforce is an element that must be considered when measuring organizational performance (Beck and Boulton 2012, S6-S16). Second, the importance of having a sufficiently trained workforce to do the jobs they are asked to do is largely substantiated by landmark reports from the Institute of Medicine that argue the public health infrastructure was "in disarray"(Institute of Medicine 1988) and is "still in disarray today"(Institute of Medicine 2003a). Not surprisingly, workforce effectiveness and its health impact have been listed as areas for future research agendas in the literature (Thacker 2009, S109-S112), (Cioffi, Lichtveld, and Tilson 2004, 186-192). Models for assessing organizational and workforce capacity that may be applied to public health (Beck and Boulton 2012, S6-S16) are being proposed, and some of these concepts are already studied in the literature, in studies that assess the Local Health Departments' (LHDs) ability to carry out the public health functions effectively (TURNOCK et al. 1994, 653-658).

Coincidentally, recent efforts might help address this national concern. One is the recently formulated Patient Protection and Affordable Care Act (PPACA) signed into

law in March 2010, which includes provisions to increase the public health workforce and strengthen quality measurement. Another one is the voluntary public health accreditation program. After carefully analyzing the benefits of having an accreditation process for public health agencies, similar to other health care entities like health insurance companies, laboratories, medical examiner's, and community health centers, public health accreditation became available in September 2011. To encourage accreditation of public health agencies, federal funding and technical assistance is available through the Robert Wood Johnson Foundation (RWJF), the National Association of County and City Health Officials (NACCHO), the Association of State and Territorial Health Officials (ASTHO), the National Network of Public Health Institutes (NNPHI), the American Public Health Association (APHA), and the Public Health Foundation (PHF).

To become accredited, agencies must provide robust documentation of their compliance with the ten essential public health services, including their approach to further prepare their workforce. This accreditation requirement, described in Domain 8 of the Public Health Accreditation Board, PHAB (Public Health Accreditation Board) Standards and Measures, involves the preparation and implementation of a staff training and development plan that is reviewed annually and includes a formal, ongoing needs assessment, training plan and evaluation, while in synergy with the public health Core Competencies for Public Health Professionals adopted by the Council on Linkages Between Academia and Public Health Practice (COL)(Public Health Foundation).

B. PROBLEM STATEMENT

Public Health workers come to the field from a variety of disciplines (Gebbie and Merrill 2001, 8&hyhen;16; Kennedy and Moore 2001, 17;22)(e.g., environmental engineers, health educators, occupational safety and health specialists, health services managers or administrators, biostatisticians, veterinarians, nutritionists, attorneys, laboratory scientists, social workers, mental health and substance abuse workers, psychologists, alcohol and substance abuse counselors, health information systems personnel, administrative or clerical staff, and more), and studies have shown that on average only one in five professionals working in a public health agency have an MPH degree (Gerzoff RB and Richards TB 1997, 50-6). Training programs for adults with a variety of expertise and backgrounds must be effective, especially in times when budgets are tight, as it is currently for public health and government in general. The literature suggests that at least three major components affect training (Mitchell 1994, 199)a) the required job: its design, selection, performance of employee, flexibility of organization and employee; b) the individual and learning: before the training, on the job training, after training development, barriers to performance; and c) the organization and results: organizational goals, local goals, goals of training, cultural environment. Similarly, three subsystems (the work, the worker and the work organization) were conceptualized as components of the "work-doing" system in 1999 (Fine and Cronshaw 1999).

The literature also emphasizes and recommends using ***adult learning principles*** (Koo and Miner 2010, 253-269) or "andragogy" (as opposed to "pedagogy"

that refers to children) (Knowles 1978) if training is going to be effective. The five adult learning principles are depicted in Figure 1 below:

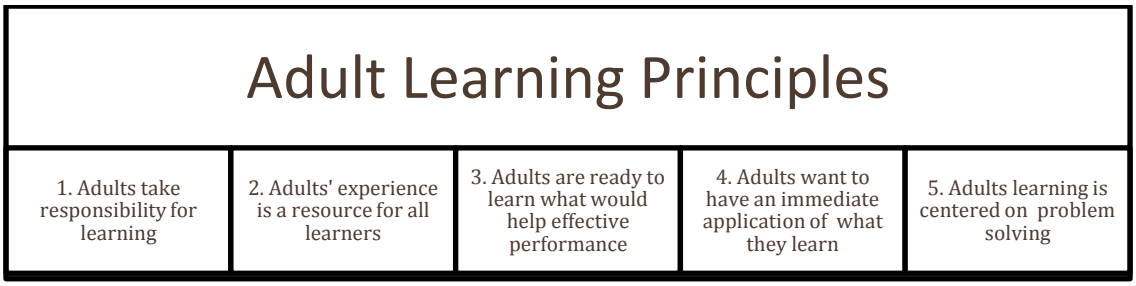

FIGURE 1: ADULT LEARNING PRINCIPLES

While there are undeniable benefits from training the workforce, understanding and monitoring the impact such training has in the organization is critical; yet little is done to evaluate the organizational impact of training. Most agencies have limited funding and limited resources to put in place training programs, and those resources must be carefully and strategically used to address the needs of the organization. When it comes to evaluating training, the literature points to the "Kirkpatrick Model", also known as the "four levels" model of training evaluation, shown in Figure 2 below:

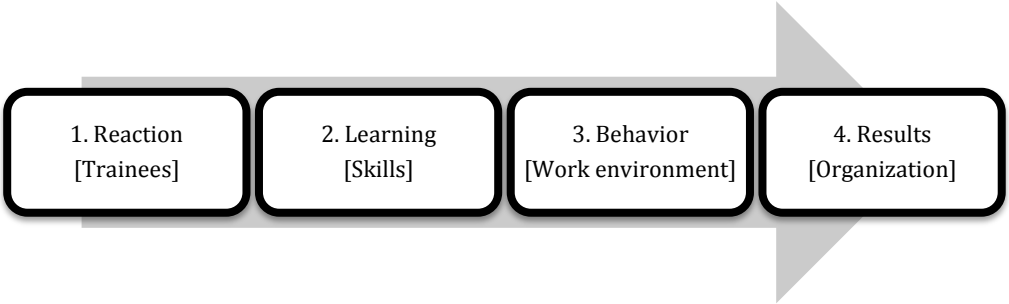

FIGURE 2: THE KIRKPATRICK MODEL OF TRAINING EVALUATION

- Level 1: Evaluating learners' satisfaction with the training,
- Level 2: Evaluating the Learning: the principles, facts and techniques learned,
- Level 3: Evaluating the changes in job behavior that resulted from the training, and,
- Level 4: Evaluating the organizational results, in terms of cost reduction, quality and quantity improvements.

But the literature consistently points out that even resourceful private companies rarely use the fourth level of training evaluation, which sums up the results the company actually receives from training its workforce. Public health is no different; however, the time may have come to take a stronger stand to learn more about training effectiveness. If national forces and new movements like the public health accreditation are engaging public health into developing and implementing a workforce development plan, determining effective methods and the gain an agency makes with that investment must be central to the effort.

To provide an additional infrastructure to train the public health workforce, the Public Health Training Centers (PHTC) program was funded under the Prevention and Public Health Fund of the Affordable Care Act. The goal of the program is to improve the Nation's public health system by strengthening the technical, scientific, managerial, and leadership competence of the current and future public health workforce (Health Resources and Services Administration). Currently, thirty seven PHTCs are funded by the Health Resources and Services Administration (HRSA) and serve virtually all jurisdictions in the United States. The mission of the PHTCs is to improve the Nation's public health system by strengthening the technical, scientific, managerial, and

leadership competence of the current and future public health workforce, and use their funding to provide and track training to public health. In a 2004 report (Anonymous), the fourteen PHTCs funded reported offering or developing over five hundred competency-based training courses that were received by over 100,000 public health workers from state and local health departments. While the PHTCs have been in existence for over twelve years, and could have a direct and unique role in the training and evaluation of the public health workforce, no reports or written documentation was found to indicate progress on that end.

On the other hand, at least twenty five states (see list in Appendix 1) and three other organizations (HRSA, CDC, and the Medical Reserve Corps) use the same learning management system, sponsored and maintained by the Public Health Foundation: TRAIN ("TrainingFinder Real-Time Affiliate Integrated Network"). TRAIN is a web-based, nationwide learning management network for public health, safety, and emergency preparedness organizations. TRAIN also allows the creation of individual, groups and organization-wide training plans, along with training registration, reminders, pre and post- tests, training certificates tracking and evaluation. While not all the PHTCs are using TRAIN as a learning management system, they might be using similar software and are likely using some system to evaluate training.

TRAIN was developed in 2003, and its database has steadily grown and as of September 2012 reportedly contains over 29,000 course listings from over 4,000 providers of training. One key element that TRAIN may have over other systems is that it was created with the public health goals in mind, and in fact allows tracking both, the Core Competencies for Public Health Professionals and the Public Health Preparedness

and Response Core Competencies. This feature is of particular importance given that health departments are required to offer, track and report preparedness-specific training, like Incident Command System (ICS) courses taken by all staff. Similarly, health departments applying for public health accreditation must demonstrate the use of Core Competencies for public health professionals as evidence and part of their workforce development plan.

TRAIN is a robust learning management system and provides a wide array of tools that can be of tremendous help in public health. For example, mandatory employee orientation courses can be designed and set to be completed within the first six months of hiring. Lists of individuals and groups are available and can be used for tracking agencies' progress in training and staff development. From a manager's perspective, TRAIN can produce a number of useful reports, including lists of training registrants, registrants that have completed or are pending the completion of evaluations, lists of group and individual training plans, lists of training courses by provider, or by topic; lists of registrants pending to complete the evaluation, lists of employees completing ICS 100 mandatory course, and more.

TRAIN can also manage pre and posttests for any course. A set of questions can be loaded in the system and be made a requirement as part of the registration process. Likewise, completing the posttest can be required before completing the course. A set of questions for training evaluation purposes can also be built in TRAIN. Both, the pre and post tests, as well as the training evaluation, can be of tremendous value for agencies to assess and demonstrate the value of the training and use in the preparation of future training plans. In TRAIN, individual training plans can serve as an additional

tool for performance reviews, and be a discussion point and/or agreement between employee and supervisor.

Having a number of public health agencies using the same tool (TRAIN), offers a number of opportunities with respect to training and staff development tracking. At minimum, they have the same tools available through the TRAIN network, and tracking and management reporting consistency is possible. In addition, agencies have a TRAIN "Administrator" who usually works along with other individuals to create and track courses in TRAIN, to monitor training completion, to validate users' accounts, and to generate reports, among other tasks. As any other group, TRAIN Coordinators are part of a network and interact with each other on an ongoing basis via their listserv, at their annual conference, and also via e-publications, workgroups and frequent conference calls. Together, the listserv and the network of TRAIN Coordinators are an important component of the national workforce development infrastructure for public health. However, each agency seems to use TRAIN's features differently. While the network was created to provide sufficient flexibility to meet the unique needs of Affiliates, there is great variation in emphasis with which agencies use training plans, evaluations, pre and post assessments, and it appears the group expects to keep that flexibility, at least in the short term. Regardless, having this group using the same learning management system appears to be an unexplored resource for researchers.

The unanswered questions about training evaluation in public health are the foundation of this study's problem statement. Despite a common structure in terms of a learning management system such as TRAIN, and despite recommendations

from reputable sources such as the Institute of Medicine (IOM) reports that argue for a prepared workforce to properly execute the ten essential services of public health, the effects of training that undoubtedly take place in public health are largely unmeasured, uncertain, insufficiently explored, and in legitimate need of attention.

C. STUDY QUESTIONS

As a discipline, public health is interested in exploring efforts to evaluate training offered to public health workers. Recently, research agendas relative to the study of workforce development have been developed and published, and support is surfacing around this issue from a number of key partners, including the Robert Wood Johnson Foundation (RWJF) (Anonymous2012, S72-S78). With this in mind, following is the proposed question to respond to the problem statement:

What approach are "TRAIN" affiliates taking to evaluate public health training?

Related questions to respond with this study include:

a. ***Do Affiliates have a workforce development plan and have a training strategy?***
b. ***Are adult learning principles used in trainings offered by Affiliates?***
c. ***What tools, models or methods are Affiliates using to evaluate training?***
d. ***What role does TRAIN play in measuring training?***

e. What TRAIN features could further assist Affiliates to evaluate training?

f. Which levels of the Kirkpatrick model of training evaluation are Affiliates using?

g. What is preventing Affiliates to better measure the results of training?

For purposes of this work, the definitions that will be used in this study are included below.

- "Training" is defined as an organized, directed learning opportunity that addresses any of the ten essential services of public health, and encompasses one or more of the eight public health Core Competencies, and is likely tracked using TRAIN and takes place at a TRAIN Affiliate participating in the study.
- A "TRAIN affiliate" is an agency that is using TRAIN for purposes of public health training and is considered part of the TRAIN network administered by the Public Health Foundation.
- A "public health worker" refers to individuals with training in public health or a related discipline who are employed to improve health through a population focus (Institute of Medicine 2003b) such as epidemiologists, toxicologists, case workers, nurses, as well as individuals who perform administrative and clerical duties necessary for the execution of the ten essential public health services, such as financial administrators, data entry clerks, and information specialists (Kennedy and Moore 2001, 17;22)

- A "public health agency" is defined as a local, state, or tribal department of health, or other federal or quasi-federal agency that supports the goals of public health, executes the essential services of public health, and functions within the governmental structure in the United States.
- A "governmental public health workforce" is defined as the body of government employees working for a public health organization that are performing work to meet the ten essential services of public health. For purposes of this study, we refer to as the "public health workforce", with the understanding that it is the "governmental" public health workforce.

D. Leadership Relevance

Developing the workforce is one of the essential services of public health, and understanding the results of training and preparing our workforce should help justify investments and influence policy change. This study seeks to begin the work to do just that. We posit that leaders in the public health profession should take a stronger role to improve the status of staff development and training offered to public health workers.

While efforts are made to measure the impact of key public health services (surveillance, disease epidemiology, environmental investigations, regulations, policies), scarce investments are made to measure the impact of the training we offer to our employees. Fortunately, there is a national movement towards consistent investments in educating the workforce. Studies have offered models to enumerate and

classify the workforce (Sumaya 2012, 469-474), estimate the number of professions and professionals working in public health, compare and contrast the government employees' compensation levels (Association of State and Territorial Health Officials 2011), and even formulate models to not only prepare the workforce for the current jobs, but to establish a career progression path (Koo and Miner 2010, 253-269). Notably, the Public Health Accreditation Program, launched in 2011, requires the development and annual update of a staff training and development plan, and numerous agencies are working towards the achievement of the accreditation goal.

Important work that is already starting around the improvement of workforce development must be assembled in a meaningful, continuum effort. Support from the Public Health Training Centers (PHTCs) should go beyond course creation, and training delivery, tracking and promotion, and could advocate work towards an increased use and implementation of Core Competencies. National or regional models of training needs assessment tools should be tested, aiming future implementation of a consistent strategy. Evaluation tools should be identified, tested, simplified and widely disseminated to public health agencies. Consistency on training evaluation strategies should be encouraged at the national and local level. A national research and evaluation agenda should be set, supported and maintained. Training in public health should be of high quality, should use adult learning principles, and utilize proven evaluation models. Models and frameworks should be identified or designed and provided to agencies. Training should elevate the preparation of the profession, which in turn protects and promotes the public's health. However, unanswered questions abound. Is training resulting in increased capabilities of our employees? Is the training addressing the

public health Core Competencies? Are we offering training that our employees can put in practice in their job in the short term? Are new skills making us more effective and/or more efficient? Is the workforce effectively moving forward the public health agenda, and contributing to the essential services, and is that the result of better preparation? And if we want to go even further, are we getting our return on investment (ROI) from the few, precious dollars we are able to scrape from tight budgets to use for training purposes?

The leadership challenge is to foster a system that not only documents the existence of a workforce development/training plan, but also measures the learning that takes place, the public health workers' satisfaction with the training, and at a much higher level, evaluates the impact of the training on the employee behavior and on the public health organization as a whole. This study seeks to explore and document the current practices and barriers to evaluate public health training in the studied TRAIN Affiliates, and bring this knowledge to the body of public health literature. With all these factors in mind, this dissertation proposes to add and/or further support aspects of the public health workforce development national research agenda.

II. CONCEPTUAL AND ANALYTICAL FRAMEWORK

A. LITERATURE REVIEW

To provide background on the issues and challenges to develop the public health workforce, this review of the literature begins summarizing aspects of the merit or civil service system which guides most of what a public health agency does in terms of training and human resources. Next is a review of the literature around characteristics of public health leaders that become and stay in public service, followed by a description of the robust literature that calls for a stronger national and local structure to develop the public health workforce. Finally, the review covers conceptual frameworks, adult learning principles and models of training evaluation.

Within the organizational structure, of consideration are the advantages and restrictions placed by the merit system, which is mostly characterized by a unionized environment. The merit system that is in place today in federal and state government has its origins after the Civil Service Reform Act (CSRA) passed by Congress in 1978 created a Senior Executive Service (SES), with the rationale explained by this statement: *"… to provide the people of the United States with a competent, honest, and productive Federal workforce reflective of the Nation's diversity, and to improve the quality of public service, Federal personnel management should be implemented consistent with merit system principles and free from prohibited personnel practices"*(United States Office of Personnel Management). The idea behind it was to establish a consistent system that would equally apply principles to protect the employees, provide equal pay and establish a uniform system for hiring, training, and performance based on merit. So what advantages and disadvantages is the merit system bringing to government? From

the Merit Principles Survey (United States Merit Systems Protection Board 2008) (MPS), which the federal government conducts periodically since 1983, at least two workforce areas needing training have been identified:

- *Job satisfaction, skills utilization or adequacy of training and resources need a boost*. Sixty eight (68) percent of the employees feel that their skills and abilities are put to good use at work, while many others feel that their expertise is underutilized, and/or the resources and training needed to succeed in their jobs are absent.
- *There is need to increase effective supervision.* A sizable proportion of employees report job satisfaction is related to the supervisor's management ability, and in general distrust supervisors to take personnel actions (rating applicants, making selections, setting pay, taking adverse action) fairly and effectively.

These findings add to the evidence that supervisors and managers working in government can greatly benefit from training. As recommended by the MPS, individuals should receive meaningful and challenging assignments for which they are prepared, should be offered opportunities for leadership training, and should strengthen employee performance management, especially in the areas of evaluation and feedback, and addressing poor performance.

Moving on to the level of preparation of the public health workforce, the literature is robust and consistent about the quality, preparedness and future of the public health workforce concerns, especially in the last few years. In "The Future of the Public's Health in the 21st Century" (Institute of Medicine 2003a), the Institute of Medicine (IOM) identifies six main areas of action and change, which include

"strengthening the governmental public health infrastructure, which forms the backbone of the public health system". The IOM states that "today, a majority of governmental public health workers have little or no training in public health" and further recommends that governmental public health agencies should develop strategies to ensure workers demonstrate mastery of the core public health competencies, authorities should designate funding to periodically assess the preparedness of the public health workforce and document the training necessary to meet basic competency expectations, and a prioritization of leadership training, support and development should take place. However, having a public health workforce that is competent continues to be an enormous challenge (Gebbie and Turnock 2006, 923-933) although in 2000 Healthy People identified the public health workforce as a key component of the US public health infrastructure. The specific concerns related to workforce include insufficiently prepared workers, and inadequate work organization incentives that recognize and reward skill enhancement and demonstrated performance. This might be complicated because a strong public health team is usually composed of a variety of workers, including physicians, nurses, epidemiologists, environmental specialists, health educators and community outreach workers, in addition to fiscal administrators, managers and human resource specialists. Achieving this diversity adds another element of difficulty in making the public health workforce a competent one, especially in light of the fact that the actual public health formal training is scarce, as reports suggest that only one in five professionals working in a public health agency have the MPH degree (Gerzoff RB and Richards TB 1997, 50-6).

The need and value of training the public health workforce is sufficiently documented; however, training must be effective especially when government budgets are receiving significant cuts. In consequence, considering an effective training program is vital to its success. When consulting the literature, at least three factors that affect training are identified (Mitchell 1994, 199):

a) The required job: its design, selection, performance of employee, flexibility of organization and employee;

b) The individual and learning: before the training, on the job training, after training development, barriers to performance; and,

c) The organization and results: organizational goals, local goals, goals of training, cultural environment.

But how do we evaluate training? In this regard, the literature largely turns to the use of the Kirkpatrick Model (Kirkpatrick 1979, 78-92) and offers a wide array of examples where this model is applied. Kirkpatrick proposes "four levels" of training evaluation, to evaluate participants' reactions, participants' learning, participants' behaviors and ultimately measure organizational results. The first two levels or phases are often evaluated, but the participants' behaviors and organizational results present complexities that require more resources and strong commitment on the part of the organization. In fact, studies (Mitchell 1994, 199) have concluded that several years and several assessments of skill use and organizational performance are necessary before the organization can know the real value of its training investment. As a result, training programs are usually evaluated only in the first two (short term) components while the long-term impact of the training is not formally assessed or not measured at all.

While little is known about the organizational impact of the training public health provides, virtually all state health agencies conduct their own in-house training (Association of State and Territorial Health Officials). One key advantage of using this model of in-house training is its cost effective; however, knowing if skills are acquired and applied is a more complicated matter. Based on the literature, the ideal model to achieve an effective learning should include the five Adult Learning Principles (Knowles 1978):

a) self-concept: adults have a self-concept of being an adult and take responsibility for planning and managing their learning with help from others;
b) experience: adult learners offer a background of experience that is valuable resource for all learners;
c) readiness: adults are ready to learn what they believe contributes to an effective performance and higher level of achievement;
d) time perspective: must be able to apply the new concepts in the immediate future; and,
e) adults' orientation to learn is centered on problem solving.

The concept behind it is that adults (defined as seventeen and older, according to Knowles) learn differently (science called "andragogy") than children (science called "pedagogy"); and to effectuate learning adults must be interested and involved in the learning process, be able to immediately apply the skills learned, contribute with their own experiences and offer problem solving opportunities.

The literature offers sufficient evidence for models that could and should structure the development of a public health workforce. The Dreyfus model of skills acquisition, originally created for the field of technology, has been adopted by others in academia and in-service educators as a useful model for curriculum design. This model argues that individuals go through a few stages in the learning continuum, from the more basic entry level to a more advance level of competence. The model is proposed in an expanded version for public health (Koo and Miner 2010, 253-269) (see Dreyfus model graph in Appendix 2) and in fact propose concrete examples as to how this model applies to public health practice (see Table in Appendix 3). With this expanded model in mind, authors offer a three-tiered approach that includes the Dreyfus model of professional skills progression, along with competency-based education and adult learning principles to achieve an outcome-based workforce development strategy (Koo and Miner 2010, 253-269) (see figure in Appendix 4).

Studying and framing the workforce development must consider the overall structure of public health. In this respect, researchers have already begun to describe and frame public health as a system. A framework that describes the macro context of the public health system depicts the interconnectedness between the mission/purpose of public health, the structural capacity to conduct the ten essential public health services and proposes three main outcomes: effectiveness, efficiency and equity as the basis for measuring system performance (Handler, Issel, and Turnock 2001, 1235-1239) (graph in appendix 5). One conceptual model for workforce development (Kennedy and Moore 2001, 17;22)presents the workforce as an outcome that results from the structures and processes that surround the public health system (see graph in

appendix 6). A closer analysis to the issue of workforce development proposes a systematic approach that includes three components: the work, the worker and the work organization, that together seek to achieve three overall outcomes: effectiveness, efficiency and satisfaction (Quinones 2001, 351-353) (graph in appendix 7).

B. Conceptual Framework

With the foundation provided by the relevant literature, this work proposes a logic model format as a conceptual framework to seek answers to the question of "what approach are TRAIN affiliates taking to evaluate public health training?".

The proposed Logic Model is meant to creatively connect the work of two authors that include workforce development in the context of public health. The first paper has the key components of a public health system, with its mission and purpose as well as structural capacity. In this model, the public health system has processes to implement the ten essential services of public health, including workforce development, which should result in three specific outcomes: efficiency, effectiveness and equity (Handler, Issel, and Turnock 2001, 1235-1239), as shown in Figure 3 below.

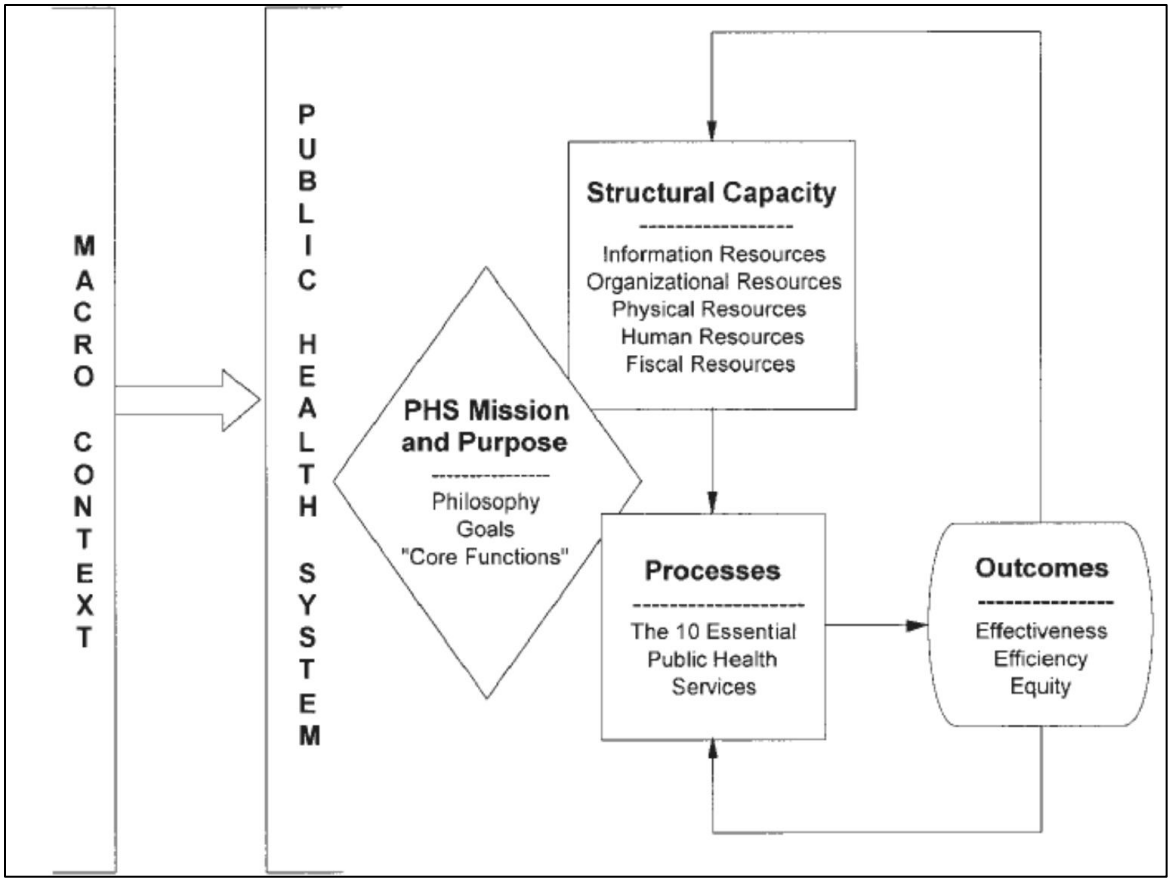

FIGURE 3. PUBLIC HEALTH SYSTEM FRAMEWORK

The second paper offers a Workforce Conceptual Model (Kennedy and Moore 2001, 17;22) with a *Competent Workforce* as the outcome. In this model, ***training*** is a ***process*** in both areas of the framework: workforce management, as well as workforce education, as shown in Figure 4 below.

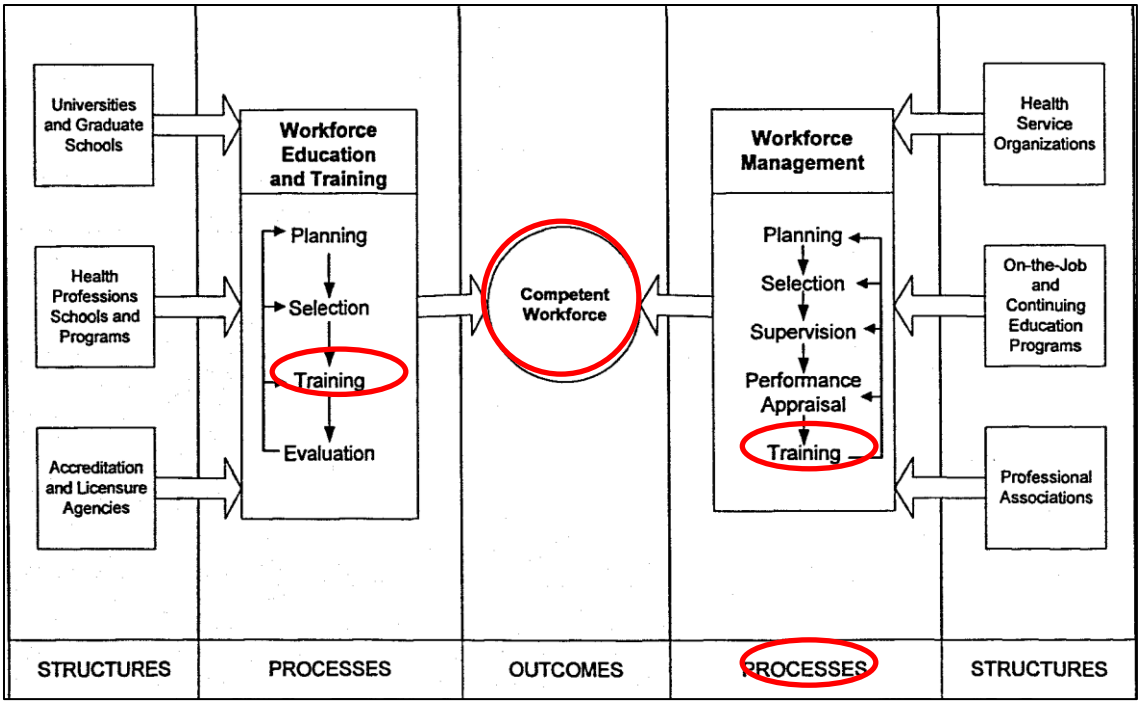

FIGURE 4. CONCEPTUAL MODEL

One can infer that evaluation is implicit in these two models, since the ten essential services do include the evaluation of programs and processes, and evaluation is included as a process this second model, although in the context of formal education. For purposes of this study, these models serve as the catalysts to place *training evaluation* as an activity in the large framework of public health. With this foundation, the study proposes a Logic Model called *"Public Health Training Evaluation"*, as shown on Figure 5 below. This Logic Model includes the adult learning principles, and the Kirkpatrick's model for training evaluation. Inputs in the Logic Model include the public health Core Competencies developed by the Council on Linkages between Practice and Academia (COL) that are already in place, TRAIN as the learning management system, and the support from federal and national partners. Activities

include the training needs assessment that is required as part of the Accreditation preparation, as well as the design of training evaluation tools. Outputs, or products of the activities are the Workforce Development Plan and the reports generated from the training activities.

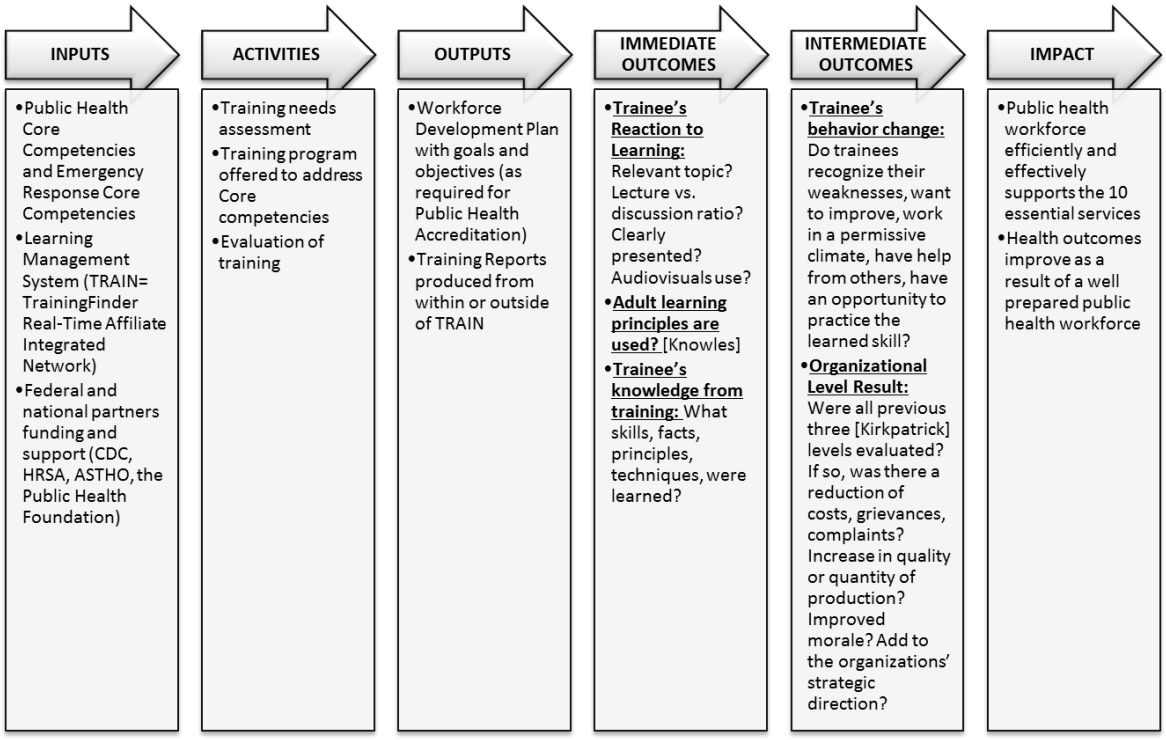

FIGURE 5. STUDY LOGIC MODEL

With those ***outputs***, the Logic Model arrives to the ***short term outcomes*** and propose using Kirkpatrick's four levels of training evaluation (1. trainees' reaction, 2. trainees' knowledge, 3. trainees' behavior change and 4. organizational results), including measurement of Knowles' adult learning principles in the evaluation of the trainees' reaction (Kirkpatrick level 1). ***Intermediate outcomes*** are considered those that gauge changes in trainees' behavior. After successfully evaluating the first three

levels of Kirkpatrick's model, organizations should be equipped to determine organizational level results, such as cost saving, increased efficiencies, and to the extent that a trained workforce is helping advance the strategic direction of the agency. Lastly, the ***overall impact*** of having a prepared workforce should efficiently and effectively influence the ten essential public health services, resulting in health outcomes improvement, public health's ultimate goal.

As stated elsewhere in this proposal, the study seeks to measure and describe current efforts to evaluate public health training, and propose an informed, robust research agenda around the development of the public health workforce.

III. METHODS

A. STUDY DESIGN

This work involves primary and secondary data collection in a retrospective, mixed methods study aimed to describe the approaches TRAIN Affiliates use to evaluate public health training. TRAIN (TrainingFinder Real-Time Affiliate Integrated Network) is a web-based system, primarily used for public health training, and is sponsored by the Public Health Foundation (PHF). Agencies using TRAIN are called "Affiliates", and have an ongoing relationship with the PHF as the well-functioning of the system is a common goal, and system's enhancements are constantly being done. As of June of 2013, twenty eight agencies are considered "Affiliates" and are using TRAIN as their learning management system for tracking, monitoring and reporting on training offered to public health professionals.

TRAIN is a robust learning management system. It contains over 29,000 course listings that users can search for and access, mostly at no cost. Users can track their training overtime and even upload training certificates from non-TRAIN courses, thus having their training transcript always up to date, and in the same place. TRAIN also has a conference registration feature to track attendance to large events, and a survey feature that allows capturing and summarizing responses to surveys administered through the system. Perhaps most importantly, TRAIN allows the creation of "groups" and "training plans". Employees can be grouped by division, program, unit or any category the agency deems necessary, and reports can be generated to assess the level of training each group has accessed. Likewise, "training plans" can be created for a

given topic and "assigned" to group of employees in a unit. This tool allows, for example, assigning a training plan to new employees upon hiring to complete required courses such as HIPAA (Health Insurance Portability and Accountability Act), and Incident Command System (ICS) and monitor their completion through report generation at any point in time.

TRAIN is a flexible system for course tracking. Course Providers can include pre and post tests and also include required evaluations the user must complete before the system considers the course complete and includes the training in the user's transcript. Course Providers differentiate "assessments" as quizzes users can take to measure the understanding of the material presented in the training, versus "evaluations" that gather users' feedback regarding the class presentation, location, method, etc. TRAIN features allow tracking completion of assessments and evaluations for each course offered through TRAIN, and could facilitate a systematic, agency-wide data collection and training evaluation analysis.

Given TRAIN's robustness and feature availability, this study seeks to understand and describe the TRAIN Affiliates' practices with regards to evaluation of public health training. The study uses a mixed design based on the approach described by Maxwell (Maxwell 2005). Using Maxwell's model, the study research question, along with the goals, framework, methods and validity are depicted in Figure 6.

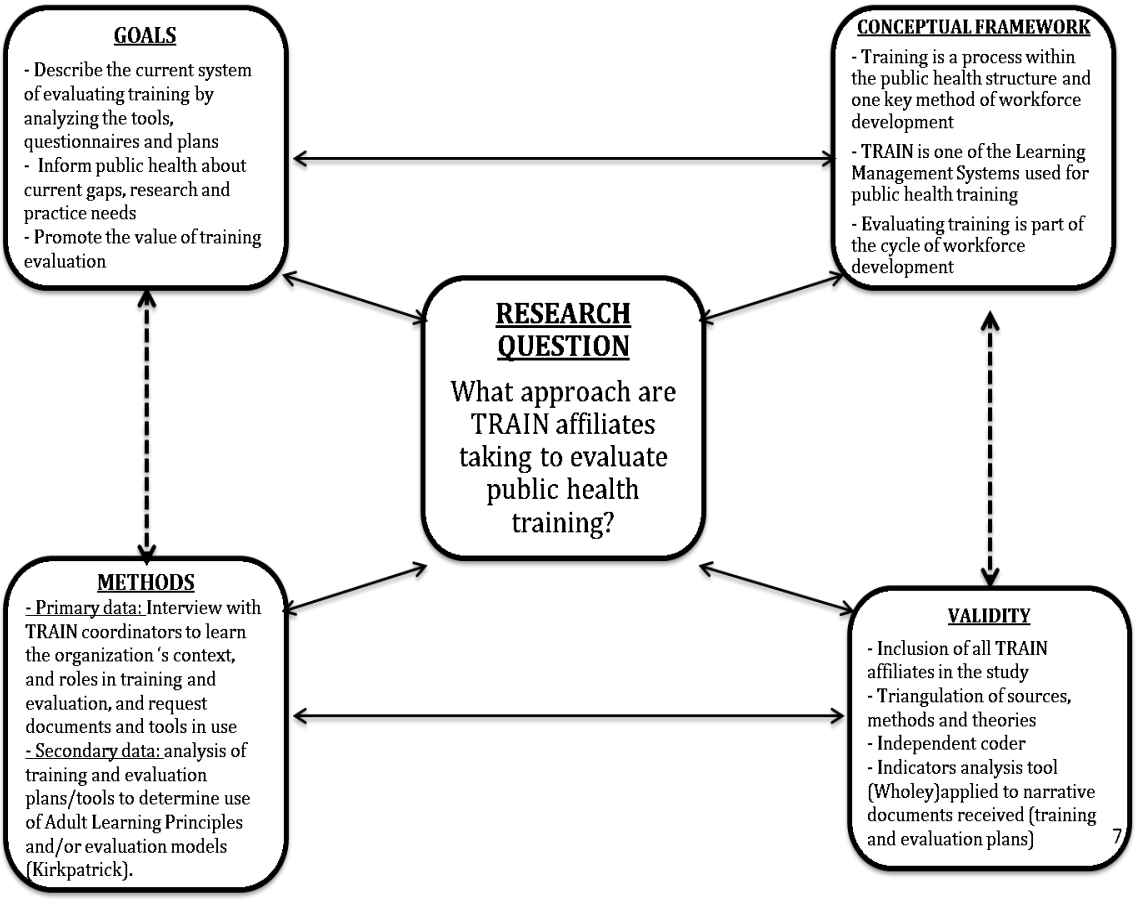

FIGURE 6. PROPOSED RESEARCH MODEL

Data collection, analyses and findings of this study are grouped and presented using a structured study scheme, shown in Table I. This scheme draws upon the sequence and units within the study's Logic Model shown on the first column. The second column includes key questions from the interview tool designed to address the corresponding Logic Model component, and the rightmost column connects the data sources where responses will be drawn from.

	LOGIC MODEL	STUDY QUESTIONS	DATA SOURCES
ACTIVITIES	a. Training needs assessment b. Core competencies	· How is training and staff development handled in the agency? · How does the agency identify the training needs of the staff? · How does the agency use the Public Health and/or the Emergency Preparedness Core Competencies in TRAIN? · Are instructors teaching courses aware of the Core Competencies?	Interviews with the TRAIN Administrator and contact with the Performance Improvement Manager and/or Accreditation Coordinator from the state agency.
OUTPUTS	a. Workforce Development Plan with goals and objectives (as required for Public Health Accreditation) b. Reports produced from within and outside of TRAIN	· Has the agency prepared a training plan or workforce development plan as a result of the training needs assessment? · What reports does the agency run from TRAIN, how often, for what purpose?	Interviews with Performance Improvement Manager and/or Accreditation Coordinator, and lists of the reports or types of reports used by the TRAIN Administrator
IMMEDIATE OUTCOMES	**Trainees' Reaction to Learning:** Relevant? Lecture vs. discussion ratio? Clearly presented? Audiovisuals use? **Trainees' knowledge from training:** What skills, facts, principles, techniques were learned? [Kirkpatrick levels 1 and 2]	· How are courses evaluated? · Who would be responsible for the evaluation of courses? · What type of evaluation tools has the agency used?	Surveys, evaluations, questionnaires, pre and post-tests, other evaluation tools (focus groups, etc.) used by the TRAIN Administrator and/or Course Providers from the participating Affiliates
INTERMEDIATE OUTCOMES	**Trainees' behavior change:** [Kirkpatrick level 3] Do trainees want to improve, recognize their weaknesses, work in a permissive climate, have help from others, have an opportunity to practice the learned skill?	· Is staff in general doing better as a result of the training the agency offers? ·	Interview with TRAIN Administrator and Performance Improvement Manager and/or Accreditation Coordinator, and analysis of evaluation tools received from the participating Affiliates
IMPACT	**Organizational Level Result:** [Kirkpatrick level 4] Were all other levels evaluated? If so, was there a reduction of costs, grievances, complaints? Increase in quality or quantity of production? Improved morale?	· Does the agency know if training is making an impact on staff, the work or the agency as a whole? · Should the agency be doing more to evaluate training? · What has prevented the agency from doing more?	Review of agency-wide evaluation tools, surveys, assessments, performance measures, Strategic Plan

TABLE I. STUDY SCHEME AND SEQUENCE CONNECTED TO LOGIC MODEL IN FIGURE 5

B. SAMPLING STRATEGY

In order to make the study feasible and meaningful, administrative data was used to select a sample from the universe of twenty eight TRAIN Affiliates. Data collected by the Association of State and Territorial Health Officials (ASTHO) reported by the State Departments of Health and assembled into the "ASTHO Profile of State Public Health, Volume Two" (2010) report was used. Using this information, five categories of agencies were identified using their structure and relationship they have with the Local Health Departments (LHDs):

- Centralized: the state where the state health agency retains authority over most decisions relating to budget, public health orders, and the selection of local health officers.
- Decentralized: a state where local health units are led by employees of local governments, and local governments retain authority over certain decisions.
- Mixed relationship with their LHDs: a state where some local health units are led by state employees and by local government employees, and no one arrangement predominates.
- Shared relationship with their LHDs: a state where local health units may be led by state or local government employees. If led by state employees, local government can make fiscal decisions. If led by local employees, the state health agency retains authority over most decisions related to budget, public health orders and the selection of local health officials.

- Have no LHDs: a state where the state health agency is responsible for the state jurisdiction without local health agencies.

Next, the Public Health Foundation, as sponsor of TRAIN and given their experience using the system since its inception, was consulted for additional ways to group the Affiliates. Upon analysis and consultation, five of the twenty eight Affiliates were excluded from the group, as they are significantly different in function, role, resources and purpose from all other Affiliates, which are state health departments. These five exclusions were the three federal partners, one agency that works closely with an academic entity (Arizona), and the Center for Biopreparedness Education (Nebraska).

With these data at hand, the Affiliates were grouped by the type of relationship they have with their LHDs, as detailed in the ASTHO report. This categorization is shown in Table II below, and include three Centralized, and thirteen Decentralized state health agencies, three agencies with no LHDs, three agencies that have a shared relationship with LHDs and one with a mixed of sharing and centralized relationship with LHDs.

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STATE	Relationship with LHDs	# LHDs	# Employees	FY2009 Expenditures
Arkansas Department of Health	Centralized	94	2,809	$ 325,926,535
New Mexico Department of Health	Centralized	34	4,032	$ 400,092,427
Virginia Department of Health	Centralized	2	3,898	$ 534,794,644
Colorado Department of Public Health and Environment	Decentralized	54	1,224	$ 508,455,737
Connecticut Department of Public Health	Decentralized	80	816	$ 232,118,704
Idaho Department of Health and Welfare	Decentralized	7	206	$ 86,281,389
Illinois Department of Public Health	Decentralized	96		$ 361,745,000
Kansas Department of Health and Environment	Decentralized	100	260	$ 207,215,389
Michigan Department of Community Health / Michigan State Police	Decentralized	45	535	$ 693,644,200
Minnesota Department of Health	Decentralized	52	1,414	$ 450,858,580
Ohio Department of Health	Decentralized	127	1,196	$ 621,479,046
Oregon Health Authority	Decentralized	34	680	$ 206,682,619
Texas Department of State Health Services	Decentralized	62	12,104	$ 2,873,015,908
Utah Department of Public Health	Decentralized	12	1,057	$ 185,833,200
West Virginia Department of Health and Human Services	Decentralized	49	749	$ 215,913,718
Wisconsin Department of Health Services	Decentralized	92	407	$ 131,127,379
Oklahoma Division of Public Health	Mixed	2	2,101	$ 346,560,074
Delaware Health and Social Services	No LHDs	0	645	$ 84,695,497
Hawaii State Department of Health	No LHDs	0	2,677	$ 688,596,343
Rhode Island Department of Health	No LHDs	0	365	$ 122,192,176
Florida Department of Health	Shared relationship	67	15,364	$ 2,196,115,426
Kentucky Department for Public Health	Shared relationship	57	431	$ 385,928,798
Wyoming Department of Health	Shared relationship	4	1,485	$ 65,572,021

TABLE II. LIST OF TRAIN AFFILIATE AGENCIES ELIGIBLE FOR THE STUDY

Upon further discussion, the Dissertation Committee also suggested to exclude the agency where the researcher currently works, to simply avoid any possible or

perceived study bias. With this last exclusion, a total of twenty two Affiliates were on the list of potential study participants, as shown in Table III below.

Agency Type		# of Affiliates in the Group
Centralized		3
Decentralized	Small	3
	Medium	6
	Large	4
Mixed relationship with LHDs		1
Shared relationship with LHDs		3
No LHDs		3
Excluded from the study		5
TOTAL		28

TABLE III. NUMBER OF AFFILIATES TO CONSIDER FOR THE STUDY, BY CATEGORY

The 23 Affiliates were prioritized considering the potential interest and willingness from the TRAIN Administrator to participate in a study of this magnitude, the extent to which the Affiliate uses TRAIN, (heavy user, intermediate user, light user) and the number of years the Affiliate has been using TRAIN. The goal was to include a variety of Affiliates, among large and small agencies, new and old users, heavy and light users, and a mix of the types of agencies in relationship to their LHDs. As a result of this analysis, one Affiliate per category was prioritized to be contacted first to request their participation in the study. Note that in six of the seven categories there was more than one Affiliate to select from.

In November 2013, upon approval from the Institutional Review Board (IRB) to conduct the study (see appendix 8), the seven prioritized Affiliates were contacted via

electronic mail as indicated in the protocol. Affiliates were given two weeks to provide a response, and if no answer was received during that time, a reminder email was made first, followed by a telephone call. After these follow up contacts, four of the seven prioritized Affiliates declined participation, and only one agreed to participate. The two remaining Affiliates didn't respond and were given more time before the next follow up since a holiday vacation was soon approaching.

Given that more than 50% of the seven prioritized agencies declined, it was clear that study enrollment was going to be more challenging than expected. After discussion and with the dissertation advisor's approval, all fifteen non-prioritized Affiliates were then contacted in mid-December 2013. The goal was to gain participation from at least one agency in each category, and contacting the remaining Affiliates at the same time would give each agency enough time to respond after the December holiday. Early in January all Affiliates whose response was pending were contacted first via electronic mail and then via telephone calls and by the end of January a total of seven Affiliates agreed to participate in the study, two didn't respond after multiple contacts, and thirteen declined. The now participating Affiliates were distributed in five of the seven categories originally formulated (Affiliates with no LHDs and with a mixed relationship with their LHDs are not represented in the study). As a result, there are four Affiliates that have a decentralized relationship with their LHDs, this being the largest category with study participants. Each participating Affiliate was assigned a numerical code based on the order in which they became part of the study. The category they belong to and the numerical code assigned to each are shown in Table IV below.

Agency Type based on relationship with LHDs	# of Participating Affiliates	Codes Assigned
Decentralized	**4**	AFF1, 2, 4 and 5
Shared relationship	**2**	AFF3 and 6
Centralized	**1**	AFF7
TOTAL	**7**	

TABLE IV. PARTICIPATING AFFILIATES BY CATEGORY

C. DATA COLLECTION

Data collection from the seven study participants included three major components, as depicted in Figure 7 below.

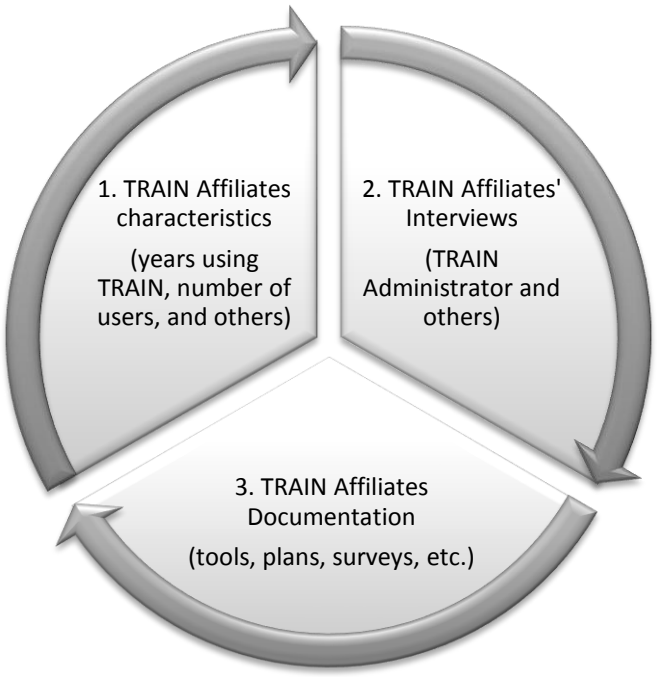


FIGURE 7. STUDY'S DATA COLLECTION COMPONENTS

1. TRAIN AFFILIATES' CHARACTERISTICS

The secondary data used for this section of the study was originated from three datasets from the TRAIN system that were specifically requested from the Public Health Foundation, after a careful consideration of the data dictionary posted on their website (see appendix 9). The datasets are:

- Dataset 1: Demographics on TRAIN Learners (Jan 2003- Feb 2014)
- Dataset 2: Information on TRAIN Courses and Competencies (Jan 2003- Feb 2014)
- Dataset 3: Courses by Competencies and Professional Roles (Jan 2003-Feb 2014)

The content of the data request was discussed with the PHF and detailed in the Data Use Agreement or "DUA" (see appendix 10). See the listing in Table V below.

	Dataset 1: Demographics on TRAIN Learners
1	User ID
2	Title
3	County
4	City
5	State
6	Zip
7	Country Name
8	Education Level
9	Sex
10	Ethnicity
11	Race
12	Birth date
13	Primary language
14	Secondary language
15	User Status (active/inactive)
16	Course Provider ID
17	Organization
18	Job Roles
19	User Work Setting

20	Date account created
	Dataset 2: Information on TRAIN Courses and Competencies
1	Competency Name
2	Course ID
3	Course Name
4	Status: Active/Inactive
5	Expiration Date
6	Organization/Sponsor
7	Course Description
8	Course Format
9	Skill level
10	Registration deadline
	Dataset 3: Courses by Competencies and Professional Roles
1	Competency Name
2	Professional Roles
3	Number of Courses
4	Number of Learners
5	Credit Type
6	Evaluation Complete [indicator]
7	Pre-Assessment (Percentage)
8	Approval date

TABLE V. DATA FIELDS FROM THE PHF'S 3 DATASETS

Upon acceptance to participate in the study, each of the seven participating Affiliates gave their written authorization to the PHF to release data to the researcher. The Data Use Agreement (DUA) was prepared, signed and submitted to IRB as an amendment. Once IRB approval was granted on March 17, 2014 (see appendix 11), the PHF released data in electronic format, via email and using Dropbox.com. Each of the datasets was saved in the researcher's personal computer, and another copy was saved in a flash drive and is locked in a filing cabinet at the researcher's office.

Data released from the Public Health Foundation was received in csv format, in separate files for each participating Affiliate. In total, three datasets per Affiliate were received, for a grand total of twenty one separate files to be considered for the study. Like all other files and records received for purposes of the study, data were saved both in a flash drive placed in a locked location in the researcher's office, as well as in the researcher's personal computer. The data files were not saved in Google Drive because of the large size; however, a private account in www.dropbox.com was opened to save all the data files.

Datasets from csv format were imported into Microsoft (MS) Excel 2010 and later transferred to MS Access 2010 for ease of manipulation. Each dataset was used to run different queries, depending on the data content. Queries were constructed in MS Access first for dataset 1. All queries were tested multiple times throughout the analysis and preparation of summaries to ensure the numbers were accurate, and the content was the most useful to help respond the study question. An MS Access expert was consulted also several times during the data analysis and preparation, to verify the queries were properly constructed for each file. Once the queries were verified, they were run on each of the six remaining files for dataset 1 and in some cases data needed to be further cleaned, so queries were run more than once.

The same process was conducted for dataset 2. Unfortunately, dataset 3 containing the courses' Core Competencies and learners that have taken the courses was setup in a format that made analysis very difficult, which would need tedious and time-consuming review, and would add little to the study. Given these difficulties, and after discussions with the PHF and some of the participating Affiliates, it was decided to

exclude dataset 3 from the study; therefore, data presented here is generated from the Learners and Courses datasets, 1 and 2, respectively.

The data analysis began with dataset 1. This "Learners" dataset contained initially 316,363 records and was first queried for identical emails linked to more than one user account, to identify potential duplicates. This method resulted in a large volume of potential duplicates, especially for one Affiliate that had over 19,000 records meeting such criteria. When consulted, the Affiliate indicated that in the past the agency allowed Course Providers to create user accounts using a batch process. Reportedly, the batch process didn't confirm if learners already had an account in the system and that practice contributed in great part to the thousands of duplicate accounts. Additionally, the Public Health Foundation clarified that some Affiliates require users to share email accounts for purposes of signing into TRAIN. Hence, not all of the records identified through this query were actual "duplicate" accounts in all Affiliates. Regardless of the "type" of duplicate (created by the user, by a batch process or a shared email account), resolving or merging the duplicates in a timely manner was not feasible. Although TRAIN does have a merge tool to resolve duplicates, each Affiliate decides and selects their own business rules to merge records, further confirming that no one electronic solution would help resolving the potential duplicates, and human intervention by each of the Affiliates would be needed. Given this situation, the participating Affiliates were contacted and asked if interested in receiving the data extract containing the "potential" duplicates so they could resolve those duplicate accounts when time and resources allow. Some Affiliates were interested in receiving them and others didn't respond to our offer in time to include the answer in this study.

Upon consideration of the data nuances just described around the potential duplicate records, all records identified through the duplicate query were excluded from the analysis. In total, 32,146 (of the 316,363) records were removed from Dataset 1. Next, the revised Dataset 1, containing 284,217 records, was queried to describe some characteristics of each Affiliate. It is important to note that Learners are also "Active" or "Inactive," and 13,629 records were found to be "Inactive", leaving 270,588 "Active" Learners. Characteristics to analyze from each Affiliate include:

1. Number of learners (active, without duplicate emails) in the Affiliate state, as well as outside of the home state and outside of the US.
2. Number of learners who chose to check the box for "stay informed", which allows an almost one-click process to send group emails to all learners registered in a course.
3. Number of Course Providers (individuals with more access to the system to create courses)
4. Number of learners by the year in which they created their account
5. Number of learners by Educational Level

Similar to dataset 1, dataset 2 was queried several ways to determine the most useful query to get from the Courses information contained in this dataset. Dataset 2 was found to contain multiple records of the same course, so each dataset was first queried to ensure one course was included only once, and resulted in 18,903 courses for all seven Affiliates. However, upon further examination of the dataset, and again in

consultation with the Public Health Foundation, it was found that there is a large volume of courses that are nationally available to all states, therefore are repeated in each Affiliate dataset. Another query was then designed to ensure that those courses are not repeated in each of the separate Affiliates' counts. With this in mind, all unique courses for all seven participating Affiliates were merged into one file, and a query was run to identify courses that were in all the states. A total of 12,400 courses were found to be common among the seven Affiliates. The breakdown of these courses is shown in Table VI as follows:

	Unique count of courses	**x**	**Total**
Courses in all seven Affiliates	1,747	7	12,229
Courses in six Affiliates	11	6	66
Courses in three Affiliates	3	3	9
Courses in two Affiliates	48	2	96
TOTAL	**1,809**		**12,400**

TABLE VI. Number of Courses found in more than one Affiliate from Dataset 2

Since these 12,400 courses were available to all the Affiliates in the nation, they were removed from the dataset to only examine the courses that were posted in TRAIN by the individual Affiliates. Dataset 2 now included a total of 6,503 records, which were queried for further analysis. All queries in Dataset 2 were done using the Active/Inactive status of the Courses (see detailed definitions of Active/Inactive Courses in Appendix 12). A total of 614 Courses had "Inactive" status, leaving 5,889

"Active" courses. Both, Active and Inactive courses could be "expired", if they don't have an upcoming session scheduled at the time when the data was extracted. For this reason, the quality of being "expired" was not considered in the queries done with these data. Likewise, Inactive courses were removed from the count because either their content is no longer updated or for some other reason they are not going to be used in the future. It was decided not to include them in the denominator of courses "available" to users.

Considering the purpose of the study, the most useful queries to run were as follows:

1. Number of active courses, by the format in which it is offered (web, seminar, etc.)
2. Number of active courses by the users' skill level (introductory, intermediate, advanced)

2. TRAIN Affiliates' Interviews

The study collected primary data through an interview tool that was designed to bring contextual information about the strategy agencies use to handle training and staff development, resources available, intent and preparation to apply for public health accreditation and efforts to evaluate the training staff receive. The interview tool (see Appendix 13) included a cover letter (Appendix 14) informing individuals about their

rights, and assuring to only share aggregate results and to maintain the confidentiality of individuals' names and agencies. This interview tool was piloted in the researcher's state agency in August 2013, and was modified and streamlined as a result of that pilot. After these revisions, the interview tool contained a total of forty nine questions, distributed into five sections.

Once an agency agreed to participate in the study, the TRAIN Administrator received the interview tool and was offered the option to respond in writing or via teleconference. The TRAIN Administrator was also asked if others in the agency should be part of the interview and if so, to choose between an individual or group interview. Every interviewee contacted was given the opportunity to ask any questions relevant to the study at the time of the contact as well as before and after the interview. Two individuals were contacted separately at each agency for the interview: the TRAIN Administrator and the Performance Improvement Manager. The TRAIN Administrator is responsible for maintaining and monitoring TRAIN for the agency, has full access to the system, controls content accessibility to manage learners and groups, assigns permissions and roles within the system, schedules learning events, approves courses, manages registrations, generates reports, posts resources, announcements, surveys, and create evaluations, among other tasks. The Performance Improvement Manager (PIM) is responsible for preparing the agency to apply for Public Health Accreditation should the agency decide to do so. Primary responsibilities include preparation of accreditation pre-requisites[1], completion of a self-assessment against the PHAB Standards and Measures, setup a performance management system, and

[1] The three PHAB pre-requisites are the Community Health Assessment, Community Health Improvement Plan and the Strategic Plan.

implementation of quality improvement initiative to increase efficiency and effectiveness (McLees et al. 2014, 29-35). The PIM was selected to be interviewed because of the key role this individual plays in the accreditation process, as it relates to the preparation and implementation of the agency's Workforce Development Plan (required by Domain 8 of the Public Health Accreditation Standards and Measures) describing the strategy for training and staff development and the training schedule for the agency.

The interview tool was setup in nine sections, each section with a few questions containing from two to eleven questions, for a total of forty nine questions in the questionnaire, including the wrap up section. The TRAIN Administrator was asked to respond to all forty nine questions, and the PIM were not asked to respond to sections 4 and 5 which were essentially about the functions of the TRAIN Administrators. Interviewees were given a choice with regards to the method to respond to the questionnaire. If the teleconference was preferred, they were asked permission to do an audio recording of the conversation, and the recording was transcribed no later than forty eight hours after the call. All interviewees who agreed to talk via teleconference also agreed to do the audio recording of the conversation, which was conducted utilizing a free conference call service. In all instances, the call lasted no more than one hour; a second note taker was present only in one recorded telephone interview solely for the task of taking notes. If they chose to respond in writing, the interviewees were emailed the questionnaire and in some cases reminders were sent out. After the written responses were received, some were contacted via email to clarify or get more context on some questions and the revised responses were included in one single document for

each interviewee or group of interviewees. All interviewees received a handwritten 'thank you' card mailed to their work address after the interview.

TRAIN Administrators from the seven participation affiliates were contacted and one chose to include a second person from the agency in the interview, which makes a total of seven interviews with eight individuals. Five of these interviews were conducted via teleconference (total of six individuals participated), and two responded in writing. From the seven PIMs, three responded via teleconference, and three in writing, the remaining one didn't respond although multiple contacts were made.

The audio recordings, as well as the written interviews received from the participants and transcribed from the recordings were named with the Affiliate code (i.e., "AFF1", "AFF2", etc.) and saved in the researcher's personal computer, in the Google Drive, and a third copy saved in a flash drive that is in a locked cabinet in the researcher's office. The study collected a total of thirteen interviews. If recorded, the tape was reviewed and transcribed using MS Word within forty eight hours from the interview. If clarifications were needed after, the interviewees were contacted and responses were assembled in the same file. The documents for each interview were printed, the file saved using the assigned code for the participating agency (i.e., AFF1, AFF2, etc.) in the researcher's personal computer as well as in Google Drive.

Qualitative data analysis software (NVivo version 10) along with MS Excel 2010 was used for interviews' data analysis. First, an Excel file was set up with six separate tabs. Two of the tabs contain a summary of the organizations structure (number of LHDs, number of years using TRAIN, etc.) and contacts (telephone numbers and email addresses of interviewees), and the remaining tabs contain a quick summary of the

interview questions. This file was created to allow a quick view and comparison among Affiliates' responses for each section of the interview, and thus facilitates rows counting and identification of topics by Affiliate agency for the researcher's use. A partial screen shot of the file is included in Figure 8 below.

0	Interviewee title	TRAIN Administ. Responsibilities	expansion/modifications?	Other resources available for TRAIN	How agency engages staff in TRAIN	Most used TRAIN features	Use of TRAIN training plans	Using TRAIN well?
Aff1	TRAIN Administrator	Grants permissions, provides training, provide online training, helpdesk, assist course providers, works with IT	Would be good to have only TRAIN responsibilities; also manages PH emergency operation center, logistics cordinator, learning mgr coord,	Course providers trained to assist each area and work with SME	HR requires some training for new employees, so then employees will contact helpdesk to get help; TRAIN coordinator takes opportunity to engage managers to create and upload more trainings and save money by offering online courses	Course creation, online training uploads	Yes, HR assings a training plan for preparedness sgroup to get NIMS compliance	Getting better every day and getting others to see the benefit of using it; train others (hospitals, LHDs) to track training and give them permissions
Aff2	TRAIN Administrator	Trains provider users, course providers and admin users; responds to requests; assists all	works well as is	IT offers a server space	Use TRAIN for almost all trainings offered by aency; present TRAIN at the new employee orientation each month	Manage user accounts and courses	Some course providers do, but TRAIN administrator doesn't	think so
Aff3	TRAIN coordinator	TRAIN is only part of my job; I create courses, helps review and approve courses, is assigned some projects sporadically (roll out agencywide HIPAA training)	IF culturally there was a greater value placed on employee training, it would be good to expand the role of Coordinator	One overall TRAIN Administrator, and one other TRAIN Coordinator	TRAIN Coord. Conducts orientation for employees in the agency that covers mandatory and elective trg for new employees; also have an Intranet page. Employees have access to TWO OTHER LMS that are independent of each other	Create and track courses, but also I'm a fan of the training plans, sends an invitation to new employees to create an account, monitor onboarding process during their first month in the agency.	Yes, use is increasing and finding it more useful, so using it more now	Perhaps; also planning to use the survey tool within TRAIN, also uses conference feature to track enrollment

FIGURE 8. PARTIAL VIEW OF THE INTERVIEW TOOL ANALYSIS IN MS EXCEL

The next step was to analyze the interview content using NVivo version 10. First, each of the interviews files was imported into NVivo as documents to analyze. Then the coding scheme was created starting from the predetermined (a priori) codes. The two first interviews were fully coded and then carefully examined to review the coding

scheme before continuing coding. Based on the review, the coding was substantially modified. Some codes were renamed, rearranged and others were added to better reflect the data content.

Once the coding was reorganized, a code book for the data was prepared, printed and saved. The remaining interviews were coded as they were completed. The code book is shown in Figure 9 below.

2/14/2014 2:18 PM

CODEBOOK Angeloni

ACCRED. IMPACT	Node	Nodes\\ACCRED. IMPACT
Workforce Dev. Plan	Node	Nodes\\ACCRED. IMPACT\Workforce Dev. Plan
EVALUATION PRACTICES	Node	Nodes\\EVALUATION PRACTICES
Core Competencies	Node	Nodes\\EVALUATION PRACTICES\Core Competencies
Course Providers	Node	Nodes\\EVALUATION PRACTICES\Course Providers
Eval. Barriers	Node	Nodes\\EVALUATION PRACTICES\Eval. Barriers
Eval. Responsibility	Node	Nodes\\EVALUATION PRACTICES\Eval. Responsibility
Eval. Tools	Node	Nodes\\EVALUATION PRACTICES\Eval. Tools
ORGANIZATIONAL CHALLENGES	Node	Nodes\\ORGANIZATIONAL CHALLENGES
Internal Collaboration	Node	Nodes\\ORGANIZATIONAL CHALLENGES\Internal Collaboration
Org-wide	Node	Nodes\\ORGANIZATIONAL CHALLENGES\Org-wide
TRAIN USE	Node	Nodes\\TRAIN USE
Administrator Duties	Node	Nodes\\TRAIN USE\Administrator Duties
Reporting	Node	Nodes\\TRAIN USE\Reporting
Technical Features	Node	Nodes\\TRAIN USE\Technical Features
Training Plans	Node	Nodes\\TRAIN USE\Training Plans
TRAINING+STAFF DEV.	Node	Nodes\\TRAINING+STAFF DEV.
Perceptions Trg-StaffDev	Node	Nodes\\TRAINING+STAFF DEV.\Perceptions Trg-StaffDev
Requirement	Node	Nodes\\TRAINING+STAFF DEV.\Requirement
Training Needs Assess.	Node	Nodes\\TRAINING+STAFF DEV.\Training Needs Assess.

Reports\\CODEBOOK Angeloni Page 1 of 1

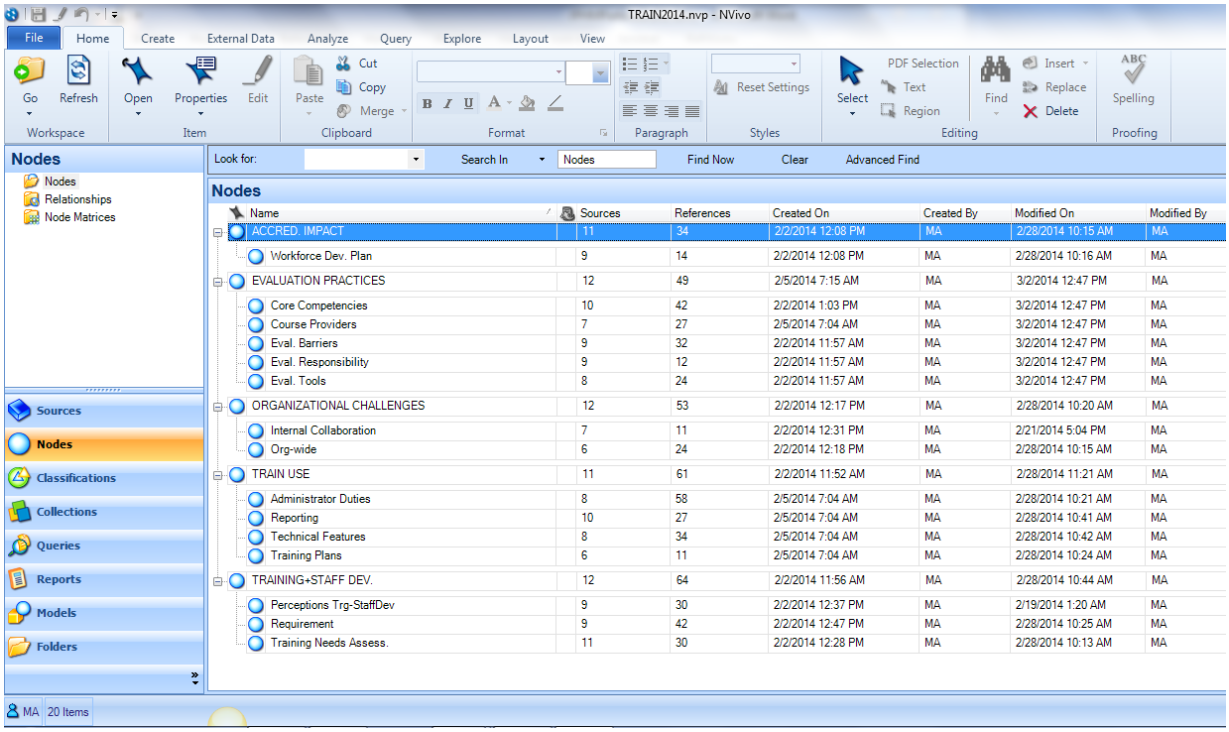
FIGURE 9. NVIVO-GENERATED REPORT OF THE CODING SCHEME

For ease of understanding, the codes created for the data analysis are explained in Table VII below.

#	Node	Explanation
1	**Accreditation Impact**	Related to the Public Health Accreditation program for public health agencies
2	Workforce Development Plan	Related to the workforce development plan required for Accreditation
3	**Evaluation Practices**	Related to the practices that agencies report with respect to training evaluation
4	Core Competencies	Related to the Core Competencies from the Council on Linkages between Academia and Public Health Practice. Core Competencies could be the "public health Core Competencies" or the "public health preparedness and response Core Competencies"
5	Course Providers	Related to "course providers" [individuals with special rights in TRAIN to create courses in the system], their responsibilities, challenges, issues, expectations
6	Evaluation Barriers	Related to barriers reported to conduct training evaluation
7	Evaluation responsibility	Related to the entity/individuals with responsibility on training evaluation
8	Evaluation tools	Related to the tools used for training evaluation
9	**Organizational Challenges**	Related to the challenges public health organizations face with respect to training, staff development and others
10	Organization-wide issues	Related specifically to issues that are affecting public health agencies organization-wide
11	Collaboration	Related to aspects and barriers of collaboration among and within public health agencies and staff
12	**TRAIN Use**	Related to the use of TRAIN as a system
13	Administrator duties	Related to the duties assigned to a TRAIN Administrator
14	Reporting	Related to tools, practices and barriers to use reporting from TRAIN
15	Technical Features	Related to any technical issues, benefits and challenges of using TRAIN
16	Training plans	Related to the methods, practices, barriers and challenges of using the feature of "training plans" within TRAIN
17	**Training and Staff Development**	Related to training and staff development practices in public health organizations
18	Perception of training and staff dev.	Related to reported perceptions regarding training and staff development
19	Requirements	Related to any requirements about courses and other things within training and staff development
20	Training needs assessments	Related to the training needs assessments conducted to identify training needs within a public health agency

TABLE VII. NVIVO NODES EXPLANATION

A snapshot of the initial coding done by the researcher in NVivo 10 with all the sources and nodes is included in Figure 10 below.



Name	Sources	References	Created On	Created By	Modified On	Modified By
ACCRED. IMPACT	11	34	2/2/2014 12:08 PM	MA	2/28/2014 10:15 AM	MA
Workforce Dev. Plan	9	14	2/2/2014 12:08 PM	MA	2/28/2014 10:16 AM	MA
EVALUATION PRACTICES	12	49	2/5/2014 7:15 AM	MA	3/2/2014 12:47 PM	MA
Core Competencies	10	42	2/2/2014 1:03 PM	MA	3/2/2014 12:47 PM	MA
Course Providers	7	27	2/5/2014 7:04 AM	MA	3/2/2014 12:47 PM	MA
Eval. Barriers	9	32	2/2/2014 11:57 AM	MA	3/2/2014 12:47 PM	MA
Eval. Responsibility	9	12	2/2/2014 11:57 AM	MA	3/2/2014 12:47 PM	MA
Eval. Tools	8	24	2/2/2014 11:57 AM	MA	3/2/2014 12:47 PM	MA
ORGANIZATIONAL CHALLENGES	12	53	2/2/2014 12:17 PM	MA	2/28/2014 10:20 AM	MA
Internal Collaboration	7	11	2/2/2014 12:31 PM	MA	2/21/2014 5:04 PM	MA
Org-wide	6	24	2/2/2014 12:18 PM	MA	2/28/2014 10:15 AM	MA
TRAIN USE	11	61	2/2/2014 11:52 AM	MA	2/28/2014 11:21 AM	MA
Administrator Duties	8	58	2/5/2014 7:04 AM	MA	2/28/2014 10:21 AM	MA
Reporting	10	27	2/5/2014 7:04 AM	MA	2/28/2014 10:41 AM	MA
Technical Features	8	34	2/5/2014 7:04 AM	MA	2/28/2014 10:42 AM	MA
Training Plans	6	11	2/5/2014 7:04 AM	MA	2/28/2014 10:24 AM	MA
TRAINING+STAFF DEV.	12	64	2/2/2014 11:56 AM	MA	2/28/2014 10:44 AM	MA
Perceptions Trg-StaffDev	9	30	2/2/2014 12:37 PM	MA	2/19/2014 1:20 AM	MA
Requirement	9	42	2/2/2014 12:47 PM	MA	2/28/2014 10:25 AM	MA
Training Needs Assess.	11	30	2/2/2014 12:28 PM	MA	2/28/2014 10:13 AM	MA

FIGURE 10. SCREEN SHOT OF NODES AND SOURCES CODED IN NVIVO 10

All coding was studied and analyzed several times, while being coded, then to summarize findings, and then at the time of writing the report.

The coding scheme and interview data were sent to another researcher in a NVivo file to conduct a second independent coding of the data. All data were coded and once received, both coded sets were analyzed using the NVivo software, "coding comparison" feature that provides the level of agreement and disagreement among coders, as well as the Kappa coefficient. The results of this comparison is generated for

each node (code) and for each source (interview) in the dataset, as shown in a partial screen shot included in Figure 11 below.

Node	Source	Source Folder	Source Size (in # of characters)	Kappa	Agreement (%)	A and B (%)	Not A and Not B (%)	Disagreement (%)	A and Not B (%)	B and Not A (%)
EVALUATION PRACTICES	AFF1 PIM	Internals	11359	0.9984	99.98	5.94	94.04	0.02	0.01	0.01
EVALUATION PRACTICES	AFF1 TA	Internals	30569	0.4525	96.3	1.63	94.67	3.7	3.24	0.46
EVALUATION PRACTICES	AFF2 TA	Internals	14967	0.9539	99.84	1.69	98.15	0.16	0	0.16
EVALUATION PRACTICES	AFF3 PIM	Internals	14095	0.617	99.06	0.77	98.28	0.94	0.94	0
EVALUATION PRACTICES	AFF3 TA	Internals	26584	0.846	99.14	2.44	96.7	0.86	0.51	0.35
EVALUATION PRACTICES	AFF4 PIM	Internals	8106	0.4789	97.74	1.07	96.67	2.26	2.26	0
EVALUATION PRACTICES	AFF4 TA (2)	Internals	31236	0.7949	98.5	3.04	95.46	1.5	0.18	1.32
EVALUATION PRACTICES	AFF5 PIM	Internals	17515	1	100	1.03	98.97	0	0	0
EVALUATION PRACTICES	AFF5 TA	Internals	2054	1	100	1.61	98.39	0	0	0
EVALUATION PRACTICES	AFF6 PIM	Internals	25713	0.8062	98.82	2.56	96.26	1.18	0.6	0.59
EVALUATION PRACTICES	AFF6 TA	Internals	30588	0.9991	99.99	3.71	96.29	0.01	0.01	0
EVALUATION PRACTICES	AFF7 PIM	Internals	6215	1	100	0	100	0	0	0
EVALUATION PRACTICES	AFF7 TA (2)	Internals	25989	0.9159	99.52	2.68	96.84	0.48	0.48	0

FIGURE 11. SCREENSHOT OF CODING COMPARISON OF TWO CODERS.

The percent agreement and disagreement in the coding of each node is used to calculate the Kappa coefficient, which in turn helps interpret the level of agreement between the coders, using the interpretation from the software, shown in Table VIII below.

Kappa Value	Interpretation
Below 0.40	Poor agreement
0.40 – 0.75	Fair to good agreement
Over 0.75	Excellent agreement

TABLE VIII. KAPPA VALUE INTERPRETATION

Also important is to note that the overall Kappa value of the entire dataset was calculated and resulted as 0.769, indicating excellent agreement between coders. The

Coding Comparison report generated by NVivo was exported to Excel 2010 to calculate the Kappa values for:

1) All data sources (interviews) in each node, weighted (by number of characters in each source) and non-weighted average
2) Overall weighted and non-weighted average

The results from this calculation for each of the 20 nodes are presented in Table IX below.

	NODE	NON-WEIGHTED				WEIGHTED			
		KAPPA COEFFICIENT BY NODE	KAPPA INTERPRETATION	AGREEMENT	DISAGREEMENT	KAPPA COEFFICIENT BY NODE	KAPPA INTERPRETATION	AGREEMENT	DISAGREEMENT
1	ACCRED. IMPACT	0.8898	Excellent	99.4792	0.5215	0.8619	Excellent	99.2551	0.7459
2	ACCRED. IMPACT\Workforce Dev. Plan	0.7449	Fair-Good	99.5531	0.4462	0.7043	Fair-Good	99.4982	0.5006
3	EVALUATION PRACTICES	0.8309	Excellent	99.1454	0.8554	0.8145	Excellent	98.9389	1.0629
4	EVALUATION PRACTICES\Core Competencies	0.8025	Excellent	99.0946	0.9062	0.8076	Excellent	98.9010	1.0995
5	EVALUATION PRACTICES\Course Providers	0.8993	Excellent	99.7854	0.2169	0.8916	Excellent	99.6507	0.3523
6	EVALUATION PRACTICES\Eval. Barriers	0.8479	Excellent	99.4831	0.5169	0.8796	Excellent	99.4878	0.5122
7	EVALUATION PRACTICES\Eval. Responsibility	0.7396	Fair-Good	99.7869	0.2138	0.7400	Fair-Good	99.7697	0.2310
8	EVALUATION PRACTICES\Eval. Tools	0.7838	Fair-Good	99.5523	0.4469	0.7900	Fair-Good	99.4616	0.5373
9	ORGANIZATIONAL CHALLENGES	0.7008	Fair-Good	98.1077	1.8946	0.6559	Fair-Good	97.8033	2.1996
10	ORGANIZATIONAL CHALLENGES\Internal Collabo	0.7428	Fair-Good	99.7554	0.2446	0.7622	Fair-Good	99.7512	0.2488
11	ORGANIZATIONAL CHALLENGES\Org-wide	0.5852	Fair-Good	99.0185	0.9808	0.5696	Fair-Good	98.5537	1.4458
12	TRAIN USE	0.7236	Fair-Good	98.2077	1.7923	0.7143	Fair-Good	97.8926	2.1075
13	TRAIN USE\Administrator Duties	0.8590	Excellent	99.1115	0.8892	0.8354	Excellent	98.7215	1.2792
14	TRAIN USE\Reporting	0.8603	Excellent	99.5062	0.4938	0.8474	Excellent	99.2571	0.7429
15	TRAIN USE\Technical Features	0.9120	Excellent	99.6608	0.3392	0.8913	Excellent	99.5117	0.4883
16	TRAIN USE\Training Plans	0.7394	Fair-Good	99.6862	0.3131	0.7384	Fair-Good	99.4976	0.5011
17	TRAINING+STAFF DEV.	0.6968	Fair-Good	97.5315	2.4685	0.6505	Fair-Good	96.9171	3.0827
18	TRAINING+STAFF DEV.\Perceptions Trg-StaffDev	0.4532	Fair-Good	97.6992	2.2992	0.4960	Fair-Good	97.5826	2.4153
19	TRAINING+STAFF DEV.\Requirement	0.7918	Excellent	99.1854	0.8146	0.7899	Excellent	99.0202	0.9798
20	TRAINING+STAFF DEV.\Training Needs Assess.	0.7627	Excellent	98.8654	1.1346	0.7702	Excellent	98.7792	1.2198

TABLE IX. KAPPA COEFFICIENT CALCULATED BY NODE, WEIGHTED AND NON-WEIGHTED BY SIZE SOURCE

Using the Kappa value interpretation, these results indicate Fair-Good and Excellent agreement in all the nodes. However, the researcher decided to conduct a more in depth review of the notes with a Kappa value less than 0.70, which are shown in red in the table above. Note that only three nodes were in that category using the non-weighted average, and one additional node appeared when using the weighted average.

Next, the four nodes with a Kappa value less than 0.70 were analyzed. A report for each coder for each of the nodes was generated from NVivo, and each set of coded nodes was carefully compared. Then, the number of references were manually compared and counted to identify where the agreement and disagreement was found. The two coders reviewed the nodes that were differently coded and reached an agreement on how they should be coded. Results of this analysis are shown in Table X below.

NODE	Coder 1 References					Coder 2 References				
	Total coded	**Same as coder 2**	**Coded same text**	**Reviewed and agreed**	**Other coded**	**Total coded**	**Same as coder 1**	**Coded same text**	**Reviewed and agreed**	**Other coded**
Organizational Challenges	53 (100%)	36 (68%)	6 (11%)	6 (11%)	5 (10%)	42 (100%)	36 (86%)	2 (5%)	3 (7%)	1 (2%)
Organization-wide issues	24 (100%)	14 (58%)	4 (17%)	6 (25%)	0	19 (100%)	14 (74%)	1 (5%)	3 (16%)	1 (5%)
Training and Staff Dev. Issues	64 (100%)	24 (38%)	16 (25%)	15 (24%)	8 (13%)	32 (100%)	24 (75%)	7 (22%)	0 (0%)	1 (3%)
Training and Staff Dev. Perceptions	29 (100%)	17 (58%)	4 (14%)	2 (7%)	6 (21%)	41 (100%)	17 (41%)	10 (24%)	11 (27%)	3 (8%)
TOTAL COLUMNS	**170**	**91 (54%)**	**30 (18%)**	**29 (17%)**	**19 (12%)**	**134**	**91 (68%)**	**20 (15%)**	**17 (13%)**	**6 (4%)**
Total agreement		**150 (88%)**					**127 (96%)**			

TABLE X. RESULTS OF THE RE-ANALYSIS OF 4 NODES WITH KAPPA LOWER THAN 0.70.

The results of this re-analysis can be summarized as follows:

- The two coders initially shown agreement on the coding of 54% and 68% of the four nodes

- A number of references were coded in the same node and the same text, except that one coder selected a larger or smaller section of the paragraph. Since review of these codes was meant for the same nodes, the codes were added to the agreement column. These references accounted for 18% and 20% of the coded nodes, for coder 1 and coder 2, respectively.
- The remaining codes were reviewed and the two coders agreed that the text was correctly coded in that node. These references accounted for an additional 17% and 13% of the coded nodes, for coder 1 and coder 2, respectively.
- There were some references that both coders agreed to remove from the nodes, and those references accounted for 12% and 4% of the coded nodes for coder 1 and coder 2, respectively.
- Finally, the coders' agreement for the four nodes was calculated and shown in the last row of Table X, as 88% and 96%.
- Additionally, after the discussion between the two coders, it was agreed that renaming one of the nodes would have clarified the coding and facilitated the analysis, and hence the node originally called "Training and Staff Development" was agreed to be renamed as "Training and Staff Development *Practices*", which is how the node was intended to be used.

Given the complexity of the formulas and the potential risk to damage data by revising the coding in the software, the Kappa value of the revised dataset was not calculated. However, the agreement between the two coders for these nodes was reached after a thorough review and discussion of the nodes and therefore the

agreement is as shown, above 88%, which corresponds to a high Kappa value and excellent coders' agreement. Next step in the data analysis was to begin identifying the themes that arose from the coding. To do this, a list of the initial themes emerging from each of the interview set of questions was prepared, and is included in Table XI below.

Interview section	# of questions	Initial Themes
1. General context about training and staff development	6	• Centralized training function is not the norm • Lack of training support and buy in: leadership, staff, budget • TRAIN Administrator is usually part time or overcommitted • Required courses policies, training modalities
2. Accreditation plans, impact and workforce development plan	3	• Accreditation is regarded as beneficial, because it is the impetus to prepare the workforce development plan and fostering training • TRAIN Administrator is getting involved in training discussions • Agencies are developing workforce development plans
3. Training needs assessment	2	• No uniformity of tools used, frequency, process; ideas for future plans, tools, content, purpose, application are generated • Partnerships assist with design of (voluntary) training needs assessments • Need staff and management buy in to improve current methods
4. TRAIN Administrator responsibilities	8	• Administering TRAIN is only one of many assignments, including training course providers, posting and approving courses, providing technical assistance, helpdesk, creating training plans, evaluations, assessments • Conduct trainings (i.e., new employees orientation)
5. TRAIN use, process, policies, barriers	6	• Decentralized management of TRAIN; open enrollment for internal and external audiences • Moving from face-to-face to online training • Mandatory vs. non-mandatory training: mixed feelings • TRAIN features training and enhancements are desirable • Need the buy in to expand use of TRAIN agency wide; TRAIN is used mostly by individual programs/units • Basic training courses are often mandatory
6. Evaluation practices, tools, barriers	11	• Evaluations are at the discretion of the Course provider or the training sponsor to meet certification/grant requirements • Assessments are widely used, evaluations are not; both are encouraged • No agency-wide, standard evaluation at any agency. At most, evaluation for courses that are in TRAIN • Not known mechanism/practices to analyze evaluation findings • Post-evaluations 3-6 months after the training are voluntary, producing no responses • Lack of time, support, buy in, expertise to implement evaluation strategy
7. Core competencies	4	• Not widely used, because they are considered impractical to apply • Even when required, difficult to connect to course offerings
8. Reports use, process, frequency	4	• Rare use of reports • Reports run mostly for data cleanup, course rosters, list of attendees, percent of staff completing training • Difficulty using the ad hoc reporting tool; training is desirable
9. Review / wrap up	5	• Nothing to add
TOTAL	**49**	

TABLE XI. INITIAL THEMES, BY INTERVIEW SECTION

3. TRAIN Affiliates' Documentation

The last component of the study data includes a set of documents agencies currently have that could further inform the study with regards to how training is setup and evaluated, plans for doing so, and any reports and current tools used to evaluate training. These documents were identified throughout the interview, and for those responding in writing a follow up email or telephone call was made to inquire about them. Specifically, the documents requested included:

a) Lists and/or samples of the reports they usually run from the TRAIN system;

b) Surveys or questionnaires they use to evaluate the courses they offer; and

c) Workforce Development or Training Plans, if they exist, whether they are in draft form or final version.

The TRAIN Administrator was asked about reports and evaluation tools, and the PIM was asked about the Workforce Development Plan, since they have the knowledge and direct access to the Plan, if one is available. TRAIN Administrators were asked about reports they use, whether those are generated by the TRAIN or any other system, and we learned that Affiliates are only using TRAIN as the report generation tool. Administrators were asked to name and give the purpose of reports they most frequently run, and they readily named the few they use. All Affiliates reported using the report generation tool from TRAIN and mainly using reports to verify information on the courses and users, and print course rosters. Some of them use reports to see completion of training plans embedded in TRAIN for mandatory training, such us Incident Command System and other general courses such as Confidentiality, Sexual

Harassment and HIPAA rules. All Affiliates reported working on a Workforce Development Plan as a product they must have for accreditation, and two agencies shared their plan that was in draft or final form.

There was substantial difficulty to get the evaluation tools from the Affiliates, because of several reasons. First, Affiliates generally don't have standard tools to evaluate training. Second, states are structured with one central TRAIN Administrator and many "Course Providers" who create courses and are encouraged, but not required, to produce a training evaluation. Hence, Course Providers may or may not use an evaluation, they may not use evaluations for all the courses, and they may use several tools to evaluate the courses. Third, evaluations could include identifiable information about the course instructors, attendees, and specific agencies, which would have been difficult to redact for purposes of the study. Fourth, there is a high number of Course Providers among the seven Affiliates, and enlisting their participation would have been difficult. Fifth and perhaps more importantly, the PHF indicated that to release this type of data required a separate Data Use Agreement, likely with permissions from the individual Course Providers of each course and from the Affiliates. In addition, evaluation data is only available on a per course basis, so only the network developer would have been able to generate these data, and perhaps at a cost.

Given the large number of Course Providers involved with the seven Affiliates, this turned out as a challenge bigger than expected. For all the reasons above stated, the action taken was to contact TRAIN Administrators and ask them to select one or two of the more frequent Course Providers in their state to voluntarily release the evaluation tools they have used in the last six months to evaluate training.

After reminders and repeated contacts with the TRAIN Administrators, the documentation available to the study included evaluation forms from four Affiliates, and Workforce Development Plan from two Affiliates, as listed on Table XII below. It is important to note, however, that analysis of these tools is discussed and described later, in Table XXI in the section Results and Discussion.

	Evaluation Tools		**Workforce Development Plan**	
	Status	Received	Status	Received
AFF1	Not using evaluations	N/A	Draft	No
AFF2	Up to the Course providers to select a tool	No	Not reported	No
AFF3	Up to the Course Providers, many tools in use	Yes	Draft	No
AFF4	One standard tool used for some courses	Yes	Draft	No
AFF5	Not using evaluations	No	Draft	No
AFF6	One standard tool used for courses in TRAIN	Yes	Draft	Yes
AFF7	One standard tool used for some courses	Yes	Draft	Yes

TABLE XII. DOCUMENTATION RECEIVED FROM PARTICIPATING AFFILIATES

IV. Results And Discussion

1. Quantitative Data Results

Using datasets 1 and 2, a two-page summary document was prepared for each of the participating Affiliates, as shown in Figure 12 below.

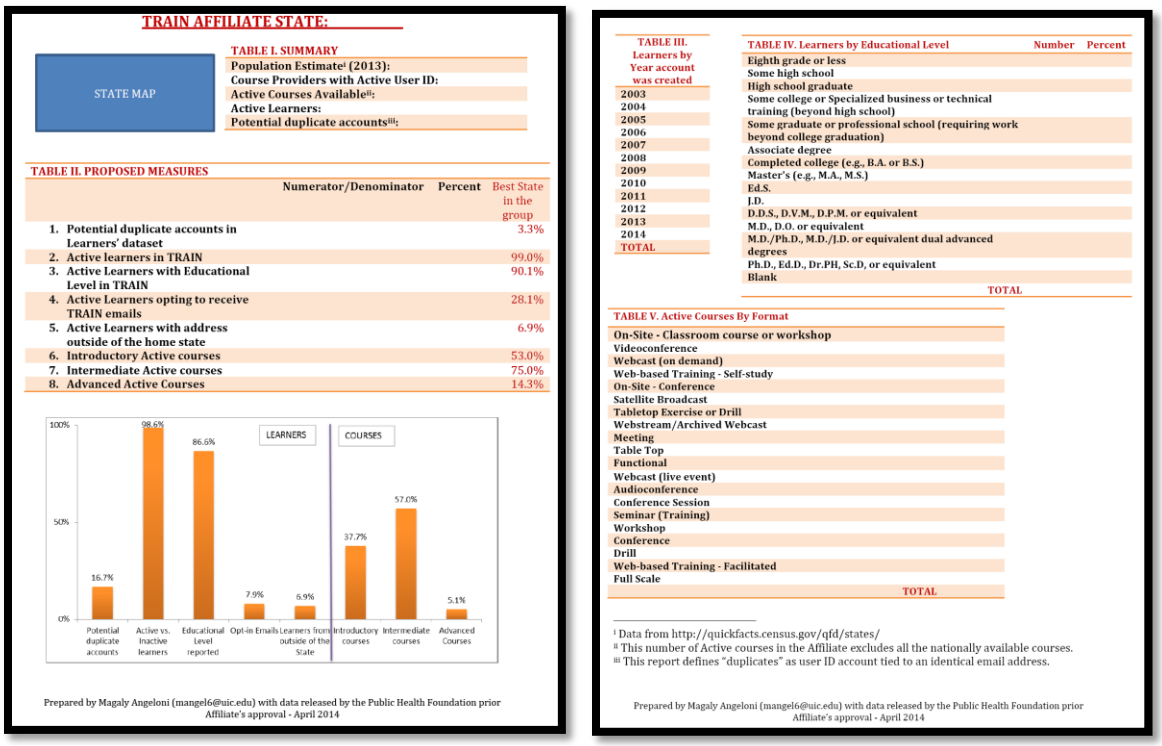


Figure 12. Snapshot of the 2-page Summary report prepared for each Affiliate.

The individual summaries were sent to the TRAIN Administrator of the participating Affiliate for review, and feedback about the data analysis and its interpretation. In addition, the individual summaries' format was shared with the Public Health Foundation, for review and feedback, to ensure data were properly interpreted. Comments from both, the Affiliates as well as the PHF were received, and

summaries were adjusted accordingly. For example, Affiliates asked about how they compare to the others in the proportions presented in the first page of the summary (percent of duplicates in the dataset, percent of learners with a documented educational level, etc.). To address this question, the best result (highest or lowest percent, depending on the measure) from the Affiliates was selected and a column called "best of the group" was then added in the table.

Overall, the seven participating Affiliates serve 36% of the estimated 750,000 TRAIN learners at the national level. Together, the seven Affiliates have posted over 20% of the active courses, and have nearly 15% of the 4,000 course providers, as shown in Table XIII below.

	Active learners[2] (excluding "duplicates" as defined for this study)		% US population	Active[3] courses		Course Providers	
7 Participating Affiliates	270,588	36%	16.7%	5,889[4]	20.3%	595	14.9%
All 28 TRAIN Affiliates	750,000[5]	100%	50%	29,000	100%	4,000	100%

TABLE XIII. PARTICIPATING AFFILIATES AND ALL TRAIN AFFILIATES COMPARISON.

The seven Affiliates together serve an overall population of 53,052,023[6], and have 32,146[7] potential duplicate accounts[8] in TRAIN. As mentioned elsewhere in this

[2] See detailed definition of Active Learners in Appendix 12.
[3] See detailed definition of Active Courses in Appendix 12.
[4] This number excludes courses available nationally to all Affiliates.
[5] TRAIN published a marketing book in 2014, where it estimates it has over 750,000 registered learners.
[6] Source http://quickfacts.census.gov/qfd/states/

document, TRAIN started in 2003. When looking at the year of enrollment for the learners in the seven Affiliates, the high point of enrollment was in year 2007, when at least 22% (60,630) of learners created accounts in the system, as shown in Table XIV below. Note that learners in this table are only those with Active status iin the dataset available for the study. Additionally, no particular reason to explain this high enrollment point was identified.

Learners, by Year Created		
2003	77	0%
2004	10,521	4%
2005	6,206	2%
2006	13,720	5%
2007	60,630	22%
2008	18,568	7%
2009	23,689	9%
2010	27,443	10%
2011	34,886	13%
2012	35,103	13%
2013	36,304	13%
2014	3,441	1%
TOTAL	**270,588**	**100%**

TABLE XIV. NUMBER OF LEARNERS IN THE PARTICIPATING AFFILIATES, BY YEAR IN WHICH THE ACCOUNT WAS CREATED.

Because of a wide variation in the way Affiliates' handle their accounts creation in TRAIN, some fields are not completed in the system; however, some of the fields that are often left blank are more useful than others. For example, only 6% of the active learners (16,172/270,588) have checked the box agreeing to "receive emails from

[7] Over 19,000 of these records are from only one of the seven participating Affiliates.
[8] This report defines "duplicates" as user ID account tied to an identical email address.

TRAIN". This field in particular is a very practical tool to Administrators, to quickly send a course reminder, cancellation or change via electronic mail to all learners signed up for a given course. Another example is the nearly 54% (145,596/270,588) of the active learners in the seven Affiliates that have a blank in the "Educational Level" field, which for some agencies could potentially be the best known source of their staff educational level for training reporting and planning purposes, besides the fact that it could be useful for research purposes. From the reported data, however, we know that at least 20.7% (56,136/270,588) of the learners from the seven Affiliates have a college degree (Bachelor or Master level), and less than 1% (2,367/270,588) have less than a high school diploma (see Table XV below).

Active Learners with reported Educational Level	
8th grade or less	211
Some high school	2,156
High school graduate	15,659
Associate degree	18,637
Some college, business or technical training	6,521
Some school beyond college graduation	16,661
Completed college (e.g., B.A. or B.S.)[9]	32,563
Master's (e.g., M.A., M.S.)	23,573
Ed.S.	120
J.D.	420
D.D.S., D.V.M., D.P.M. or equivalent	968
M.D., D.O. or equivalent	4,741
M.D./Ph.D., M.D./J.D. or dual advanced degrees	782
Ph.D., Ed.D., Dr.PH, Sc.D, or equivalent	1,980
Blank	145,596
TOTAL	270,588

TABLE XV. ACTIVE LEARNERS BY REPORTED EDUCATIONAL LEVEL

[9] TRAIN captures the "highest degree obtained", so learners can enter only one choice in this field.

The overwhelming majority (at least 94.4%) of the Active[10] courses in the TRAIN Affiliates are Introductory (2,293/5,889) or Intermediate (3,271/5,889) level courses, leaving just 5.3% of courses (312/5,889) at an Advanced level. Likewise, most of the courses are offered on site, workshop style as opposed to distance learning, although webcasts, web-based training and videoconferences are becoming more popular as a training modality [in some cases due to budget issues]. See Figure 13 below.

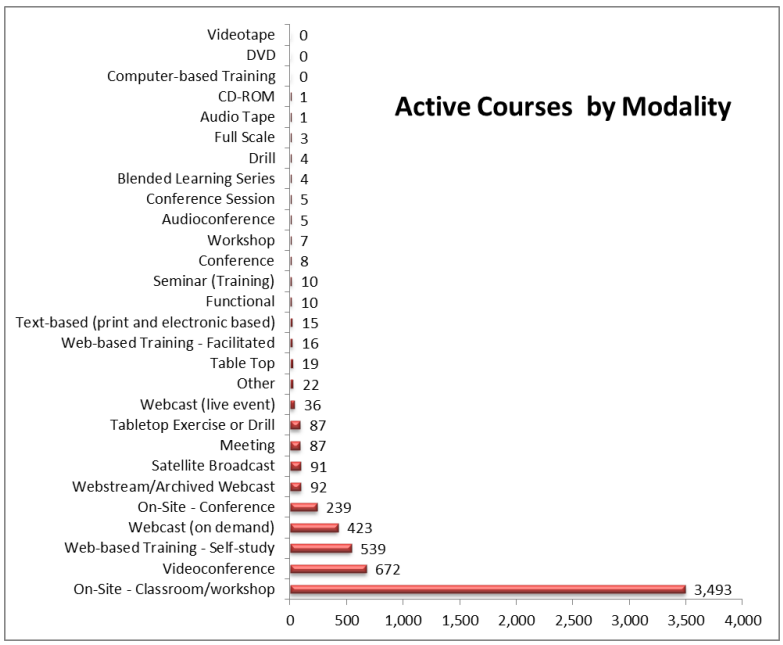


FIGURE 13. ACTIVE COURSES, BY MODALITY IN WHICH IT IS OFFERED

In general, TRAIN Administrators reported having insufficient time to support TRAIN and to conduct an ongoing review and cleanup of accounts, duplicates, reports, etc. Together, the seven Affiliates have 95.2% Active accounts[11] (270,588/284,217), and 10.2% learners' accounts that are potentially duplicates (32,146 potential duplicate

[10] See detailed definitions of Active/Inactive courses in Appendix 12.
[11] See detailed definitions of Active/Inactive accounts in Appendix 12.

accounts, from a total of 316,363 learners combined from all datasets before the potential duplicates were removed; from the remainder 284,217 accounts, minus the Inactive accounts totals 270,588 learners which are included in the study). In particular, these potential duplicate accounts are unlikely to get resolved any time soon given the large volume of duplicates, the need for manual intervention to merge a large number of the accounts because of the variation in policies to identify duplicates, and the tight resources in the Affiliate agencies. From a practical standpoint, however, learners can only maintain and update one course transcript, so having a duplicate account doesn't create duplicate transcript and maintains the goal of TRAIN to have only one transcript for each learner in the network.

2. Qualitative Data Results

As previously shown on Table XII, themes starting to emerge from the interviews data and were listed by section of the interview tool. Upon more detailed analysis, results of the interviews' data were grouped for each of the following five topics:

1. Training practices, strategies, operations and training needs assessments;
2. Core Competencies;
3. Accreditation;
4. Evaluation practices, tools and responsibilities, and,
5. Organizational issues.

Themes for each of the topics were listed, by Affiliate, in a table format. The table includes the far right column containing a summary of the identified themes, and the number of Affiliates that contributed to each theme. Each table also contained a Summary in the last row, describing the themes for each individual Affiliate. In total, five long tables, corresponding to each one of the five areas above listed are included in Appendix 15.

Next, a summary table for each of the topics is included and discussed further. Note that a number of themes were identified for the first topic of "training"; and therefore this topic was divided into three areas: 1a) practices and strategies, 1b) operations, 1c) training needs assessments. Summaries of these three areas are included below, in Tables XVI through XVIII.

TRAINING PRACTICES AND STRATEGIES

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7
◦ TRAIN Administrator doesn't directly work with HR, works in Preparedness ◦ General trainings are coordinated by HR, Preparedness and IT; ethics trainings coordinated by Legal. ◦ Training was centralized until 2008; agency now considering centralization again ◦ Recent management changes have	◦ Agency requires staff to take training based on the position; everyone is required to take FEMA courses	◦ No centralized training function or responsibility in the agency ◦ TRAIN Administrator is in HR but doesn't deal with public health technical training ◦ TRAIN Administrator participates in the training committee ◦ Agency has a workforce development training schedule using the results of a Core Competencies	◦ Training is done through the HR ◦ Agency is making the use of TRAIN a priority for 2014 ◦ Education and training not a high priority for the last 10 years ◦ Unit-level and division-level training plans exist, but are mostly area-specific (Epi, HR, management) ◦ Working on the Workforce development plan ◦ Identified gaps	◦ (Volunteer) TRAIN Administrator is based at a separate partner agency that houses TRAIN and the Preparedness program; the public health agency has another learning management system and hasn't fully adopted TRAIN. Some LHDs use and like TRAIN ◦ Training happens at different levels; some are managed by the training unit at	◦ TRAIN housed in public health side, not in the Preparedness program within a small branch that coordinates training for the whole department ◦ Personnel is responsible for personnel training, and each program is responsible for training in their own area ◦ Accreditation is forcing strategic conversations about training and workforce development,	◦ Agency has centers and each center has a training responsibility and is setup differently; no one person oversees training for the agency ◦ Centralizing training would help more use of TRAIN ◦ TRAIN Administrator is part of planning committee ◦ Recently using post evaluation for selected courses

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7
been positive [for training purposes] ° Training needs identified by supervisors at annual performance evaluations ° Perceived lack of engagement, enthusiasm, resources and support with respect to training		assessment ° New director appointed 3 years ago and consolidated units, etc., supporting Accreditation ° Disconnect between the TRAIN Administrator and the PIM (existence of a training plan, participation in accreditation	in the workforce development area and addressing them through the workforce development plan ° Has conducted a workforce assessment survey, hasn't implemented findings yet ° PIM not involved in evaluations ° Planning to apply for accreditation	the partner agency, but nothing with respect to public health. Programs have their own required training, but no central responsibility for training in the public health agency. ° Recently completed a training needs assessment for local and state public health; results say little investment has been put into workforce development in the past; now looking to address that need. ° Planning to develop a training plan ° Require an Employee Development Plan (EDP) for each employee ° New leadership is very committed to employee and workforce development; training now becoming a priority ° Submitting documentation for Accreditation in March 2014	to change the past practice that training was driven by programs ° Moving from face to face, 2-3 days training programs to micro courses using technology, and facing resistance from staff ° Training needs assessment is done by doing the TRAIN self-assessment and a survey ° Worked with academic partner to determine tools in use, design standard evaluation, implement 360 component in training ° Working in silos and using budgets in silos ° Require Course Providers to standardize processes to setup courses in TRAIN ° Staff slowly moving to accept online training (vs live training) ° Leadership changed 3 times in 2 years	

TABLE XVI. THEME SUMMARY: TRAINING PRACTICES AND STRATEGIES

Training in the studied Affiliates is not centralized, and takes place in silos (three of the seven Affiliates said this). Each Affiliate has its own setting with regards to training, where either a branch or division manages training with their own resources,

capabilities and schedule, or a combination of units, like Human Resources (HR), Information Technology (IT) and Emergency Preparedness are involved and share some of the training responsibility: *"the departments themselves develop their own training plan if they have principles/workshops they want to get out to their customers, they develop their own and market them".* One Affiliate has a branch within the agency responsible for training, but TRAIN is not always used for all courses. In at least one agency there was a training center managing all training 6-7 years ago (which was closed after a change in legislation) and is now considering going back to centralization. Regardless, five of the seven Affiliates said there is no central coordination *("no person in charge of developing a training strategy"*) for all training that takes place in an agency, and six Affiliates referred to lack of overall ownership of training.

There seems to be a lack of enthusiasm and overall support for training and professional development *("the agency as a whole is lacking the staff development component that would truly engage its staff*"); some of it may be due to inconsistent leadership in the organization, and some of it because training is not high in the agency's priorities. Making a cultural shift was mentioned a need to gain support for training.

TRAINING OPERATIONS

Since TRAIN is a key component of training for the Affiliates, and a number of quotes were made about the system, a separate analysis of themes related to TRAIN was conducted. This analysis grouped quotes from the participating Affiliates about the

TRAIN reporting tool, other system features, and comments about what interviewees would like to see changed or improved in the system. This analysis is presented in table format and is included in Appendix 16, but note that only components relevant to training and evaluation are discussed in this results section.

With regards to TRAIN, four Affiliates said the staff in general would like more trainings being offered, and they appreciate the availability of courses through the system: *"every time we add another affiliate it helps us because there are trainings available shared across affiliates and that is an invaluable resource"*. One Affiliate said staff sometimes find TRAIN difficult to use but it could be because some users don't access the system often enough.

With regards with training operations, as described in Table XVII below, TRAIN Administrators in five of the seven agencies have more than one assignment or work less than full time. Only in two agencies the TRAIN Administrator is dedicated full time to this function, and one agency has two staff.

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7
TRAIN Administrator assigned to TRAIN only: No	TRAIN Administrator assigned to TRAIN only: Yes	TRAIN Administrator assigned to TRAIN only: No	TRAIN Administrator assigned to TRAIN only: Yes, but part time	TRAIN Administrator assigned to TRAIN only: No	TRAIN Administrator assigned to TRAIN only: No (2 staff)	TRAIN Administrator assigned to TRAIN only: Yes
◦ Agency requires selected training, and programs may require topic specific trainings ◦ Budget cuts forced transition to	◦ Some training is required, depending on job	◦ Agency requires training on selected topics, and also requires opening a TRAIN account ◦ Making training	◦ Agency requires training on selected topics ◦ Anyone can open an account in TRAIN ◦ Agency used the training	◦ Agency requires training on selected topics, like ICS; all other training is not required ◦ Anyone can	◦ Agency requires training on selected topics ◦ Employees are asked to open an account in TRAIN before they	◦ Agency requires training on selected topics, including Preparedness ◦ Staff required to open an

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7
online training °TRAIN is made available to external partners		required is not preferred °More training is desirable	plan tool in TRAIN for the National Incident Management System (NIMS) in the past [unknown reasons why is no longer in use, since it is still a requirement]	open an account in TRAIN	start the job °Mandated training is not viewed as desirable °Budget cuts forced agency to move towards shorter, online training and staff resists the change	account in TRAIN within 2 weeks of starting the job °Supervisors monitor completion of required training

TABLE XVII. THEME SUMMARY: TRAINING OPERATIONS

All seven agencies reported they require all staff to take some trainings, most often the topics were privacy (HIPAA), emergency preparedness (ICS), and other topics such as sexual harassment, internet security and even courses such as defensive driving. Timeframes to complete required trainings is set and monitored by the Human Resource unit of some agencies.

At least two Affiliates would prefer to move away from required training because it creates a different dynamic: *"any time you mandate a training you are running up against the challenge of people not necessarily understanding the value or its worth, but they having to do it because they are told to".* They think staff would be more receptive with an approach of *"here it is how it can benefit you, without the actual mandate that you must complete it"*.

Four Affiliates have no specific requirements to open an account in TRAIN, but two others require employees to open the account even before their first day of employment, so they can start taking required training when they arrive to the office.

Two Affiliates said they are transitioning from face to face training to online training, mainly because of budget cuts: *"here it is the black and white: budgets are cut, you are spending X amount of dollars each year [in training], we can put courses out, you may not have face to face contact all the time, but you get results getting your people informed and save money*". They understand that moving to online training is not easy or quick, but they are working to get learners to adopt this new way of training, *"that is like changing the philosophy of people and it doesn't come easy".*

TRAINING NEEDS ASSESSMENT

When asked about the training needs assessment, one Affiliate wasn't sure if one has been done in the past but is planning to do one. All other six Affiliates said an assessment has been conducted in the agency, and mentioned dates within the last few months up to two years. As shown in Table XVIII below, each of the six agencies conducts the assessments differently and likely using a different tool (although tools used were not collected as part of the study). Two Affiliates do the assessment through a regional partnership and get individualized results for the state. Another Affiliate has a two-prong approach, conducting an assessment using TRAIN and a separate survey. This Affiliate works with a local academic partner and is considering doing a 360 evaluation in the future.

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7
◦ Training needs assessment was recently (1-2 years) administered	◦ Training needs are assessed every fiscal year by consulting the regional offices and via survey ◦ Training is planned using this information	◦ Competencies assessment was done for recently, also did a survey to get additional information ◦ Regional center administers assessment and breaks down findings by state ◦ Programs may have their own assessment (i.e., preparedness)	◦ Conducted a training needs assessment via survey recently (1-2 years)	◦ Conducted a training needs assessment based on the Core Competencies recently (1-2 years) ◦ Plans to partner with academia to implement findings	◦ Conducts training needs assessment through annual TRAIN assessment of the Core Competencies tool and also via survey ◦ Partners with academia on the tool selection and administration	◦ Unsure if training needs assessment was conducted before (relatively new hire, within 1-2 years)

TABLE XVIII. THEME SUMMARY: TRAINING NEEDS ASSESSMENT

CORE COMPETENCIES

The Core Competencies are mentioned in this study for two key reasons. One reason is its relevance for evaluation purposes, and the second one because Public Health Accreditation requires the use of *some* Core Competencies in the Workforce Development Plan. In addition, TRAIN has a feature to track Core Competencies for each course, through the network of "Course Providers" that work with each agency. For purposes of this study the number of Course Providers is indicated in categories, as shown in Table XIX below. Note that Course Providers setup the courses in TRAIN, and therefore they are key users of the Core Competencies.

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7
Category of Course Providers with Active account in TRAIN: "A" A. 1-50 B. 51-100 C. >100	Category of Course Providers with Active account in TRAIN: "C" A. 1-50 B. 51-100 C. >100	Category of Course Providers with Active account in TRAIN: "B" A. 1-50 B. 51-100 C. >100	Category of Course Providers with Active account in TRAIN: "A" A. 1-50 B. 51-100 C. >100	Category of Course Providers with Active account in TRAIN: "A" A. 1-50 B. 51-100 C. >100	Category of Course Providers with Active account in TRAIN: "C" A. 1-50 B. 51-100 C. >100	Category of Course Providers with Active account in TRAIN: "B" A. 1-50 B. 51-100 C. >100
° Not all Course Providers are aware of the CC ° CC are a great concept but there is no practical way to interpret and apply them	° Could use the CC more if Course Providers were required to use them	° Course Providers are aware of the CC ° The use of CC could be required if agency makes it mandatory ° When CC are selected, there is no general practice to verify the selection was appropriate	° CC are not user friendly ° Selecting the right CC requires understanding of them ° The use of CC could be required if agency makes it mandatory, but not all Course Providers use the CC for their courses	° Training needs assessment is based on the CC; no other use of CC in the agency	° Training needs assessment is based on the CC ° Course Providers are required to select CC for their courses, but use requires knowledge and understanding, which not everyone has	° Course Providers are confused when selecting CC for their courses ° Currently, no system or method to validate the right selection of CC

TABLE XIX. THEME SUMMARY: CORE COMPETENCIES

Four Affiliates said Course Providers are confused about the Core Competencies: "*the Core Competencies need to be made a lot easier even for Tier 1, let alone the other Tiers". "The Core Competencies as written, I even have trouble and I have been in the field for some time. Some of the definitions and classifications I go huh? They need to be put in plain English".* Furthermore, the use the Core Competencies requires having a full understanding, so Course Providers can select the Competencies. An interviewee commented on this issue by saying *"when we ask Course Providers what Course Competencies [is this course] addressing? They look at us cross-eyed; sometimes they have*

no clue". Another TRAIN Administrator says *"I think it requires some education/training and we haven't gotten there yet. I have a hard time doing it and it should be easy for me". "The Core Competencies are a great concept, but you have to understand who you are serving and who you are asking this information from, and a lot of people don't understand that".*

Three Affiliates said they could require Course Providers (as other two Affiliates already do) to select Core Competencies for courses if the agency makes it mandatory. But they also said they could make it a requirement if the Core Competencies were *"user friendly"* and if there was a way to verify the Competencies were accurately selected: *"I don't take the effort to validate if those Core Competencies [selected for a course] are actually fulfilled". "The Core Competencies are good, but then you have to have a tool to take results and offer it to people."*

Three Affiliates said that the difficulty with the Core Competencies is based on the fact that there is *"nothing in TRAIN is setup to automatically suggest courses based on a Core Competency"*. Four Affiliates indicated that while TRAIN allows searching courses by Core Competencies, users search only by topic, so the tool is not used.

ACCREDITATION

As illustrated on Table XX below, Accreditation is bringing positive change with respect to training, starting with the fact that all seven Affiliates are preparing to apply for Public Health Accreditation, which requires the preparation of a Workforce Development Plan and a training schedule. Accreditation is regarded as the *"impetus"*

for preparing the Workforce Development Plans in the agencies, two of which have already completed the plan while the remaining five are working on it. *"[The impact] has been huge; accreditation just forces you to look at everything that you do in kind of microscopic lens and it really forces you to look at best practices."*

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7
Accreditation status: Applying	Accreditation status: Applying	Accreditation status: Applying	Accreditation status: Applying	Accreditation status: Applying	Accreditation status: Applying	Accreditation status: Applying
Workforce development plan: in progress	Workforce development plan: not reported	Workforce development plan: in progress	Workforce development plan: in progress	Workforce development plan: in progress	Workforce development plan complete	Workforce development plan complete
° Agency's leadership is in support of Accreditation ° There was no training plan before Accreditation, now working on the Workforce Development plan (which includes training schedule) ° TRAIN Administrator is in the Workforce Development committee ° Accreditation is causing support for TRAIN	°	° Agency's leadership is in support of Accreditation ° There was no training plan before, now preparing a Workforce Development Plan for Accreditation	° Working on the Workforce Development Plan for Accreditation ° Accreditation is causing support for TRAIN	° Working on the Workforce Development plan, training needs assessment for Accreditation ° New employee orientation under development	° No workforce development or training plan for the agency before; now working on the Workforce Development Plan for Accreditation ° New employee orientation under development	° Working on the Workforce Development Plan for Accreditation ° Accreditation is causing support for TRAIN

Table XX. Theme Summary: Accreditation

Three Affiliates said accreditation is bringing emphasis on training and causing support for TRAIN. *"Accreditation has been important to us because it is kind of forcing more awareness and more use of TRAIN department-wide than ever before". "Of course we are trying to do [accreditation], and that has put the emphasis back on training, training plans and employee development".* Affiliates said accreditation is *"starting to have an impact; they have done some employee surveys and design what needs to be there for development", and "[accreditation] is going to bring out the need for more and more of TRAIN and how it would benefit [us]".* Furthermore, accreditation is starting conversations in the agencies about *"what the employees training look like, what does workforce development at the agency level and at the individual level look like. These conversations after 100 years are just beginning".*

Five Affiliates explicitly said their leadership is supportive of Accreditation. *"Our new director has seen an overall need [for training]". "This is on the top of the director's agenda, and since it is on [his/her] radar, and our priority, it will be on all the deputy directors as a priority".* At least one additional Affiliate reported the TRAIN Administrator is in a planning committee to design the workforce development plan, a positive sign of collaboration.

While about two thirds of the quotes were made by Performance Improvement Managers, TRAIN Administrators expressed the same sentiment regarding Accreditation, and highlighted the fact that they are now being asked to be part of task forces or committees, therefore their involvement is becoming greater and is welcome. To illustrate this finding, a group of direct quotes related to Accreditation are presented by category in Table XXI below.

WORKFORCE DEVELOPMENT	COLLABORATIONS
• I think [Accreditation] is going to impact it in a positive way, at this point we do have a Workforce Development plan and we had to submit that work and reports from TRAIN showing how trainings have done, how we offered it, how we've offered it to the local health units as well as centrally, and as we get in to the process I think it is going to bring out the need for more and more of TRAIN and how it would benefit. • We are working on a workforce development plan to address this gap for us, to help build a training curriculum and a plan to implement. • They haven't had anything similar to a workforce development plan in the past. • We have undergone a gap analysis and are currently working on addressing those gaps. Addressing workforce needs is one of our gaps. • One of the things we know is a gap for us is our workforce development plan so what we have done is develop an action plan of how we'll be addressing that and we are already accomplishing some of those steps in that action plan. • I think the first step was actually having a WD plan, we typically didn't have that in the past, and now because of PHAB we have one, one thing we can improve upon is actually the implementation of it • Absolutely it will [have an impact]! One [impact] the fact that we are required to have a Workforce Development plan, that was the impetus for doing the training needs assessment	• The whole conversation around workforce development has a lot of people looking at now what is that going to look like. • Now with accreditation, that process has forced the LHDs that are participating and the state HD to start having conversations about what does the employee training look like, what does WD at the agency level and the individual level look like, so those are just conversations after 100 years that are just beginning, but in the past it has always been driven by programs, either preparedness or PH, but in the past it has mostly been driven by grants. • I am actually a member on that task force [to discuss the workforce development plan]. • The impetus for pulling this multi-stakeholder group together to develop a training plan and workforce development plan
TRAINING	**IMPACT**
• [Accreditation] has put the emphasis back on training, training plans, and employee development • It has highlighted this as a focus area for us, where it did not seem to be an area of focus previously • One of the things that we realize through PHAB is kind of the need for some niche training • We are looking at doing is how can we best help to instill that culture of QI and performance management and train people, but in an efficient manner • So we say we want to do all these things to recruit and retain people and we are actually are in the very, very, early stages of the implementation of our Workforce Development • The Performance Management program office [is responsible] at least as far as getting the new employee orientation designed. • That is part of the accreditation, a new employee orientation process that is going through hand in hand with the accreditation piece so we have been piloting some orientation where people have to get the TRAIN acct and come to us for an orientation on TRAIN. So some pieces are starting to evolve, that kind of help us with that. • The succession planning is something that we all recognize as an area of improvement and we are going to be addressing	• [Accreditation] is the impetus for us to be doing the things we should be doing anyway; that is how I'd characterize it. • It's been huge, accreditation just forces you to look at everything that you do in kind of microscopic lens and it really forces you to look at best practices, and looking at strengths and weaknesses can be threatening for some people but at the same time it teaches you that constant QI • I tell people you don't always love accreditation but think of the things that we've been able to accomplish because of accreditation and think of the things that if it wasn't that we were working through accreditation, 5 years from now we'd still be saying, we still don't have a policy on whatever, wouldn't be nice to have our website was up to date, wouldn't be nice to have all of our training for environmentalists in one training curriculum, etc. • Accreditation force us to do all of these things in a much shorter timeframe • I think accreditation has been the driving force throughout all of the commissioners just to show if we are to be accredited we have to move in that direction • Huge impact, absolutely huge. One impact with TRAIN is the documentation piece. So it started out documentation of trainings but it move into quickly meetings to take in place; now meetings to put in TRAIN for registration, a lot of TRAIN language has been moved into Dept. policy, it has elevated the whole program both locally and at the state level in a major way • Why accreditation has been important to us because it is kind of forcing more awareness and more use of TRAIN department-wide than ever before. • Preparation for accreditation has impacted [training]

TABLE XXI. PUBLIC HEALTH ACCREDITATION QUOTES FROM INTERVIEWS

EVALUATION PRACTICES

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7
Kirkpatrick's Level of training evaluation: **No evaluation tools made available to the study**	Kirkpatrick's Level of training evaluation: **No evaluation tools made available to the study**	Kirkpatrick's Level of training evaluation: **1, 2**	Kirkpatrick's Level of training evaluation: **1, 2**	Kirkpatrick's Level of training evaluation: **No evaluation tools made available to the study**	Kirkpatrick's Level of training evaluation: **1, 2, and trying 3**	Kirkpatrick's Level of training evaluation: **1, 2 and trying 3 for some courses**
° No evaluation conducted agency-wide ° TRAIN is used for evaluation tracking, assessments and pre and post tests; most courses don't require an evaluation ° Evaluations are in paper or electronic, depending on the course ° Evaluation tools are selected and administered depending on the Course Provider ° Assessments and evaluations are up to the Course Providers	° No current procedure for conducting evaluation agency-wide ° TRAIN is used to track evaluations, and several Course Providers use also the training plan feature ° Course Providers design and select their own tools ° Evaluations are up to the Course Providers ° Lack of resources to require evaluations done	° Conduct assessments (quizzes) and evaluations, but nothing agency-wide ° TRAIN has the features for evaluation, if used consistently and extensively ° Evaluations tracked on paper and electronicall y ° Course Providers use the same standard post assessment and evaluation for all selected courses in one unit ° Evaluations are up to the Course Providers ° Lack of resources to conduct training evaluation ° Evaluation not integrated in training design	° Only a set of courses include evaluation and also a post assessment; nothing agency-wide ° Only about 10% of TRAIN is used (1,in a scale of 1-10) ° Evaluations are up to the Course Providers ° Lack of dedicated staff to conduct more evaluation	° No evaluation done for courses offered; partner agency does evaluations only for trainings offered by them ° TRAIN resides at a partner agency, and public health hasn't fully adopted the system ° Training unit in the partner agency is planning to develop an evaluation tool ° Agency not ready to do evaluation	° Use assessments (quizzes) and evaluations and a standard evaluation for all courses setup in TRAIN ° TRAIN is used for self-assessments, pre and post tests, assessments; editing the evaluation is cumbersome ° Course Providers are trained to use the standard evaluation tool [insufficient because too few questions] ° Course Providers are required to use the standard evaluation; very few look at the results on their own; monitoring results is done quarterly for credit courses only	° Only some courses include evaluations ° TRAIN is used for evaluations and assessments (quizzes) and post post evaluations only for some courses ° Evaluations are up to the Course Providers

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7
					° Lack of time, resources, a centralized unit to conduct more evaluation	

TABLE XXII. THEME SUMMARY: EVALUATION PRACTICES

As previously discussed elsewhere in this document, and shown in Table XXII above, evaluation tools from four of the seven Affiliates were made available for the study. All four Affiliates that provided evaluation tools are using levels 1 and 2 of the Kirkpatrick model of training evaluation, and two Affiliates are also starting to use level 3 of the Kirkpatrick model: *"there is also a post evaluation for a course, where 3 months down the road it will pop up in your TRAIN account to take the evaluation and will ask you basically how you have used the training, how you have applied it at work."*

All seven Affiliates reported evaluating training for some courses, or units within the agency, and all seven Affiliates use TRAIN's features for tracking training, as well as for assessments (quizzes to measure knowledge of the material provided at training) and evaluations (questionnaires that focus on learners' satisfaction with training), although they recognize that not all courses are tracked in TRAIN.

One Affiliate uses a standard evaluation for all courses that are setup in TRAIN, but this agency doesn't have overall standardization because not all courses offered by the agency are setup in TRAIN. Another Affiliate reported having a standard evaluation but it is only used in a group of courses. Three Affiliates reported their Course Providers use evaluation tools either in paper or electronically (TRAIN or survey monkey): *"some*

Course Providers say trainees must give the evaluation before they receive the certificate... it is up to the Course Provider what they want to have"; while the other three use them in TRAIN (electronically): *"we have the evaluations electronically, in TRAIN, but it only depends on the Course Provider."*

Six Affiliates reported evaluation of training is decided by their individual Course Providers, with regards to the tool, frequency, type, and format: *"some Course Providers use their own evaluation"*, *"Course Providers or their supervisors are responsible for training evaluation"*, *"Course Providers are responsible [for the evaluation]".* For the most part, the responsibility of training evaluation rests on Course Providers: *"We encourage them to do it but they are not required to do evaluation", "[Evaluation] depends on the Course Provider", "Some Course Providers, very few, actually look at the evaluation; the 'routine' Course Provider has no time or desire to do it, they are just trying to get the curriculum out".* When asked about if the agency knows the impact of training, Affiliates reported not having an agency-wide program: *"Evaluation for the entire agency? It hasn't come up yet", "We don't know if training is making an impact as of yet"; "We don't have a current agency-wide evaluation method to determine whether training is making an impact on staff, the work, or the agency as a whole"; "We do not have an existing procedure to [evaluate the impact of training]," "Currently, we do not produce or evaluate any of our own trainings", "We will look at how to evaluate [training] but we are not there yet".*

Five Affiliates said agencies that lack the resources (time, expertise) and interest prevent them to do training evaluation, and two Affiliates mentioned the need to make evaluation a priority, having a centralized training unit and a cultural shift would be

necessary to conduct training evaluation*: "More could be done but not sure we have the resources or people knowledgeable enough in evaluation that could provide something meaningful", "[We need] dedicated staff, knowledge of the importance", "Through my career the universal sin of training departments is failure to evaluate or not evaluating thoroughly enough; the correction is to build in evaluation development as part of the training design, and be consistent", "Not having the time and educational level: the more educated the Course Provider, the more interest in big, visible training".* Administratively, suggestions were made about ways to improve evaluation of training, such as *"making evaluation part of the course design [and course planning]"* as well as *"TRAIN can be improved as far as a reminder [to complete evaluation]".*

ORGANIZATIONAL ISSUES

Several themes emerged within the realm of organizational issues, as summarized in Table XXIII below. Three Affiliates said management rarely, if ever, asks for reports related to training issues: *"I have not been asked in 10 years to run a report of any kind from TRAIN in terms of performance or anything", "We create reports to move information to let people know we are still alive and doing a lot of work, but no, nobody asks for it", "I pull reports to evaluate the training and share with my supervisor and manager; they are not really asked for, that is one of those things that if you don't show it to them they won't review them."*

Another barrier mentioned by three Affiliates was budget and funding, as issues that are affecting training in their agencies: *"The team that is tasked with training for our*

division, they all have different jobs, so that team is completely volunteering; they are people who see value in training and are taking on this extra responsibility", "If I identify a training need, I go to the director and ask for funding… but there is no regularly establish budget for all of the agency [training]".

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7
◦ Agency doesn't promote training and staff development ◦ Need of a cultural shift to do so ◦ Agency works in silos ◦ Budget cuts affecting the agency	◦ No systematic way to measure impact of training in the agency	◦ Budget cuts are affecting the agency, and no budget targeted for training ◦ Agency doing what is possible for training, with the resources available	◦ Lack of dedicated staff to work on training and training evaluation ◦ Lack of [consistent] leadership to support training (requests reports, etc.) ◦ Current training efforts at the unit level (silos), nothing agency-wide ◦ Centralizing training might help	◦ Agency's leadership has been in transition; new leadership supports training, is now making it a priority ◦ Agency requires completion of Employee Development Program (EDP), which is monitored by supervisors and reviewed annually; this might have an impact in training in the future	◦ Agency's leadership has been in transition ◦ See a need of a cultural shift to promote training ◦ Budget cuts forced the agency to move to online training ◦ Agency works in silos	◦ Needs agency buy in to further promote the use of TRAIN

TABLE XXIII. THEME SUMMARY: ORGANIZATIONAL ISSUES

Regarding collaboration, four Affiliates referred to the silos that hinder collaboration and affect training: *"everybody is in a little silo and everybody get their funding in silos and they do their own thing sometimes", "interagency silos which hinder collaboration across the agency [are a barrier]", "Lack of staff, silos".* Meanwhile, two Affiliates said TRAIN Administrators are now part of a committee for Workforce Development issues for Accreditation, and that seems to be promoting collaboration:

"[The Train Administrator] knows what we are doing, so if someone else can benefit from [training[, he is the connection for us [within the agency]" .

Five Affiliates said lack of leadership consistency affects training and staff development: *"the leadership [is key]; you have to be able to inspire people to want to improve themselves… the main reason is lack of leadership", "if there was greater value placed on employee training…".* Leadership has also been in transition recently in three agencies: *"like I said, three different Commissioners in two years, each one with different priorities; that is a barrier: competing priorities and lack of consistent leadership". Two* Affiliates had seen positive changes with their most recent leadership change: *"Leadership now is making the move to look at it across the division as opposed to individual programs… our new director is very committed to employee and workforce development", "the change of management has helped because there has been a positive influence and direction… we are starting to see some results".*

All seven Affiliates referred to issues related to the need for a cultural shift to support and promote training: *"the agency needs a cultural shift that would encourage training as a professional development tool and not as a burden", "It is the culture shift to do that foresight in planning [training]", "If culturally there was greater value placed on employee training, my role could expand…", "it is just that culture, that until [training] becomes routine… it is a work in progress".* Likewise, the lack of a centralized training unit was a salient theme: *"Divisions in the agency handle training in various capacities but no central person for the agency, no centralized training function", "Each one can do how they want to do [training], not a centralized unit, no buy in to do that", "I can envision*

a centralized working organization with a budget established for generalized training for all employees… we don't have that now".

The lack of buy in came up several times as an issue: *"requesting some information? No…. we are trying to get buy in"*. Further analysis through queries in NVivo was done to drill down on this issue, and indicate the buy in needed is from leadership as well as staff, in eight ways as listed below (items a through c were mentioned by more than one Affiliate):

a. From management to support workforce development, to make workforce development a priority agency-wide
b. From management/leadership to further utilize TRAIN as the learning management system
c. From management/leadership to conduct training evaluation
d. From staff and course providers to use TRAIN for all courses
e. From management to conduct training needs assessment in the agency
f. From leadership to engage staff to train his/her peers in their area of expertise (i.e., Excel)
g. Get leadership to inspire people to seek/use/support staff development opportunities
h. Get leadership to not overuse the "mandatory" training

Since the organizational issues were relevant to support training evaluation, data were further investigated and categorized into four areas: a) Organizational

Structure, b) Centralization, c) Resources and d) Technology, as shown in Table XIV below, where repeated themes were underlined.

STRUCTURAL ISSUES	TECHNOLOGY
- Agencies need a cultural shift to encourage training and professional development - Need commitment from the top to support and encourage workforce development; training hasn't been a priority - An agency survey found that at least 56% of the staff considers a high-moderate barrier that the agency is not fully in support of training - [Management] should create the expectation that completing an "employee development/training plan" is really important not just for the individual but for the organization - Agencies need a culture shift to have that foresight in planning, and evaluate what they do, not only in training, but in the programmatic area in general - It is the culture [change] that is needed, until [evaluation of training] becomes routine - Agencies haven't been able to do more to evaluate training because of competing priorities, not having consistent leadership; nonetheless staff understands leadership constantly deals with major financial and management issues. - Organizations are often experiencing transitions in leadership [with varying degrees of support and interest in workforce development] - Organizational silos - Insufficient knowledge of the importance [of training and workforce development]	- TRAIN Administrators have offered to run reports for management but they rarely, if at all get requests for reports. At least one Administrator regularly submits a report to management without being asked. - Course providers [in general] don't take the time to select the Core Competencies for each course - Agencies are becoming aware of the features and functions of the system, and are moving very slow towards the evaluation of training - Agencies are starting now to include new training topics, as they develop their workforce development plan - Need to motivate course providers and course instructors to make more use of technology - TRAIN Administrators are encouraging staff to use the technology for training, and is successful in about 50% of the cases - Need to shift the training culture from face to face to online modality
CENTRALIZATION	**RESOURCES**
- No centralized training function; staff would prefer a more centralized way for training, so each [unit] can do what they want to do, no buy in for centralization of training - Training responsibilities are often shared between the TRAIN Administrator, HR, Personnel, and management at each division/unit - Training is isolated, not organized, coordinated, reported, or organization-wide; that doesn't send a good message - Most agencies have no systematic method to assess training needs in agencies	- Lack of staff to support workforce development; due to budget cuts staff is volunteering to do workforce development tasks in addition to their current jobs - Budget cuts; no regularly established budget for training - Lack of technology to implement improvements

TABLE XXIV. DRILL-DOWN ANALYSIS OF ORGANIZATIONAL ISSUES.

A summary of key findings from this study was designed in a matrix format, shown in Table XXV below.

Organizational Dimension	AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7
Training Structure in the Organization: ° 1= HR oversees some training; and units within the agency organize their own training if they want/can ° 2= Units within the agency are responsible for their own training ° 3= Other: partner oversees training but not for public health	1	1	1	1	3	1	2
° TRAIN Administrator placement in the agency: P= Preparedness HR= Human Resources	P	P	HR (no role in PH)	P	Other	Public Health	HR
° TRAIN Administrator: Full time= FT; Part time= PT	PT	FT	PT	PT	PT	2 PT	FT
Course Providers working with the Affiliate (in categories): A=1-50; B= 51-100; C= >100	A	C	B	A	A	C	B
Barriers to wider use of Core Competencies (CC) by Course Providers: ° C= Confusion about the CC ° U= Lack of understanding ° T= Lack of tool to implement and verify them	U, T	T	T	U, C	N/A	U	C, T
Affiliates requiring training in **some** topics in addition to Preparedness	Yes	Yes	Yes	Yes	No	Yes	Yes
Format of training needs assessment, if conducted in the last 2 years	Survey	Done by Regional offices and survey	Done by Regional Center and programs' assessments	Survey	Survey	TRAIN and survey	N/A
Affiliates transitioning from face-to-face training to online training	Yes	No	No	No	No	Yes	No
Intent to apply for Public Health Accreditation (reported early 2014)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Status of the Workforce Development Plan to meet Accreditation requirement	In progress	In progress	In progress	In progress	In progress	Complete	Complete
Level of Kirkpatrick model of training evaluation Affiliate is using (resulting from analysis of tools made available to study)	No tools made available	No tools made available	1, 2	1, 2	No tools made available	1, 2, and trying 3	1, 2, and trying 3
Leadership support to training/staff development	Moderate-Strong	Insufficient data	In transition	Weak	In transition	Moderate-Strong	Weak

TABLE XXV. KEY FINDINGS RESULTS MATRIX, BY AFFILIATE

Qualitative study findings were grouped and are presented in four overarching themes, along with illustrative quotes selected from the interviews because they eloquently express the ideas already contained in other quotes.

Theme 1: A decentralized training model renders training unsystematic.

Agencies don't have centralized training function, as candidly expressed in an interview: *"I can envision a centralized working organization which would have a budget established for generalized training of all employees – that would be helpful, we don't have that now."* In agencies where training is centralized, the unit is understaffed, lacks support or is structurally unable to provide training agency-wide, where participation in training, needs assessments, and evaluations (*"Trainings are for the most part only completed if required")* are all voluntary.

The lack of centralization creates important barriers: *"Training is done in pockets, is not organized or coordinated, and is not reported*," therefore making the training structure one that needs substantial change. Likewise, training needs are assessed using regional surveys, in collaboration with academic institutions, with TRAIN Course Providers' feedback, and even through supervisors at performance evaluations. Regardless, results left a lot to desire: *"[the training needs] is kind of in the infant stages; and it is not telling us anything that we didn't know before: we all think we are great communicators and we are lousy in science and we are lousy in math."*

TRAIN Administrators are marginally involved in the design of the training needs assessment, but every agency uses the findings to identify needed training.

Topics most often to be required training include the basic HR courses (HIPAA, sexual harassment), job specific training (blood pathogens, tuberculosis, defensive driving), Federal Emergency Management Agency (FEMA) courses, and in some cases supervisors are required to take management and evaluation courses. New employees' orientation sessions are also initiated and some are mandatory.

Theme 2: By default, Course Providers are responsible for training evaluation

No universal training evaluation takes place in the studied Affiliates ("*We do not have a current agency-wide evaluation method to determine whether training is making an impact on staff, the work, or the agency as a whole"),* although one Affiliate instituted standard training evaluation years ago, and others conduct sporadic evaluations. TRAIN has features to evaluate training, such as assessments of the material learned in the courses, "… *but many courses don't include a formal evaluation, simply a question to verify that the training was completed",* even though Course Providers are encouraged and often reminded to use an evaluation (to get the learners' view on the training). The sporadic evaluations that are conducted are administered electronically in TRAIN or in hard copies, depending on the Course Provider's preference or need (*"Users care about doing the training and reporting it, but they care less about the evaluation tools"*).

Additionally, the public health Core Competencies are viewed as a great concept but difficult to operationalize. They are difficult to connect to trainings, and currently offer little practical meaning and application to Course Providers, which are the key

users of the Competencies, thus preventing a dimension of evaluation that could assess progress in public health workers' skills.

The lack of training evaluation is widely recognized by some: *"Throughout my career the universal sin of training departments is failure to evaluate, and not evaluating thoroughly enough,"* and the challenges to conduct a thorough evaluation is briefly described by a TRAIN Administrator as well: *"It is super easy to evaluate Kirkpatrick's level one, a little more challenging, but not much for a level two evaluation. It becomes significantly more challenging to conduct meaningful evaluations, such as level 3 and 4."*

Theme 3: TRAIN is under supported and underutilized

Agencies make TRAIN widely available in their states within and outside public health, but TRAIN Administrators have multiple responsibilities and must prioritize their work: *"…TRAIN is really being underutilized, there is not anybody pushing it, reminding people that [TRAIN] is there, offering people to become course providers or things of that sort."* They would also welcome stronger support from within the agency, to communicate *"… not only why it's good for the agency to use TRAIN but how it benefits the center, how it benefits course providers, how it benefits supervisors, and how it benefits end users".*

Many TRAIN Administrators hold more than one job in the agency and serve an entire state. Their responsibilities include training Course Providers, creating and approving courses, managing a help desk, troubleshooting, creating and assigning training plans, creating reports, assuring quality of trainings and data in TRAIN,

attending meetings, being part of committees, sometimes writing newsletters articles to promote TRAIN and even training new employees in the onboarding process, but do their part: *"We decentralize as much and train as much as we can, empower people and give them permissions they need to manage the courses in TRAIN."*

TRAIN is a robust system with multiple useful features, but is not intuitive and the report generation tool can be cumbersome: *"Really, the system is not easy to use; creating accounts is very difficult; and posting a course is a very complex, patched-together system that takes a lot of work."* TRAIN Administrators would love more training, enhanced reporting tools and overall more time to use more TRAIN features.

Theme 4: Accreditation is activating support for training and workforce development.

"Accreditation is having a huge, huge impact. A lot of the TRAIN language has been moved into Department policy, it has elevated the whole program both locally and at the state level in a major way," and *"that has put the emphasis back on training, training plans, and employee development."* Accreditation preparation has identified gaps in the area of training and staff development, and agencies are taking action to prepare an agency-wide Workforce Development Plan. Before Accreditation, training plans may have only been prepared as part of a grant requirement and in small units or programs, but not as an overarching strategy. Public health agencies are now promoting more internal collaboration between and among LHDs and SHDs, and committees are being set up, often including the TRAIN Administrators for their role in training:

"Accreditation has been important to us because it is kind of forcing more awareness and more use of TRAIN department-wide than ever before." "Accreditation is going to impact [training] in a positive way. We do have a Workforce Development Plan …….. and as we get into the process, I think it is going to bring out the need for more and more of TRAIN and how it would benefit [the agency]."

Because of the interest in Accreditation, and therefore the need to prepare the workforce development plan, there are early signs of leadership buy in to promote training, getting involved and interested in TRAIN, approving new programs such as new employee orientations, and supporting training efforts in a more coherent way.

Overall Theme: Agencies spend nominal effort in evaluating training they offer to staff.

Efforts to deliver and evaluate training seem to be low priority in the studied organizations: *"The agency is in need of a cultural shift that would encourage training as a professional development tool and not as a burden."*

Management and leadership are viewed as disengaged from the training and staff development goals, and reportedly training reports are rarely reviewed and/or requested: *"We need somebody at a high level to make a decision that education and training is important and when you do that and hire somebody you can then give them the authorization if you will to look at the assessments and evaluate the outcomes and put together a group of people who can help make some decisions about what is the next step. We don't do that".*

Management could be potentially unaware of the features and capabilities of

TRAIN (*"I have not been asked [by management] in many years to run a report of any kind from TRAIN in terms of performance or anything"),* and as a result few training and evaluation features are used in any systematic way. Having designated resources, buy in and support to expand the use of TRAIN as an agency-level strategy are cited as critically needed to improve training opportunities and eventually formulate a comprehensive training evaluation effort: *"The [lack of] leadership is a barrier. You have to be able to inspire people to want to try to improve themselves, and you need an environment in which that happens, and that has not existed in our agency for a long time."* The four themes from the interviews' data are shown in Table XXVI below.

Theme 1: **A decentralized training model renders training unsystematic**	**Theme 2:** **By default, Course Providers are responsible for training evaluation**	**Theme 3:** **TRAIN is under supported and underutilized**	**Theme 4:** **Accreditation is activating support for training and workforce development**
▪ No centralized responsibility for training; training responsibility is distributed in several units; trainings are organized in pockets, most often to meet grant or other requirements ▪ No pattern on the frequency or tools used to conduct training needs assessments ▪ Training participation, and responding to training needs assessments and evaluations are mostly voluntary ▪ Agencies require topic-specific training (HIPAA, ICS)	▪ Course Providers develop their own evaluation tools, and decide if, how and when to evaluate their courses ▪ No standardized tool or format to evaluate training agency-wide ▪ TRAIN features for evaluation (training plans, assessments, required evaluations, users' feedback) are not widely used ▪ Evaluation tools are used in both, hard copy and electronic format ▪ Public Health Core Competencies are not always required for course creation in TRAIN	▪ TRAIN Administrators have multiple responsibilities and are not always full time ▪ Course Providers have difficulty interpreting and using Core Competencies ▪ There is lack of buy in to promote widespread use of the system ▪ System reports are generated for simple uses (class roster, list of attendees, users completing courses), and management rarely asks for them ▪ Some system enhancements would facilitate more use of some features	Because of Accreditation: ▪ Agencies are preparing a workforce development plan for the first time ▪ Committees and workgroups are formed to prepare the workforce development plan ▪ Training needs assessments are conducted, tools being reviewed, and findings implementation discussed ▪ Training in new topics is being prepared (i.e., new employees orientation) ▪ TRAIN language and reports are used in Workforce Development Plans
Overall Theme: Studied agencies spend nominal effort to evaluate training			

TABLE XXVI. SUMMARY OF QUALITATIVE DATA ANALYSIS

All the themes from the interviews' data analysis are graphically assembled to address the research question of ***"What approach are TRAIN Affiliates taking to evaluate public health training"***, as shown in Figure 14 below.

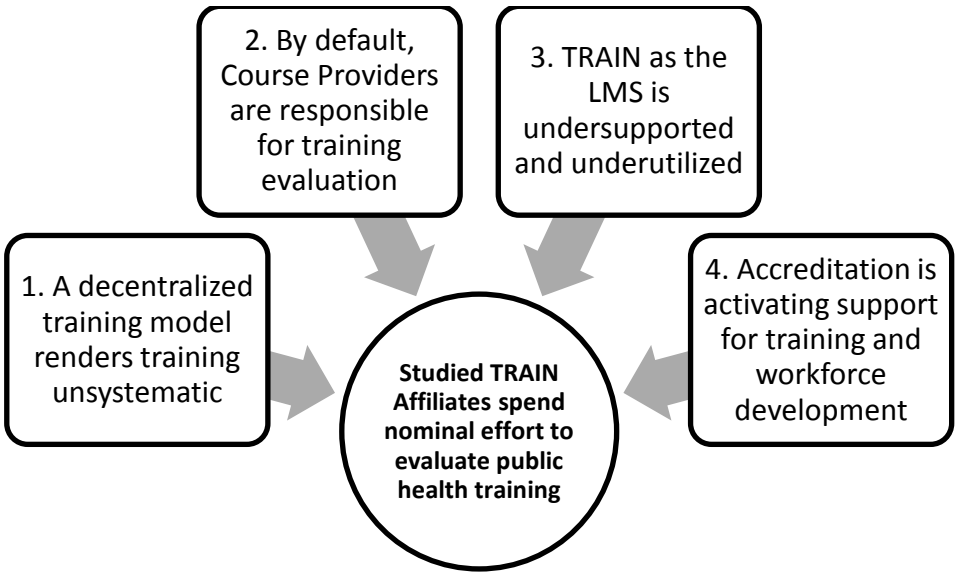


FIGURE 14. THEMES IDENTIFIED THROUGH THE INTERVIEWS' DATA ANALYSIS

As indicated before, TRAIN is the only tool used by TRAIN Affiliates for training activity reporting, although its use is infrequent and fairly basic: reports of course rosters, individual courses' evaluations and training plans completed were among the most used reports, lacking the robustness to measure the Affiliate's overall training activity. See the list of the most frequently used reports in Table XXVII below, and note that reports listed in items one through four were mentioned more than once.

REPORTS USAGE
1. % of users completing training plans
2. % users compliance with mandatory courses
3. Course roster
4. Evaluation results by course
5. Users completed courses and users outstanding
6. Course-specific assessments (quiz) results
7. Lists of courses offered
8. Lists of course providers
9. Lists of course attendees
10. Courses posted over a timeframe (eg., 1 year)
11. Learner report (# of users)
12. Course Sessions reports

TABLE XXVII. LIST OF MOST FREQUENTLY USED TRAIN REPORTS

3. DOCUMENT ANALYSIS RESULTS

As stated in the methods section, only a reduced sample of evaluation tools from four Affiliates was available for purposes of this study. The analysis conducted with these tools shows Affiliates use of Level 1 (trainee's reaction to training), and Level 2 (trainee's knowledge of the material covered in the training) of the Kirkpatrick model of training evaluation. One Affiliate is starting to use Level 3 (trainees' behavior after the training), and has a tool to collect data if trainees voluntarily complete the tool, and since this approach is fairly new and is voluntary, no trainees have responded to it yet. There were no Affiliates providing evidence that Level 4 of the Kirkpatrick model is being used. The summary is depicted in Table XXVIII below.

Training Section	Course Format (webinar, classroom)	Questions Asked	Answer type	Kirkpatrick level
General information	All	• Users' assistance • Ease of registration • TRAIN system navigation	1-5 scale	N/A
		• Referral source • Time it took to complete series of courses	Free text	
Course format	All	• Format/facility conducive to learning • Teaching effectiveness, interaction • Material presented clear, well organized, fair, without commercial bias • Rate teaching method (A/V, videos, exercises) • Course pace • Rate overall course	1-5 scale	1: trainee's reaction
	Webinar	• # of attendees in same room for webinar • Quality of graphics, navigation, sound	Number	
Trainee opinion and feedback	Module	• Ability to learn material online vs face to face class	1-5 scale	1: trainee's reaction
	All	• Other topics of interest • Suggestions to improve courses • Time of day preferred for courses • Intention to attend similar courses • Overall satisfaction with course • Most useful information	Multiple choice, free text, scale	
Presenter	Classroom	• Rate presenter in general • Rate presenter's knowledge	Free text 1-5 scale	1: trainee's reaction
Course content	All	• Content appropriate for level of practice • Content relevant to objectives, useful material, met expectations • Did course provide new information? • Did course contribute to trainee's confidence to apply material?	1-5 scale	1: trainee's reaction
		• Degree course content helped define, describe, explain concepts covered in objectives Will course increase knowledge, help changing a skill, practice performance, customer service, quality of care? • How will trainee use this knowledge?	1-5 scale, free text	2: trainee's knowledge
		• Did course increase knowledge, help changing a skill, practice performance, customer service, quality of care? • Did trainee use/had the opportunity to use this knowledge? • Give examples of how knowledge/skill was used • Barriers were faced in applying knowledge? • To what extent was your supervisor supportive?	1-5 scale, free text	3: trainee's behavior [optional, 3-6 months after the course]

TABLE XXVIII. EVALUATION TOOLS USED BY AFFILIATES AND LEVEL OF KIRKPATRICK METHOD OF TRAINING EVALUATION

The analysis of the two Workforce Development Plans offered detail of the training topics available to staff, depending on the staff occupation/classification. Most trainings are of general nature and offered to all staff, while fewer topics are more specialized for a given job category or need, as detailed in Table XXIX below.

Audience	Topic
All staff	HIPAA privacy and security ICS courses Cultural Awareness Anti-harassment, anti-discrimination
	Anger Management Attitude Virus Customer Service Dealing with Difficult People FISH Philosophy Leading Successful Meetings Optimizing Team Performance Reducing Stress Steps for Success Teamwork 1: Insight Inventory Teamwork 3: Developing Trust Time Management Workplace violence prevention
Supervisors and managers	Supervision 101 Supervisory Training Career Opportunity System Personnel Management training Interviewing skills Basic Facilitation Delegation Techniques Employee Motivation Performance Planning: Setting Expectations Performance Management: Corrective and disciplinary process
Contractors and employees working with contractors	Language access training
New employees	New employee orientation
Employees who make presentations	Presentation techniques
Special teams	Teamwork 2: Mission, leadership and Assistance matrix goals and action plans

TABLE XXIX. TRAINING TOPICS LISTED IN WORKFORCE DEVELOPMENT PLANS

The workforce development plan was requested to access any measures included in the plan and analyze them using the Wholey's (Wholey, Hatry, and Newcomer 2010) criteria for good performance measures. For reference, each criterion and a short explanation is included below.

> ***Valid:*** *Does the measure accurately represent what is intended to be measured?*
> ***Reliable:*** *Is data collection methodology consistent, avoiding data bias or distortion?*
> ***Meaningful and Understandable:*** *Is the measure meaningful to decision makers, and is it readily understandable by the intended audience?*
> ***Balanced and comprehensive:*** *Does the collection of measures provide a balanced and comprehensive picture of the program?*
> ***Timely and Actionable****: Is the measure reported on a timely fashion and does it facilitate/inform decision making process?*
> ***Resistant to Goal Displacement:*** *Does the measure provide a powerful incentive to perform well without sacrificing the real program goals?*

Only a few measures were found in the two workforce development plans available for the study, and the analysis indicated that the plans are evaluated by output and process measures, both are short term. The results are detailed in Table XXX below.

Indicator	Indicator type	Preferred direction	Validity	Reliability	Meaningful and Understandable	Timely and Actionable	Resistant to goal displacement
Leadership to participate in training for QI, Performance Management and Customer satisfaction training	Output	Up	Strong	Strong	Yes	Yes	Yes
Each Division will lead at least one internal QI project	Output	Up	Strong	Strong	Yes	Yes	Yes
All employees will create an individualized professional development plan	Output	Up	Strong	Strong	Yes	Yes	Yes
Percent of staff participating in TRAIN self-assessment survey	Process	Up	Strong	Strong	Yes	Yes	Yes

TABLE XXX. ANALYSIS USING WHOLEY'S CRITERIA FOR PERFORMANCE MEASURES

In summary, the individual products this study prepared as result of the data collection and analysis, by data components, are listed in Table XXXI below.

	Activities	Outputs	Immediate outcomes	Intermediate outcomes	Impact
Proposed Components	• Conduct training needs assessment • Use public health and emergency response Core Competencies	• An agency Workforce Development Plan • Evaluation tools available • Reports of training activity	• Kirkpatrick level 1: Trainee's reaction to learning • Kirkpatrick level 2: trainee's knowledge	• Kirkpatrick level 3: trainee's behavior change as a result of training	• Kirkpatrick level 4: organizational level results from training offered to staff
Summary Study Results	• All agencies are assessing their training needs using different formats, schedules and tools. • All Affiliates are aware of the Core Competencies, and report challenges in applying them in a practical way.	• All agencies plan to apply for Accreditation and are preparing their workforce development plan. • All agencies are using TRAIN's report generation tool, although they routinely use just a handful of reports.	• All evaluation tools available for the study assess the trainees' reaction to the training (level 1). • Some tools include questions to assess the trainee's knowledge learned at the training (level 2)	• Some evaluation tools attempt to assess the trainees' behavior after the training (level 3), although not mandatory and users generally don't respond. • Not evidence that evaluation data collected are regularly analyzed.	• No evaluation tools include methods to evaluate the organizational impact (level 4) of public health training.

TABLE XXXI. SUMMARY OF STUDY FINDINGS SETUP USING THE LOGIC MODEL TABLE.

V. CONCLUSIONS

A. STUDY LIMITATIONS

This study included only seven TRAIN Affiliates that voluntarily agreed to participate and may not be representative of all agencies, thus generalizations from its findings should be cautiously considered. Although agencies were categorized by the type of relationship the agency had with their LHDs in terms of being centralized, decentralized or having a shared relationship, the small number of study participants didn't allow identifying trends with respect to commonalities or barriers in a given category. Similarly, there is great variation in the participating agencies' characteristics. For example, the number of years using TRAIN varied from one to 10 years, the number of users varied widely from 10,000 to over 100,000 users, as well as the policies and support agencies have in place to support TRAIN.

Because of the difficulty to collect a substantial number of either electronic or hard copies of evaluation tools from TRAIN (tools are administered by each Course Provider, each Course Provider uses different tools, tools are kept in both formats: electronic and hard copy, and in different places; and most importantly because access to the tools would have required a separate Data Use Agreement with the Affiliates), only a reduced sample of evaluation tools became available to the study. A comprehensive research to examine a more representative sample of evaluation tools is desirable, to draw more generalizable conclusions about the Kirkpatrick level of training evaluation currently taking place in the studied Affiliate agencies. Likewise,

only two of the seven Affiliates made their Workforce Development Plans available for the study, and therefore the measures analyzed in those plans are also a small, not generalizable sample.

B. Recommendations

This study reveals great variation among the TRAIN Affiliates with respect to their use of TRAIN, and these variations pose a challenge when attempting to describe the landscape of public health training and evaluation. Affiliate variations include the methods to post courses, required fields learners need to complete in the system, processes to open and close accounts, available time to monitor courses and training plans completion, but also in the resources available to administer the system. TRAIN has powerful capabilities, but most Administrators reported having multiple assignments beyond TRAIN and therefore having insufficient time to fully use this robust system. TRAIN reports are rarely generated and the volume of duplicate user accounts is not regularly examined, again due to competing priorities. As mentioned earlier, most of the fields in TRAIN are not required, and in some cases the volume of blank fields is significant (46.2% of the Active users have information in the "educational level" field, and only 6% agreed to receive emails from the system).

Evaluating training does not appear as a high priority for Affiliate organizations, and having a [most likely] part time TRAIN Administrator, doesn't make the issue any easier. Agencies are then forced to make training evaluations sporadic and voluntary,

and for the most part selected and designed by the Course Provider or Course Instructor for each class. Additionally, evaluations are conducted by Course Providers in many formats within and outside TRAIN, thus making it difficult to conduct a comprehensive assessment of the evaluation tools in use by each Affiliate.

At least three Affiliates mentioned centralization of training and staff development as a desirable method to gain support for training, if accompanied with the organization's leadership buy in, and provided with the resources and expertise. Having training centralized in an organization would potentially demonstrate the need and increase advocacy for a higher level of resources (i.e., full time TRAIN Administrator) assigned to TRAIN, and would increase its utilization, including more frequent use of the pre-programmed training plans to update and regularly monitor their completion. More importantly, having a centralized responsibility for training, staff development and training evaluation would unify the efforts currently conducted division-wide or program-wide and would eventually become uniform at the agency level.

Because all studied Affiliates are planning to apply for the Public Health Accreditation program, and since Accreditation is causing agency support for training and workforce development, the present could be the best time to gain the leadership buy in, cited as a pressing need in this study. Lastly, this study shows that little is done to evaluate the results of training, and therefore TRAIN Affiliates are unaware of the impact of the training they provide. Based on the fact that TRAIN Administrators reported being part timers, one can assume that limited resources are the main barrier to promote training and conduct evaluation. It is unclear, however, if resources are the

only barrier. Considering the study findings, and because lack of a systematic training evaluation could be the result of a wide array of barriers, the recommendations included here comprise broad, mid-term strategies that could improve the current structure of training evaluation in TRAIN Affiliates. The five recommendations are described below.

1. **ELEVATE WORKFORCE DEVELOPMENT TO A NATIONAL, MORE VISIBLE STRATEGY**. This recommendation calls for a national strategy that could become the turning point of training evaluation. Specifically, the suggestion is to engage high level authorities such as the Surgeon General's office and/or the IOM to issue a Call to Action on "public health workforce", to heighten the interest in the development of the public health workforce. Likewise, incentives should be identified to encourage researchers to publish their work and thus expand the body of literature in this aspect of public health. Some of the possible partners in this endeavor could include the Centers for Disease Control and Prevention (CDC), the Health Resources and Services Administration (HRSA), the Public Health Foundation (PHF) as sponsor of the TRAIN network, but many others in research and academia could likely be engaged in support of this effort.

2. **ESTABLISH TRAINING RESPONSIBILITY IN PUBLIC HEALTH AGENCIES**. Regardless of the structure utilized in the agency for managing training and staff development (centralized or decentralized), responsibility for agency level training must be clearly identified and be an integral part of the organization. In

public health, some key positions like the Public Information Officer (PIO), the State Epidemiologist, and the Preparedness Director already have their responsibilities clearly delineated and identified in a health agency. The recommendation is to assign the training responsibility to a position named accordingly, such as "Training Director" or "Training Coordinator". This position should have a set of job specifications, core competencies and measures of success. Regardless of the place within the organization where the Training unit is placed, the Training Director/Coordinator should have direct access to the top leadership of the organization, to demonstrate the need for training, its impact, advocate for resources, report progress and maintain support for an ongoing training strategy. Establishing a Training Director position as the norm in public health agencies would definitely help promoting training at the individual agencies, but most importantly, it could help national organizations such as ASTHO, NACCHO, NALBOH, APHA, and PHF, to design targeted technical assistance for this group, in the same way they currently assist and convene HR directors, deputy directors, performance improvement managers and other for conferences, trainings and ad hoc meetings. Additionally, because of the current trend and interest on Public Health Accreditation, Training Directors may find a fertile ground by working with Performance Improvement Managers, as well as TRAIN Administrators, which are most likely the individuals working on the Workforce Development Plan required for Accreditation.

3. **AUGMENTING WORKFORCE DEVELOPMENT RESOURCES.** As many other efforts in public health, enhancing training and training evaluation need resources, in the form of expertise and funding to get the expertise. While a Surgeon's General Call to Action may elevate awareness of the workforce development issues, advocating for federal funding may not be successful at least in the short term. Hence, this recommendation involves identifying additional resources to support training, looking for creative solutions (e.g., use 1% of all federal funding coming to the agency for training purposes for a limited time, like 5 years). One recommendation is to consider private corporations. Pharmacy chains, pharmaceuticals, banks and other public health stakeholders, are often well equipped in terms of technology, videoconferencing, and training facilities. Public health lacks these resources and works with these companies for health screenings, prescription medication monitoring, and outreach, and could find an opportunity to leverage resources. Private organizations also tend to invest in robust human resource departments and could hold workshops and share training best practices and models that have been tested and used successfully, therefore saving public health time and effort. Private companies with large HR departments could also be asked to share their ideas of incentives they use to encourage learners to attend training. Most importantly, the private industry is more likely to tie training to performance, and examining their methods and practices could be useful to public health.

   Another opportunity might be to assess partnerships with the Affordable Care Act (ACA) entities (i.e., health insurers, private providers, the healthcare

community). The ACA includes a section on workforce development and further exploring partnerships with them might prove useful to build-up public health training with mutual benefits.

Focused partnerships with academia could also be pursued. For example, states could formalize partnerships with business schools to get graduate students' theses to conduct SWOT (strengths, weaknesses, opportunities and threats) analysis of the training structure within agencies, and write recommendations to improve the agency's training strategy based on management and organizational development science. Partnerships could also engage schools in *research contests* for training evaluation projects, judged and exhibited at public health agencies, thus giving students exposure to potential employers. Agencies could work with academia to do more focused internship recruitment to conduct studies on cost benefit analyses, returns on investment, training plans implementation, or developing marketing materials to promote training. Likewise, partnerships with Information Technology schools would be useful to help use TRAIN data. Through internships, students could help resolve issues of duplicate accounts, generating reports, and quantifying training in a more comprehensive way.

4. **VALIDATE/DEVELOP CUSTOMIZABLE TRAINING EVALUATION TOOLS**. Currently, there is a wide variation in the approaches Affiliates take to evaluate training, and there is little standardization with respect to training evaluation. Affiliates more often leave the decision to Course Providers to develop and

administer their own evaluation tools, some of which are tracked on hard copy only. Courses may have either pre and post tests, only post tests, only quizzes, only evaluations (in either hard copy or electronically), a combination of the above or none of the above. Hence, resources to identify tools and make them available to Affiliates can be very helpful. This recommendation suggests that funding from foundations can be used to conduct comprehensive studies of training evaluation, such as analysis of the evaluation tools used by Affiliates. A key goal for such investment would be to develop a set of validated assessments, quizzes, and questionnaires that Affiliates could use for the courses they offer, depending on the topic, the course level (introductory, intermediate, advance) and even begin development of a tool that could facilitate a more automated method to identify Core Competencies that apply to courses in TRAIN. Having a set of validated tools that can be slightly customized to the Affiliates needs would definitely facilitate the task to standardize training evaluation. Whereas TRAIN was a network created for purposes other than research, this arm of public health is thirsty for funding and with the sufficient resources and incentives, Affiliates would be more likely to take a consistent approach to evaluate the training they offer through the TRAIN network.

5. **REPORT TRAINING EVALUATION TO PHAB**. Given that the Public Health Accreditation appears to be the impetus to prepare a Workforce Development Plan, the Public Health Accreditation Board (PHAB) could require submission of an evaluation of the Workforce Development Plan as part of the annual progress

report for accredited agencies. Since the Workforce Development Plan includes a “training schedule”, the evaluation or annual progress report should address the training offered. While this would only target accredited health departments, the number of agencies in that category is likely to increase over time. Specifically, this recommendation would a) create an ongoing expectation in the accredited agency to continuously monitor and report progress made in the workforce development plan, and b) align with PHAB “Academic Stakeholders” idea to support the "inclusion of accreditation in theses and dissertations", creating a unique opportunity to conduct important research work about the development of the public health workforce.

C. Leadership Implications

This study investigated how training evaluation efforts currently look like in the participating TRAIN Affiliates, with the intent that these findings give public health leaders an insightful perspective. Whether it is real or perceived, staff is anxiously looking for increased leadership support to expand the role of training, perhaps through centralization of the training function and additional resources, as well as getting more in depth use of TRAIN, and stronger advocacy to engage staff in training and staff development as part of the agencies’ culture.

Given the constrained fiscal, structural and staff resources public health experiences, making training accessible, affordable, and effective is a challenge that

visionary leaders can definitely begin to overcome. Budget constraints are already forcing some agencies to transition from face-to-face to online/distance training as the preferred method. And adding job responsibilities to current staff is becoming the trend in public health, as in the case of TRAIN Administrators that could be working full time in the agency, but only serving as their key capacity on a part time basis.

While public health accreditation is causing agencies to start supporting training as an agency-wide effort, no hard data is available about the value and impact of public health training. And without good evidence about the value of the training, no solid argument can be made to provide more or better training when its return on investment (ROI) hasn't been fully evaluated.

To take a first step in that direction, one should consider this study's findings and attempt, as a first step, implementing some of the recommendations, such as a small scale study on training evaluation. For example, studying evaluation tools in a handful of Affiliates to assess the ROI for Levels 2 and 3 of the Kirkpatrick's model, for all courses offered to workers in Tier 2 of the Core Competencies. An evaluation such as this could be useful if provides a science-based calculation of the ROI for the training provided to the public health workforce, and could help justify more or less aggressive approaches to require the completion of evaluations, and advocacy in support of further research.

Another step would be to produce more robust performance measures of training, thus augmenting to the measures developed by this study, which are limited due to data availability and scope of the study. The initial indicators (percent of duplicate accounts, percent of active learners, and percent of courses for introductory,

intermediate and advanced levels) can be complemented with other measures such as percent of staff completing training plans, percent of courses completed by learners in a given period, percent of learners in tiers 1, 2 and 3 that completed training in a given Core Competency, to name a few. These measures could be calculated annually, shared nationally and used as benchmarks to gain support, and most importantly, open a meaningful conversation about the need for more robust indicators. Likewise, leaders could play a key role in the support of research, by directly participating and approving the use of their non-confidential data for training evaluation and promoting publications on the topic.

As stated at the beginning of this study, the ultimate goal and reason for training our workforce is to have our human resources adequately prepared and positioned to execute the core functions of public health. And if the core functions of public health, to conduct assessments, develop policy and assure policies work, we can effectively move the parts of the complex engine that improves health outcomes and makes a nation healthier and more productive.

Training has taken a back seat in the spectrum of public health priorities for a long time, and our leaders could take actions to change that. As public health leaders, our interests rest on the functions and services we perform every day to make sure the drinking water is clean, beaches are safe, injuries are avoided, safe sex is practiced, environments are free of toxins, kids are immunized and mothers have healthy babies in each of our communities. To ensure we continue to provide these safe environments, we must ensure our inspectors, nurses, environmentalists, educators, outreach workers, case managers, and our staff in general is ready to take the challenge and is

making a difference. We, as leaders, support ongoing tracking and assessment of initiatives, programs, and services and are consistently involved in evaluation efforts for many of those programs. It is time to invest in the workforce that is responsible for conducting the essential functions of public health, give them the tools and training they need to do their jobs, and learn if those tools and training are making a difference. Evaluating the training we offer to staff, carefully addressing what is not working, and ensuring our workforce sees and embraces the importance of training should be placed higher in our priorities list. If our employees are our most valuable resource, we must support them by giving them the training they need, at the time they need, and ensure the training is making a difference.

As leaders and practitioners in public health, we must be concerned about one of the key findings of this study that indicates training is generally undervalued, and as a result, training evaluation is also undervalued and unsystematic. To our surprise, merely adding sufficient resources, such as a full time TRAIN Administrator, a Training Manager/Coordinator and a training budget may not be sufficient to give training the importance it deserves in public health. The key is to get the executive level of the agency to lead the organization to value training and training evaluation, with genuine interest and support. This genuine support must come from the top and transcend to all levels of the organization. There must be a deliberate, concerted effort to send a vigorous and consistent message about the significance and value of training, set policies to promote training, offer training incentives, and develop stronger training evaluation efforts agency-wide. Public health executives should have a key role in the ongoing monitoring of training goals, as they would do in any other program, and make

stronger investments to evaluate training in a systematic way. The top level of the public health agency should actively promote and participate themselves in innovative training approaches such as job shadowing, mentoring, and externships, and attend training for their own development. They should bring training policy to a higher level of the organization, develop succession planning and formulate strategic goals, thus demonstrating their buy in and support to develop the workforce.

This study finding should be used as a basis for action and not only as an academic exercise. Training evaluation approaches need a serious revamp to become a more systematic, centralized, and most importantly, valued strategy that would justly educate our public health workforce. As leaders and public health professionals, we can't allow ourselves to work in an environment that gives little value to training, and the time to act is now. Fortunately, we have in our hands what could be the best opportunity of our times: public health accreditation. Going through the accreditation process requires agencies an annual review and update of both, the Quality Improvement plan, and the Workforce Development Plan. Whereas accreditation is a relatively new program with no short term economic incentives, its value rests on creating a capacity and a culture that was non-existent in public health agencies before. The dialogue about creating a culture of quality improvement and designing a workforce development plan is occurring because of accreditation. For public health executives accreditation is the best mechanism at their disposal to promote training and make it part of the organizational culture. The accreditation process should be seen as the catalyst to prepare the workforce, value training, conduct training evaluation and get accredited all part of a continuum effort to build and maintain capacity at the public

health agency. And having this capacity and enhancing the skills of the public health workforce will serve our nation right. The responsibility of taking action rests on the hands of the decision-making, executive level of public health departments.

VI. APPENDICES

APPENDIX 1.

The TRAIN Affiliate Consortium[12] (TAC) consists of 28 affiliate partners:

States (25)

- University of Arizona's Mel and Enid Zuckerman College of Public Health (MEZCOPH), Arizona Health Care Cost Containment System (AHCCCS), Arizona Department of Health Services (AZDHS)
- Arkansas Department of Health
- Colorado Department of Public Health and Environment
- Connecticut Department of Public Health
- Delaware Health and Social Services
- Florida Department of Health
- Hawaii State Department of Health
- Idaho Department of Health and Welfare
- Illinois Department of Public Health
- Kansas Department of Health and Environment
- Kentucky Department for Public Health
- Michigan Department of Community Health / Michigan State Police
- Minnesota Department of Health
- Center for Biopreparedness Education (Nebraska)
- New Mexico Department of Health
- Ohio Department of Health
- Oklahoma Division of Public Health
- Oregon Health Authority
- Rhode Island Department of Health
- Texas Department of State Health Services
- Utah Department of Public Health
- Virginia Department of Health
- West Virginia Department of Health and Human Services
- Wisconsin Department of Health Services
- Wyoming Department of Health

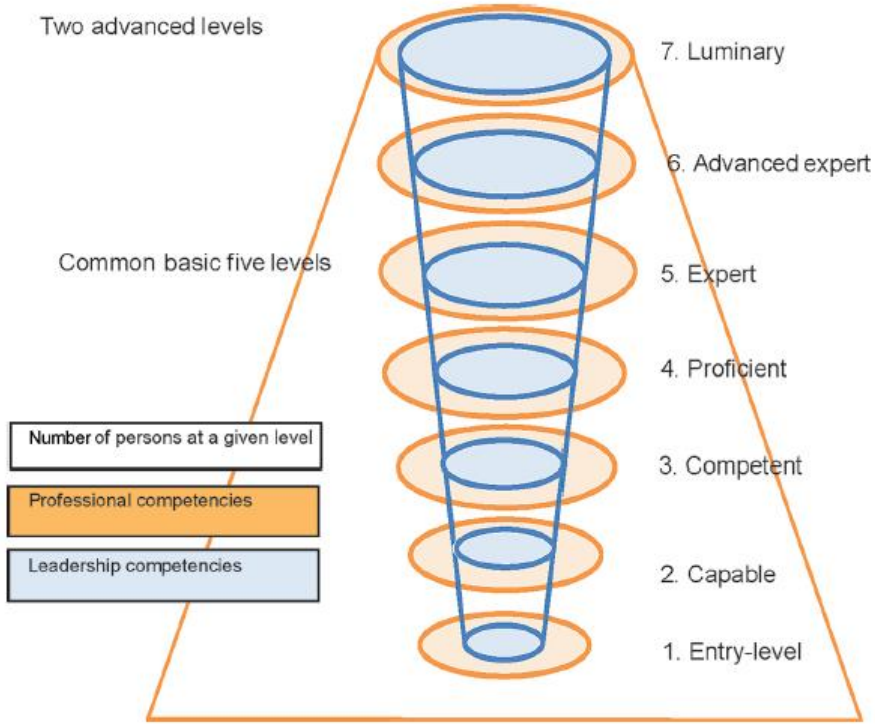
Federal Partners (3)

- The Division of the Civilian Volunteer Medical Reserve Corps (MRC)
- The Centers for Disease Control and Prevention (CDC)
- The Division of Global Migration and Quarantine, Centers for Disease Control and Prevention (DGMQ)

[12] http://www.phf.org/programs/TRAIN/Pages/TRAIN_Affiliate_Map.aspx

APPENDIX 2.

Expanded Dreyfus model in public health



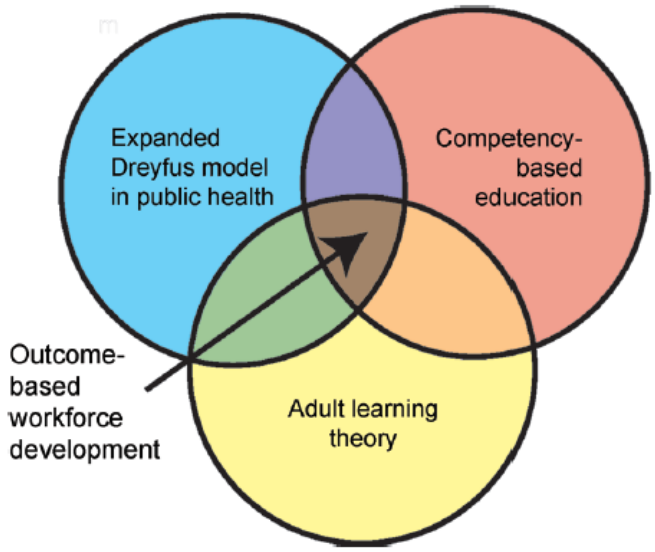
APPENDIX 3.

Expanded Dreyfus model in public health with research, practice and leadership examples

Level	Definition	Research application	Practice application	Leadership
Entry	Operates through rules and regulations	Implements data collection protocols	Implements programmatic activities	Responds to direction from leader; is unsure about the need for mentorship
Capable	Uses more complex procedures to solve problems	Oversees data-collection processes and ensures quality of data	Monitors programmatic activities and keeps them on track and consistent with timelines	Develops increasing independence and seeks opportunities for leadership in minor projects; is seeking mentorship
Competent	Acts with long-term goals and plans in mind	Designs a research protocol and implements the research agenda	Designs a community-based intervention and the plan for its evaluation	Has been a leader in projects and might supervise teams; is actively using mentorship guidance
Proficient	Acts by using a balance of analytic thinking and intuition	Designs a research agenda, ensures accuracy of the research findings, and translates the science into practice	Designs and implements a multipronged program to prevent and control a given condition	Leads major projects and often oversees multiple levels of the organization; is known to be a mentor to a limited number of others
Expert	Acts from intuition and uses systems thinking	Develops the interdisciplinary research agenda for the agency	Develops programmatic approaches that cross disease boundaries	Sets the strategic direction for an agency or major organization within it; frequently provides mentorship
Advanced expert	Develops innovative ways to solve problems	Promotes and obtains resources for a research agenda in a professional field of practice	Advocates for the fiscal and strategic direction of an agency or profession with the larger political and social systems	Leads strategic alliances across agency boundaries; provides mentorship on a broad scale
Luminary	Sets the standards for the fields and changes the history of professional institutions or disciplines	Encourages a multidisciplinary social action (including policy) response based on research findings	Collaborates with other professional leaders to take action to resolve major professional and social problems	Sets standards for the field on a national or international scale; provides mentorship to those who are mentors to others

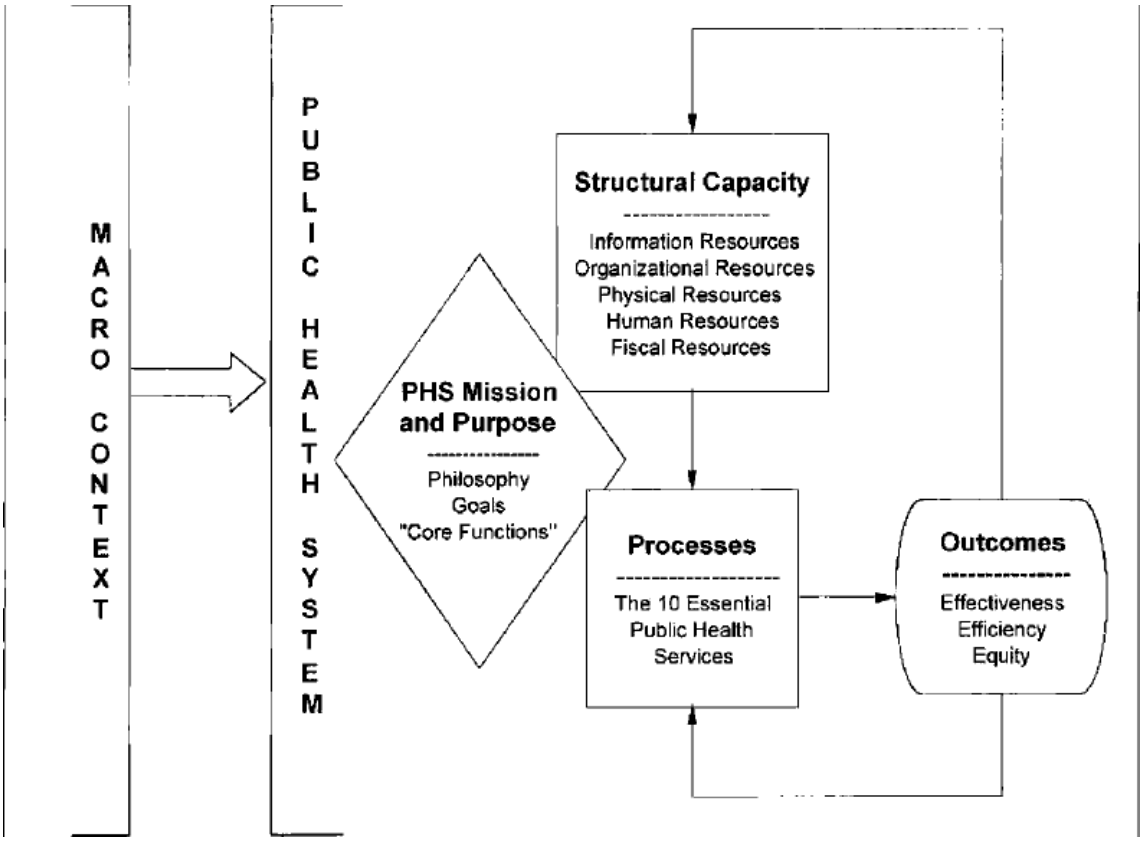
APPENDIX 4.

Outcome-Based Workforce Development Integrated Model (Koo and Miner 2010, 253-269)



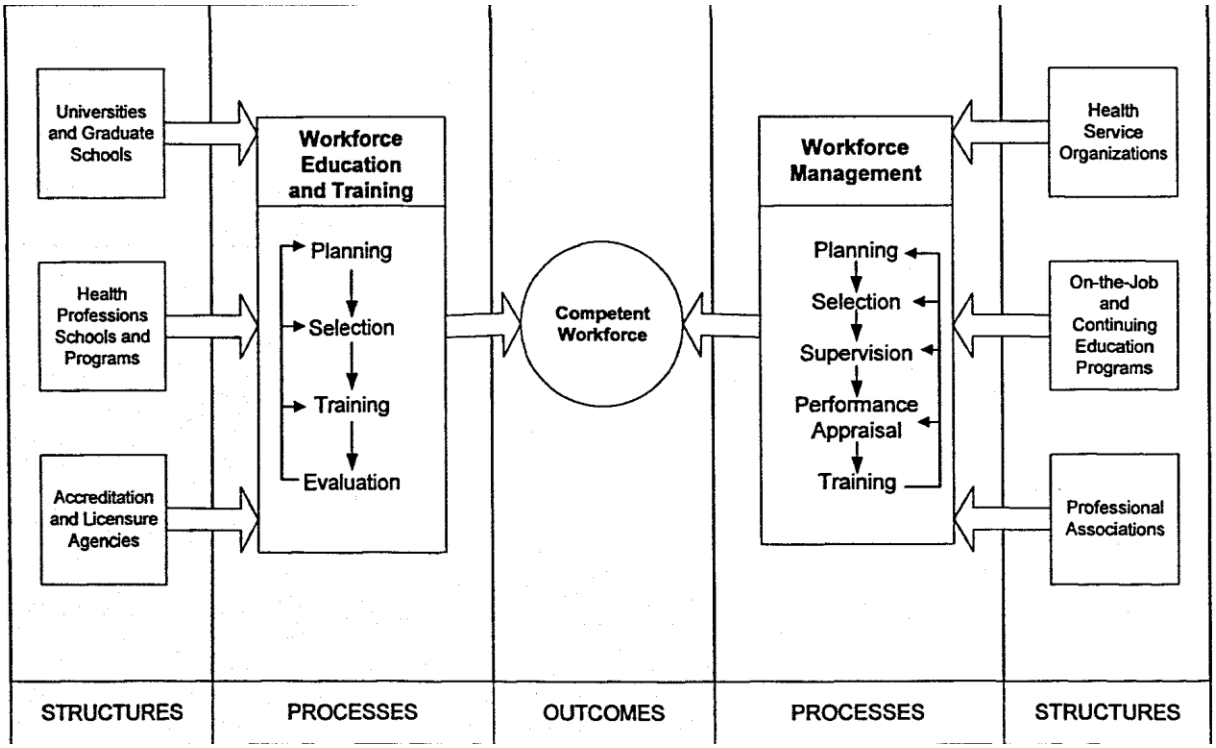
APPENDIX 5.

Conceptual framework of the public health system (PHS) as a basis for measuring system performance (Handler, Issel, and Turnock 2001, 1235-1239)



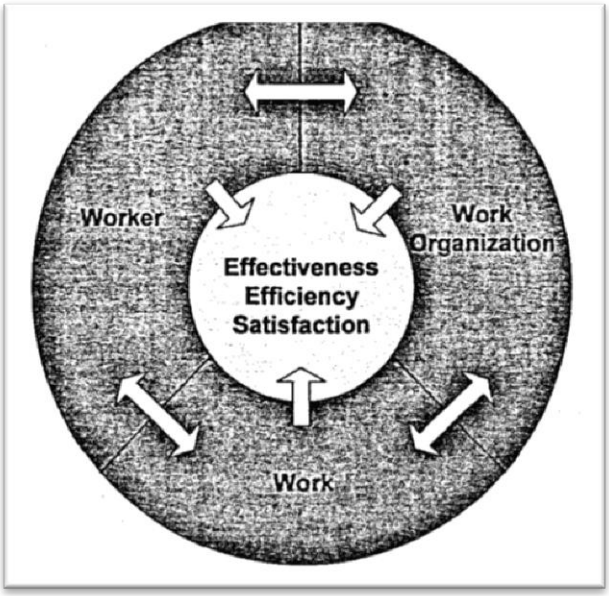
APPENDIX 6.

Conceptual model for workforce development - Source: Data from F. T. Moore, Functional Job Analysis: Guidelines for Task Analysis and Job Design, World Health Organization, September 1999.



APPENDIX 7.

The structure of a work-doing system



APPENDIX 8.

Institutional Review Board Approval, November 5, 2013

UNIVERSITY OF ILLINOIS
AT CHICAGO

Office for the Protection of Research Subjects (OPRS)
Office of the Vice Chancellor for Research (MC 672)
203 Administrative Office Building
1737 West Polk Street
Chicago, Illinois 60612-7227

Approval Notice-REVISED
Initial Review (Response To Modifications)

November 8, 2013

Magaly Angeloni, DrPH(c)
Community Health Sciences
613 Academy Avenue
Phone: (401) 339-8584 / Fax: (401) 222-2456

RE: Protocol # 2013-0941
"How TRAIN (TrainngFinder Real-Time Affiliate Integrated Network) Affiliates are approaching evaluation of public health training"

Dear Dr. Angeloni:

Please remember to submit the completed data agreement(s) prior to accessing and/or analyzing data. The completed agreement(s) must be submitted to the UIC IRB, via an Amendment form.

Your Initial Review (Response To Modifications) was reviewed and approved by the Expedited review process on November 5, 2013. You may now begin your research

Please note the following information about your approved research protocol:

Protocol Approval Period: November 5, 2013 - November 5, 2014
Approved Subject Enrollment #: 652269
Additional Determinations for Research Involving Minors: These determinations have not been made for this study since it has not been approved for enrollment of minors.
Performance Sites: UIC, Public Health Foundation
Sponsor: None
PAF#: Not Applicable
Research Protocol(s):

a) What Approach are "Train" Affiliates Taking to Evaluate Public Health Training?; Version 1.2; 10/29/2013

Recruitment Material(s):

a) ***REVISED***: Recruiting Materials; Version 1.2; 10/29/2013

Informed Consent(s):

a) Interview Consent and Questionnaire; Version 1.2; 10/29/2013

b) A waiver of consent has been granted under 45 CFR 46.116(d) for recruitment (for the release of contact information) only; minimal risk; electronic consent will be obtained upon enrollment and an information sheet will be provided.

c) A waiver of documentation of consent has been granted under 45 CFR 46.116(d) for interviewee recruitment purposes only; minimal risk; electronic consent will be obtained at enrollment and an information sheet will be provided.

Your research meets the criteria for expedited review as defined in 45 CFR 46.110(b)(1) under the following specific category(ies):

(5) Research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for nonresearch purposes (such as medical treatment or diagnosis)., (6) Collection of data from voice, video, digital, or image recordings made for research purposes., (7) Research on individual or group characteristics or behavior (including but not limited to research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Please note the Review History of this submission:

Receipt Date	Submission Type	Review Process	Review Date	Review Action
09/25/2013	Initial Review	Expedited	09/30/2013	Modifications Required
10/21/2013	Response To Modifications	Expedited	10/22/2013	Modifications Required
11/01/2013	Response To Modifications	Expedited	11/05/2013	Approved

Please remember to:

→ Use your **research protocol number** (2013-0941) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the enclosure,
"UIC Investigator Responsibilities, Protection of Human Research Subjects"
(http://tigger.uic.edu/depts/ovcr/research/protocolreview/irb/policies/0924.pdf)

Please note that the UIC IRB has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact OPRS at (312) 996-1711 or me at (312) 355-0816. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Alison Santiago, MSW, MJ
IRB Coordinator, IRB # 2
Office for the Protection of Research Subjects

Enclosure(s):

1. **UIC Investigator Responsibilities, Protection of Human Research Subjects**
2. **Informed Consent Document(s):**
   a) Interview Consent and Questionnaire; Version 1.2; 10/29/2013
3. **Recruiting Material(s):**
   a) Recruiting Materials; Version 1.2; 10/29/2013

cc: Jesus Ramirez-Valles, Community Health Sciences, M/C 923
Michael Fagen (Faculty Advisor), Community Health Sciences, M/C 923

APPENDIX 9.

PHF's Train Data Dictionary Use Agreement

TRAIN Data Dictionary	TRAIN Data Dictionary		Last Updated: October 5, 2012	
Topic	**Code**	**Sub-Code**	**Definition**	**Options**
Course Registrations	Approval Date		The specific day, month and year the particular course was granted consent	
	Approved By		The person or organization of which granted the course consent	
	Certificate Type		The name of the certificate being delivered	
	Completed Date		The day, month and year of which the course registration process was completed.	
	Course Grade (Percentage)		The numerical standing in the class that is standardized to measure ones comprehension within a subject area. This number is convert to a percent (out of a 100). Ex: 93% out of 100%	
	Course Grade Points		The numerical standing in the class that is standardized to measure ones comprehension within a subject area. This number is the actual total number of points received. Ex 140 points out of a total possible points of 150	
	Course ID		The specific set of characters (numbers only) that is specific to a particular course.	
	Course Registration Status		The progression of the course registration process.	In progress/ Withdrawn/ Completed/Approved
	Credit Type		The particular type of credit that is recognized by an organization, college or university that a course of studies has been successfully completed.	
	Custom User Information		The reply to the question, which is determined by the Course Provider, requested on the Registration Tab.	There are an unlimited amount of variables for this field
	Declined By		The person or organization of which did not approve the course registration .	
	Declined Date		The specific day, month and year the particular course registration was not approved.	
	Evaluation Complete		The status of the evaluation attached to the course	True/False
	Pre-Assessment (Percentage)		The numerical standing in the class that is standardized to measure ones comprehension within a subject area prior to taking the class. This number is convert to a percent (out of a 100). Ex: 93% out of 100%	
	Pre-Assessment (Points)		The numerical standing in the class that is standardized to measure ones comprehension within a subject area prior to taking the class. This number is the actual total number of points received. Ex 140 points out of a total possible points of 150	
	Provider Course Number		The particular set of characters (numbers and/or letters) that a Course Provider uses to differentiate their courses from one another, outside of the Course ID (if applicable)	
	Registration Date		The specific day, month and year of which course registration began	
	SCORM – Total Time in Course		The amount of time logged by the computer and transferred to TRAIN that a user took to complete a particular course. Sharable Content Object Reference Model (SCORM)	
	Session ID		The particular set of characters (numbers only) specific to a particular course session.	
	Target Completion Date		The ideal day, month, year of which course registration should be completed.	
	User ID		The specific set of characters (numbers only) that is specific to the User	
	Verified		The reviewal of course registration to confirm registration has been completed.	Yes/No
Courses	Active		Status of the course	True/False
	Approval Date		The day, month and year that the particular course was granted consent.	
	Approval Status		The status of the approval process.	Withdrawn/Complete
	Approved By		The day, month and year that the course was created.	
	Clinical		The clinical status of the course. A course is consider clinical when it consist of direct observation of patients.	True/False
	Course Description		The statement that represents and describes the course	
	Course Format		The design of the course of which the information will be taught.	Online/ Physical Carrier/ Live Session (I think subformats are appropriate here. Ex. Audioconference, etc.)
	Course ID		The specific set of characters (numbers only) that is specific to a particular course.	
	Course Name		The specific name of the course. Ex: Adult Preventative Training Module	
	Course Provider User Name		The character/number that is specific to the Course Provide of which they use to login into TRAIN	
	Course URL		The address of a web page on the world wide web that is specific to the particular course.	
	Date Created		The day, month and year that the course was created.	
	Date of Last Update		The day, month and year of which no further modification was done to the course.	
	Date Submitted		The day, month and year of the course was submitted.	
	Expiration Date		The last day, month and year in which course can be submitted.	
	Materials Order URL		The address of a web page on the world wide web that is specific to a particular website that may be necessary for the course.	
	Price		The cost, in dollars, to take a course and/or obtain credit as specified by the Course Provider (if applicable)	
	Provider Approval Based		Whether the course does or does not require permission from the Course Provider or Administrator for registration.	True/False
	Provider Course Number		The particular set of number that is specific to the course provider.	
	SCORM Manifest URL		The address of a web page on the internet where the indexing file can be found by TRAIN in order for communication between TRAIN and the course to occur.	
	Skill Level		The particular level of knowledge attain or is require for this particular course set forth by the course competencies.	Aware/Aware to knoledgeable/ Knowledgeable/ knowledgeable to Advance/ Advanced
	Sponsor (Course Provider)		The organization in support of the course	
Course Attributes	Category		The name of the type of Course Attribute	Unlimited values. Currently available are "MRC Competencies," "Virginia Course Attributes," and "Virginia Course Category"
	Course Attribute Name		The name of the subtype under the Course Attribute	Unlimited values.
	Course ID		A specific set of characters (numbers only) that is specific to a particular course	
	Value		The particular set of characters (numbers and/or letters and/or words) that define the Course Attribute Name	True/False OR a number
Course ODP Disciplines	Course ID		A specific set of characters (numbers only) that is specific to a particular course	
	Emergency Management Agency		An agency with the goal to support citizens and first responders to ensure that as a nation we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards. The primary agency is FEMA which is part of the United States Department of Homeland Security. FEMA works in conjunction with other emergency agencies to provide relief for all citizen. A majority of these agency are located at the state level.	
Sessions	Active		The status of the session.	True/False
	Attend Capacity		The maximum number of participants allowed for each course session	
	Course ID		The specific set of characters (numbers only) that is specific to a particular course	
	Description		The statement that represents and describes the course and session of the course	
	Registration Deadline		The final date allow for registration of the particular course session	
	Seats Held		The number of participants in the session.	
	Session ID		The particular set of characters (numbers only) specific to a particular course session	
	Session Location (first scheduled session)		The place at which the first class session of the course is held.	
	Session Start Date (first scheduled session)		The particular day, month and year the session will begin.	
	Show in Learning Calendar		Whether the session has been selected to appear in the Calendar module	True/False
	Show in Upcoming Events		Whether the session has been selected to appear in the Upcoming Events module	True/False
Sessions-Schedule	Date		The specific day, month and year the particular session is schedule	
	End Time		The specific day, month and year the particular session is schedule to end	
	Location		The place of which the course is held.	
	Session ID		The particular set of characters (numbers only) specific to a particular course session	
	Start Time		The time in which the session will begin.	
Users	Active		The status of the User	True/False

	Address 1		The primary location to which the USPS is to deliver or return a mail piece. It consists of certain elements such as recipient name, street name and house number, and city, state, and ZIP Code as required by the mail class	
	Address 2		The secondary location to which the USPS is to deliver or return a mail piece. It consists of certain elements such as recipient name, street name and house number, and city, state, and ZIP Code as required by the mail class	
	Bureau		An administrative unit of government	
	City		Varies depending on states. Usually located within a state and is the local governmental body. The city in which the user holds residence.	
	Country		The geographic region that is territory of a sovereign states. Country of resident of the user. Ex: United States of America	
	County		The intermediate tier of unitary state government, between the statewide tier and the immediately local government tier. County of resident of the user.	
	Course Provider ID		A specific set of characters (numbers only) that is specific to a particular the course provider.	
	Date Created		The day, month and year the user account was created.	
	Department		The department of which the individual is primary aprart of determined by their occupation status.	
	Email		The process of communicating electronically through a computer. The email is a particular address or Id the individual uses for this paritular form of communication.	
	Fax		The process of communicating through a fax machine. Each fax machine has a particular number; the fax number is the particular number of the fax machice of which the individual/user uses for this form of communicaiton.	
	First Name		The name that precedes the surname/last name.	
	Last Login		The day, month and year the user last log in into the their TRAIN account.	
	Last Name		The name used to identify the members of a family	
	Last Update Date		The day, month and year when changes where last made to the users account.	
	Login Name		The name (character/numbers) of which the user uses to login into TRAIN.	
	Mobile		The cell phone number of the individual.	
	Organization		The organization in which the individual is affiliated with.	
	Pager		The pager number of an individual	
	Phone 1		The primary telephone number to reach the individual	
	State		The territory forming the United States. The particular state the used is resident in.	
	Stay Informed		Whether the user has opted the checkbox in their account that states "I would like to receive notifications about the site updates by email."	True/False
	Title		The professional identification of an individual . Ex: Mr., Dr	
	User ID		A specific set of characters (numbers only) that is specific to a particular person(user)	
	Zip		The Zone Improvement Plan. A five digit code assigned to a geographic location in the United States that are extremely important in the processing and delivery of mail. The use of the code significantly decreases the potential for error and possibility of mail delivery.	
Users-User Attributes	Category		The name of the type of User Attribute	Unlimited, but must type out exactly as it is in the database.
	Primary		The primary title that is held by an individual within their professional role. For example if an individual is both a student and a research, out of these two options, the title that the individual primary holds.	
	User Attribute Name		The name of the subtype under the Course Attribute	Unlimited, but must type out exactly as it is in the database.
	User ID		A specific set of characters (numbers only) that is specific to a particular person(user) on TRAIN.	
	Value		The title that is held within the professional role. For example in the Allied Health Professional role, an individual's title could be physician's assistant.	
Users-User Demographic Information	Birth Date		The day , month and year of which the person is born	
	Education Level		The level of schooling a person has complete that may be consider their highest level attained.	
		Associate degree		
		Completed college (e.g., B.A or B.S.)		
		D.D.S., D.V.M., D.P.M. or equivalent		
		Ed.S.		
		Eighth grade or less		
		Hith school graduate		
		J.D., M.D., D.O. or equivalent		
		M.D./Ph.D., M.D./J.D. or equivalent dual advanced degrees		
		Master's (e.g., M.A., M.S.)		
		Ph.D, Ed.D, Dr PH, Sc.D, or equivalent		
		Some college or Specialized business or technical training (beyond high school)		
		Some graduate or professional school (requiring work beyond college graduation)		
	Ethnicity		The individual's self classification base on country on origin that should not be interpreted as being scientific or anthropological in nature	Individuals may indentify more than one.
		Not Spanish/Hispanic/Latino		
		Spanish/Hispanic/Latino		

Users-User Attributes	Category		The name of the type of User Attribute	Unlimited, but must type out exactly as it is in the database.
	Primary		The primary title that is held by an individual within their professional role. For example if an individual is both a student and a research, out of these two options, the title that the individual primary holds.	
	User Attribute Name		The name of the subtype under the Course Attribute	Unlimited, but must type out exactly as it is in the database.
	User ID		A specific set of characters (numbers only) that is specific to a particular person(user) on TRAIN.	
	Value		The title that is held within the professional role. For example in the Allied Health Professional role, an individual's title could be physician's assistant.	
Users-User Demographic Information	Birth Date		The day , month and year of which the person is born	
	Education Level		The level of schooling a person has complete that may be consider their highest level attained.	
		Associate degree		
		Completed college (e.g., B.A or B.S.)		
		D.D.S., D.V.M., D.P.M. or equivalent		
		Ed.S.		
		Eighth grade or less		
		Hith school graduate		
		J.D., M.D., D.O. or equivalent		
		M.D./Ph.D., M.D./J.D. or equivalent dual advanced degrees		
		Master's (e.g., M.A., M.S.)		
		Ph.D, Ed.D, Dr PH, Sc.D, or equivalent		
		Some college or Specialized business or technical training (beyond high school)		
		Some graduate or professional school (requiring work beyond college graduation)		
	Ethnicity		The individual's self classification base on country on origin that should not be interpreted as being scientific or anthropological in nature	Individuals may indentify more than one.
		Not Spanish/Hispanic/Latino		
		Spanish/Hispanic/Latino		

Users-User Job Roles	Administrative Support Staff		Individuals who perform a variety of administrative and clerical duties necessary to run an organization efficiently. They serve as information and communication managers for an office; plan and schedule meetings and appointments; organize and maintain paper and electronic files; manage projects; conduct research; and disseminate information by using the telephone, mail services, Web sites, and e-mail. They may also handle travel and guest arrangements.
	Administrator/Director/Manager		Individuals who plan or supervise support staff to ensure that they can work efficiently. After allocating work assignments and issuing deadlines, office and administrative support supervisors and managers oversee the work to ensure that it is proceeding on schedule and meeting established quality standards.
	Allied Health Professional		The term Allied Health (or Health-Related Professions, at some institutions) is used to identify a cluster of health professions, encompassing as many as 200 health careers. Examples include, Nurses, Athletic Trainers, Physical Therapist, Physician Assistants, Speech-language Pathologist.
		Dietitian	
		Medical Assistant	
		Medical Imaging Professional	
		Other Allied Health	
		Physician Assistant	
		Rehabilitation Professional	
		Speech/Language or Audiology Professional	
	Animal Control Specialist/Veterinarian		Individuals that diagnose and treat diseases dysfunctions of animals. Specifically, they care for the health of pets, livestock, and animals in zoos, racetracks, and laboratories.
	Biostatistician		Individuals that apply their knowledge of statistics, science and mathematics to important questions in healthcare and public health. They work alongside researchers to gather and analyze data that will yield meaningful conclusions about important medical questions, such as the association between a psychotropic drug and weight gain, or the relationship between heart disease and smoking
	Childcare Provider		Individuals that nurture, teach, and care for children who have not yet entered kindergarten. They also supervise older children before and after school. These workers play an important role in children's development by caring for them when their parents are at work or are away for other reasons or when the parents place their children in care to help them socialize with children their age. In addition to attending to children's health, safety, and nutrition, child care workers organize activities and implement curricula that stimulate children's physical, emotional, intellectual, and social growth. They help children explore individual interests, develop talents and independence, build self-esteem, learn how to get along with others, and prepare for more formal schooling.
	Communicable Disease/Infection Control Staff		Individuals who investigates and diagnoses and tries to control or prevent diseases (especially new and unusual diseases)
	Computer/Information Systems Specialist		Individuals who play vital role in the implementation and administration of technology within their organizations. Individuals can apply the theories and principles of computer science and mathematical analysis to create, test, and evaluate the software applications and systems that make computers work. They may design and develop new computer systems by choosing and configuring hardware and software, or they may devise ways to apply existing systems' resources to additional tasks. They may also provide technical assistance, support, and advice to individuals and organizations that depend on information technology.
	Dental Professional		Individuals that diagnose and treat problems with teeth and tissues in the mouth, along with giving advice and administering care to help prevent future problems. They provide instruction on diet, brushing, flossing, the use of fluorides, and other aspects of dental care. They remove tooth decay, fill cavities, examine x rays, place protective plastic sealants on children's teeth, straighten teeth, and repair fractured teeth. They also perform corrective surgery on gums and supporting bones to treat gum diseases.
		Dental Assistant	
		Dental Hygienist or Technician	
		Dentist	
		Other Dentistry Professional	
	Emergency Responder		Individuals that are certified first responder who has completed a course and received certification in providing pre-hospital care for medical emergencies. Examples include EMT and Fire fighters.
		Emergency Medical Services Personnel	
		Emergency Preparedness/Management Personnel	
	Environmental Health Professional		Individuals trained to provided healthcare services and prevent health conditions that are related to environmental exposures.
		Engineer/Engineering Technician	
		Environmental Health Specialist/Sanitarian	
		Food Safety Professional	
		Hazardous Substances Professional	
		Industrial Hygienist	
		Other Environmental Health	
		Radon Specialist	
		Toxicologist	
	Epidemiologist/Surveillance Staff		Individuals that investigate and describe the causes and spread of disease, and develop the means for prevention or control. Applied epidemiologists, who usually work for State health agencies, respond to disease outbreaks, determining their causes and helping to contain them. Research epidemiologists study diseases in laboratories and in the field to determine how to prevent future outbreaks.
	Food Services/Facilities Management		Individuals at the front line of customer service in full-service restaurants, casual dining eateries, and other food service establishments. These workers greet customers, escort them to seats and hand them menus, take food and drink orders, and serve food and beverages. They also answer questions, explain menu items and specials, and keep tables and dining areas clean and set for new diners. Most work as part of a team, helping coworkers to improve workflow and customer service. Food service managers are responsible for the daily operations of restaurants and other establishments that prepare and serve meals and beverages to customers. Besides coordinating activities among various departments, such as kitchen, dining room, and banquet operations, food service managers ensure that customers are satisfied with their dining experience. In addition, they oversee the inventory and ordering of food, equipment, and supplies and arrange for the routine maintenance and upkeep of the restaurant's equipment and facilities. Managers are generally responsible for all administrative and human-resource functions of the business, including recruiting new employees and monitoring employee performance and training.
	Staff/Housekeeper		Individuals keep office buildings, hospitals, stores, apartment houses, hotels, and residences clean, sanitary, and in good condition. Some do only cleaning, while others have a wide range of duties.
	Government Official		Individuals who holds an office (function or mandate, regardless whether it carries an actual working space with it) in an organization or government and participates in the exercise of authority (either his own or that of his superior and/or employer, public or legally private).
		Board of Health Member	
		Other Elected/Appointed Official (except Public Health)	
	Health Educator		Individulas that work to encourage healthy lifestyles and wellness through educating individuals and communities about behaviors that can prevent diseases, injuries, and other health problems.
	Laboratory Professional/Technician		Individual who work in a diverse fields. Primary responsibilities consist of preparing and processing specimens. He operates, analyzes and performs manual tests. He examines and analyzes body fluids, cells and tissues, looking for organisms such as parasites and bacteria.
	Law Enforcement		Individuals who's goal is protect lives and property. Duties depend on the size and type of their organizations. Examples include local police officer, state officer and FBI agents.
	Legal Professional		Individuals qualified to practice law in a particular jurisdiction. Also includes supporting staff.
	Librarian/Information Specialist		Individuals that help people find information and use it effectively for personal and professional purposes. They must have knowledge of a wide variety of scholarly and public information sources and must follow trends related to publishing, computers, and the media to oversee the selection and organization of library materials. Librarians manage staff and develop and direct information programs and systems for the public and ensure that information is organized in a manner that meets users' needs.

Licensure/Inspection/Regulatory		Different industries are regulated by local, state and federal laws. This individual maintain an in-depth knowledge of these guidelines, implement and enforce then, while providing education and guidance to both organization and employees.
Specialist		The title given to a person with a particular set of skills
Medical Examiner/Coroner		The public official charged with investigating all sudden, suspicious, unexplained, or unnatural deaths within the area of his or her appointed jurisdiction.
Mental and Behavioral Health Professional		Individual who by education and experience is professionally qualified to provide counseling interventions designed to facilitate individual achievement of human development goals and remediate mental, emotional, or behavioral disorders, and associated distresses which interfere with mental health and development.
	Marriage and Family Therapist	
	Mental Health Counselor	
	Other Mental or Behavioral Health	
	Psychologist	
	Social Worker	
	Substance Abuse Counselor	
Professional		Individuals who have attain a particular degree to work in a particular field.
Non-Physician Clinician		Individuals other than physician who provide medical care. They include, but are not limited to, nurse practitioners (NPs), physician assistants (PAs), anesthesiologist assistants (AAs), certified registered nurse anesthetists (CRNAs), optometrists, pharmacists, podiatrists, psychologists, chiropractors, homeopaths, physical therapists, acupuncturists and naturopaths.
	Chiropractor	
	Midwife	
	Optician	
	Podiatrists	
	Other Clinician (specify)	
Nurse		Individuals regardless of specialty or work setting, treat patients, educate patients and the public about various medical conditions, and provide advice and emotional support to patients' family members. RNs record patients' medical histories and symptoms, help perform diagnostic tests and analyze results, operate medical machinery, administer treatment and medications, and help with patient follow-up and rehabilitation.
	Advance Practice Nurse (APRN)	
	Licensed Practical Nurse (LPN)/Licensed Vocational Nurse (LVN)	
	Registered Nurse (RN or RN, C)	
Occupational Health and Safety		Individuals who help prevent harm to workers, property, the environment, and the general public. For example, they may design safe work spaces, inspect machines, or test air quality. In addition to making workers safer, specialists aim to increase worker productivity by reducing absenteeism and equipment downtime—and to save money by lowering insurance premiums and workers' compensation payments, and preventing government fines.
Personnel		The body of persons employed by or active in an organization, business, or service.
Other		If job title is not list. Please choice other.
Outreach/Field Worker		Individuals who work in the community with the goal of improving the health status of the community
Pharmacy Professional		Individuals who distribute prescription drugs to individuals. They also advise their patients, physicians, and other health practitioners on the selection, dosages, interactions, and side effects of medications, as well as monitor the health and progress of those patients to ensure that they are using their medications safely and effectively. Compounding—the actual mixing of ingredients to form medications—is a small part of a pharmacist's practice, because most medicines are produced by pharmaceutical companies in standard dosages and drug delivery forms. Most pharmacists work in a community setting, such as a retail drugstore, or in a healthcare facility, such as a hospital. Pharmacy technicians and aides help licensed pharmacists prepare prescription medications, provide customer service, and perform administrative duties within a pharmacy setting. Pharmacy technicians generally are responsible for receiving prescription requests, counting tablets, and labeling bottles, while pharmacy aides perform administrative functions such as answering phones, stocking shelves, and operating cash registers. In organizations that do not have aides, however, pharmacy technicians may be responsible for these clerical duties.
	Pharmacist	
	Pharmacy Technician/Aide	
Physician		Individuals who diagnose illnesses and prescribe and administer treatment for people suffering from injury or disease. Physicians examine patients, obtain medical histories, and order, perform, and interpret diagnostic tests. They counsel patients on diet, hygiene, and preventive healthcare.
	Allergy/Immunology	
	Anesthesiology	
	Colon and Rectal Surgery	
	Dermatology	
	Emergency Medicine	
	Family Practice	
	Internal Medicine	
	Medical Genetics	
	Neurological Surgery	
	Neurology	
	Nuclear Medicine	
	Obstetrics and Gynecology	
	Ophthalmology	
	Orthopedic Surgery	
	Otolaryngology	
	Pathology-Anatomic and Clinical	
	Pediatrics	
	Physical Medicine and Rehabilitation	
	Plastic Surgery	
	Preventive Medicine	
	Psychiatry	
	Radiation Oncology	
	Radiology-Diagnostic	
	Surgery-General	
	Thoracic Surgery	
	Urology	

		Other Physician (specify)	
	Policy Planner		Individuals who reviews a company's existing policies and provides recommendations for improvement. He also analyzes strategic operational reports and provides management with corrective measures in dysfunctional processes.
	Program Specialist		Individuals who work under direction, to perform specialized work in providing paraprofessional activities in support of a program. Duties might include: providing advocacy; assessing client needs, preparing a service plan and following up with clients; training and serving as a lead to lower level staff; serving as a liaison; and, providing a local interpretation of programs
	Public Health Professional		Individuals who work in the field of public health. These individuals concentrate on improving health on a population level. The work in many fields consisting of medicine, dentistry, nursing, optometry, nutrition, social work, environmental sciences, health education, health services administration, and the behavioral sciences.
	Public Relations/Media Specialist		Individuals who serve as advocates for clients seeking to build and maintain positive relationships with the public. Their clients include businesses, nonprofit associations, universities, hospitals, and other organizations, and build and maintain positive relationships with the public. As managers recognize the link between good public relations and the success of their organizations, they increasingly rely on public relations specialists for advice on the strategy and policy of their communications.
	Researcher/Analyst		Individuals who can find employment in the military, and the science, health, transportation, engineering, software development and market analysis industries. These analysts are experts in a field and provide insight into solving problems and improving operations
	Student		Individuals who are enrolled in class for the purpose of gaining knowledge
	Teacher/Faculty		Individuals with a set of skills that facilitates the learning of children and adults.
	User ID		A specific set of characters (numbers only) that is specific to a particular person(user)
	Volunteer		Individual who gives time, effort and talent to a need or cause without profiting monetarily.
Users-User ODP Discipline	Emergency Management Agency		An agency with the goal to support citizens and first responders to ensure that as a nation we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards. The primary agency is FEMA which is part of the United States Department of Homeland Security. FEMA works in conjunction with other emergency agencies to provide relief for all citizen. A majority of these agency are located at the state level.
	Emergency Medical Services		A type of emergency service dedicated to providing out-of-hospital acute medical care and/or transport to definitive care, to patients with illnesses and injuries which the patient, or the medical practitioner, believes constitutes a medical emergency. Examples include local Emt and private ambulance service.
	Fire Service		A Public or private organization that provided fire protection for a certain jurisdiction, which typically is a municipality, county or fire protection district. Examples include the city or country fire department
	Governmental Administrative		Individuals who work to management of the affairs of government by completing administrative task.
	Hazardous Materials		A set of chemical substances (solid, gas, or liquid) that are toxic to humans; unprotected exposure to these chemicals may result in severe illness or death; they may be poisonous, flammable, explosive, carcinogenic, or environmentally pollutant; HAZMAT is the part of emergency services that handles these field situations
	Health Care		The prevention, treatment, and management of illness and the preservation of mental and physical well-being through the services offered by the medical and allied health professions.
	Law Enforcement		The field in which individual are responsible for the prevention, investigation, apprehension, or detention of individuals suspected or convicted of offenses against the criminal laws, including an employee engaged in this activity who is transferred to a supervisory or administrative position; or serving as a probation or pretrial services officer.
	Other		If discipline is not listed please select other.
	Public Health		A discipline of healthcare that studies the population with the goal of improving the health of all individuals.
	Public Safety Communication		The group of workers that monitor the location of emergency services personnel from their jurisdiction's emergency services departments. These workers dispatch the appropriate type and number of units in response to calls for assistance.
	Public Works		The goup of worker that constructs or engineer projects carried out by the state on behalf of the community.
	User ID		A specific set of characters (numbers only) that is specific to a particular person(user)
	Volunteer/Nonprofit		Individuals/groups who gives time, effort and talent to a need or cause without profiting monetarily.
Users-User Work Settings	Academic/Educational Institution		A School, college, university or vocational or technical training facility.
		K-12	
		Pre - K/Childcare	
		University/Higher Education	
	Healthcare Services		A set of services provided to individual in regards to healthcare
		Behavioral/Mental Health Facility	
		Diagnostic Imaging Center	
		Doctor's Office or Clinic	
		Federally Qualified Health Center (FQHC)	
		Home Care	
		Hospital	
		Hospice	
		Laboratory	
		Nursing or Professional Care Facility	
		Pre-Hospital	
		Rural Health Clinic	
		School Health Clinic	
		Other	

Indian Health Services		The Indian Health Service (IHS), an agency within the Department of Health and Human Services, is responsible for providing federal health services to American Indians and Alaska Natives. The provision of health services to members of federally-recognized tribes grew out of the special government-to-government relationship between the federal government and Indian tribes. This relationship, established in 1787, is based on Article I, Section 8 of the Constitution, and has been given form and substance by numerous treaties, laws, Supreme Court decisions, and Executive Orders. The IHS is the principal federal health care provider and health advocate for Indian people, and its goal is to raise their health status to the highest possible level. The IHS provides a comprehensive health service delivery system for approximately 1.9 million American Indians and Alaska Natives who belong to 564 federally recognized tribes in 35 states.
Military		A countries armed forces. Goal is to protect the citizens of the country.
Non-profit Organization (except Healthcare)		An organization that does not distribute its surplus funds to owners or shareholders, but instead uses them to help pursue its goals.
Official Public Health Agencies		An agency that work to improve the health of the population. Examples include the World Health Organization and the local health department.
	Federal	
	Local	
	Regional / Area	
	State / Territory	
Other Government Agencies (except Military)		An administrative unit of the government that does not include any military. Examples are the Census Bureau and CDC
Private Industry (except Healthcare)		Individuals that work in organization/companies that is not related to healthcare. An example is a institution settings such as a university
Tribal Health Sites		Industry that provide culturally appropriate information, education, training, research and services to American Indian and Alaska Natives and advocate for the needs of Indian people.
User ID		A specific set of characters (numbers only) that is specific to a particular person(user)
Developmental Disabilities		The Ohio Department of Developmental Disabilities provides professional development continuing education credits for professionals working within the Ohio DD community. The types of approval granted by DODD include: Adult Services/Day Habilitation Early Intervention Investigative Agent Service and Support Administration Support/Assistant Support (Business) Support/Assistant Support (Program) County Board Members HMG trainings are being submitted for approval for the following categories: Early Intervention Service and Support Administration Support/Assistant Support (Program) County Board Members

APPENDIX 10.

PHF's Train Data Use Agreement

DUA Number: _____
(Assigned by PHF)

TRAIN DATA USE AGREEMENT

This document represents a standard Third Party Recipient Data Use Agreement between a qualified recipient, the releasing agency, and the following sponsoring organization: Public Health Foundation-TrainingFinder Real-time Affiliate Integrated Network (TRAIN). This document details the length of the terms of the agreement, the extent of the data set to be included, the protections the recipient must enact to safeguard the privacy and confidentiality of any respondents' information included within the data set, any relevant fee and pricing information, as well as legal waivers, disclaimers and releases of liability from the sponsoring organization.

Section 1: Data Use Agreement

This Data Use Agreement ("Agreement"), effective as of _____,20__ ("Effective Date"), is entered into by and between _____ ("Recipient"), the releasing agency, _____, (agency with a current agreement) and the Public Health Foundation.

Section 2: Purpose

This agreement pertains to the release of the following TRAIN data:

Data module	File	Year(s)	Data Elements

Only data from the module(s), file(s), year(s), and data element(s) listed on this DUA will be provided.

The PHF is not responsible for providing extractions.

The releasing agency,_____,(agency with a current agreement) will provide the limited data set. Please contact them at _____ for further instruction once your DUA is approved.

DUA Number: _____
(Assigned by PHF)

Please note, _____,(agency with a current agreement) is not authorized to provide you with data without an approved DUA with the PHF.

The purpose of this Agreement is to authorize release of the aforementioned data to the Recipient with for use in its research and/or analyses. All data files available from the sponsoring organization must be used in accordance with the terms as described in this Agreement.

Purpose of Study:

Hypotheses:

Benefits to public health practice:

If data identifiers are requested, please explain why they are needed. Please note these identifiers may or may not be provided at the discretion of PHF.

Section 3: Plans for Disseminating Results

Describe briefly your plans for disseminating results, including the venue for dissemination (e.g., peer-reviewed publication(s), conference presentations, thesis, other publications) and the expected time frame.

DUA Number: _____
(Assigned by PHF)

Section 3: Terms, Assurances, Waivers and Disclaimers

1. **LICENSE GRANT.** Conditioned on your continued compliance with the terms and conditions of this Agreement, this Agreement provides the recipient with a revocable, royalty-free, limited, non-exclusive, nontransferable license to use for the term identified below the _____ (the "Data Set") for your internal personal use only and solely in connection with your own research and analysis. Notwithstanding the foregoing, any rights granted hereby are licensed and not sold or otherwise transferred or assigned to you or any third party. References to "Recipient" mean the entity-level or individual licensee and user of the Data Set (as identified above) and any permitted successor, assign, transferee, heir, or representative thereof.
2. **LICENSE GRANT RESTRICTIONS.** Except as provided above, you may not modify, alter, translate, create derivative work(s) of, distribute, broadcast, transmit, reproduce, publish, license, sub-license, transfer, sell, exploit, rent, timeshare, outsource, provide on a service bureau basis, lease, grant a security interest in, assign or transfer any right(s) in, or otherwise use in any manner not expressly permitted herein the Data Set or any part thereof. Specifically, you agree not to use the Data Set to learn the identity of any person or to contact any person for any purpose, including, without limitation, to question, verify, or discuss the Data Set. In addition, you may not remove or alter any proprietary notice on the Data Set or use any portion of the Data Set independently from the Data Set as a whole. All rights not expressly granted to you herein are hereby reserved to the sponsoring organization.
3. **USER OBLIGATIONS.** By installing, downloading, accessing, and/or using the Data Set, you represent that you (and all the employees of your organization) agree to abide by all applicable local, state, national, and international laws and regulations with respect to your use of the Data Set, including, without limitation, any confidentiality requirements and obligations that apply to the Data set. You agree to assume all responsibility concerning your, and all the employees, students, and volunteers of your organization use of the Data Set. The sponsoring organization assumes no responsibility or liability for any claims that may result directly or indirectly from the communications, agreements, or interactions; you establish using the Data Set. You also agree to acknowledge the sponsoring organization in the publication of any results from use of the Data Set by including the following notice: "TRAIN data for this study was obtained from the Public Health Foundation." In addition, you agree to provide the sponsoring organization with a complete and accurate copy of any publication that uses the Data Set covered by this Agreement.
4. **PROPRIETARY RIGHTS.** The sponsoring organization shall retain all ownership right, title, and interest in and to all programs, procedures, information, and documentation associated with the Data Set. The name, acronym, logo, and any other identifying name or icon of the sponsoring organization and its products and services are proprietary trademarks of the sponsoring organization, and any use of such marks without the express written permission of the

sponsoring organization is strictly prohibited. Except as expressly provided herein, the sponsoring organization does not grant any express or implied right to you or any other person under any intellectual or proprietary rights. Accordingly, unauthorized use of the Data Set may violate intellectual property or other proprietary rights laws as well as other domestic and international laws, regulations, and statutes, including, but not limited to, United States copyright, trade secret, patent, and trademark law.

5. **CONFIDENTIALITY.** The recipient acknowledges and agrees that the Data Set contains proprietary trade secrets and confidential information of the sponsoring organization and/or its licensors and suppliers, including, without limitation, any and all personal identifying information of any individual (the "Confidential Information). You agree to secure and protect the confidentiality of this Confidential Information of the sponsoring organization in a manner consistent with the maintenance of the sponsoring organization's rights therein, using at least as great a degree of care as you use to maintain the confidentiality of your own confidential information of a similar nature, but in no event using less than reasonable efforts. You shall not, nor permit any third part, including, without limitation, any contractor or agent of your company to sell, transfer, publish, disclose, discuss, or otherwise make available any portion of the Confidential Information to third parties.
6. **SUBMISSIONS.** The sponsoring organization welcomes your feedback and suggestions about how to improve the Data Set. You agree that the sponsoring organization shall have the perpetual, royalty-free, and irrevocable right to use such feedback and suggestions in any manner it deems desirable without providing any consideration, attribution, or payment to you.
7. **WARRANTY DISCLAIMER.** The Sponsoring organization makes no representations or warranties about the suitability, completeness, timeliness, reliability, legality, or accuracy of the data set for any purpose. The data set is provided "as is" and "as available" without warranty of any kind, including, without limitation, all implied warranties and conditions of merchantability, fitness for a particular purpose, title, and non-infringement as well as any warranty related to the use, or the results of the use, of the data set or any documentation associated therewith in terms of correctness, accuracy, reliability, or otherwise. The entire risk as to the quality of and results from the use of the data set is with the recipient. Moreover, recipient acknowledges and agrees that the sponsoring organization reserves the right to withhold the data set until the sponsoring organization has completed its own analysis and made its report(s) of the findings to the public.
8. **LIMITATION OF LIABILITY.** You agree that in no event shall the sponsoring organization be liable for any indirect, punitive, incidental, special, or consequential damages arising out of or in any way connected with the use of the data set by the recipient or anyone else, whether based in contract, tort, strict liability, or otherwise. Even if you have been advised of the possibility of such damages. Without limitation of the foregoing, the total liability of the sponsoring

organization for any reason whatsoever related to use of the data set or for any claims relating to this agreement or the data set shall not exceed $5,000 (USD).

9. **INDEMNITY.** The recipient agrees to defend, indemnify, and hold harmless the sponsoring organization and its affiliates, employees, licensors, agents, directors, officers, partners, representatives, shareholders, attorneys, predecessors, successors, and assigns from and against any and all claims, proceedings, damages, injuries, liabilities, losses, costs, and expenses (including reasonable attorneys' fees and litigation expenses) relating to or arising from your use of the Data Set and any breach by you of this Agreement.
10. **GOVERNING LAW.** This Agreement has been made in and will be construed and enforced solely in accordance with the laws of the United States and the District of Columbia, as applied to agreements entered into and completely performed in the U.S. You agree that any action to enforce this Agreement will be brought to District of Columbia courts and all parties to this Agreement expressly agree to be subject to the jurisdiction of such courts.
11. **TERM AND TERMINATION.** This Agreement and your right to use the Data Set will commence as of the Effective Date and shall expire **18 months** after the Effective Date unless terminated as set forth herein. Any renewal of this Agreement shall be subject to the sponsoring organization's separate written consent. This Agreement will terminate automatically if the recipient fails to comply with any of the terms and conditions described herein, including by exceeding the scope of the license. Termination or expiration of this Agreement will be effective without notice. The recipient may also terminate at any time by ceasing to use the Data Set (and any associated materials provided by the sponsoring organization) in your possession. The provisions concerning proprietary and intellectual property rights, submissions, confidentiality, indemnity, disclaimers of warranty and liability, termination, and governing law will survive the termination of expiration of this Agreement for any reason.
12. **MISCELLANEOUS.** There are no third party beneficiaries. Failure to insist on strict performance of any of the terms and conditions of this Agreement will not operate as a waiver of that or subsequent default or failure of performance. No joint venture, partnership, employment, alliance, or agency relationship exists between you and the sponsoring organization as result of this Agreement or your utilization of the Data Set. Moreover, you may not bind the sponsoring organization in any way or otherwise make any representations or statements for or on behalf of the sponsoring organization, its licensors, or suppliers, including, without limitation, making any statements indicating or suggesting that interpretations drawn are those of the data sources or the sponsoring organization, without the sponsoring organization's prior, separate, express, and written permission. This Agreement represents the entire agreement between the recipient and the sponsoring organization with respect to your use of the Data Set, and it supersedes all prior or contemporaneous communications and proposals, whether electronic, oral, or written between you and the sponsoring organization with respect to the Data Set. This

DUA Number: _____
(Assigned by PHF)

Agreement may not be assigned or transferred by you without the prior express written consent of the sponsoring organization. This Agreement may be modified only upon the prior and separate written consent of the sponsoring organization.

Section 4: Authorization

IN WITNESS WHEREOF, each of the undersigned has caused this Agreement to be duly executed in its name and on its behalf.

SPONSORING ORGANIZATION

Printed Name:_____Signature:_____

Address: _____ State: _____Zip code: _____

Email: _____ Phone: _____

Date: _____

RELEASING AGENCY

Printed Name:_____Signature:_____

Address: _____ _____ State: _____Zip code: _____

Email: _____ Phone: _____

Date: _____

RECIPIENT

Printed Name:_____Signature:_____

Address: _____ _____ State: _____Zip code: _____

Email: _____ Phone: _____

Date: _____

Please sign and fax or email this completed TRAIN Data Use Agreement to:

Attn: TRAIN **Subject: TRAIN DUA**
202.218.4409 **OR** **training@phf.org**

APPENDIX 11.

UNIVERSITY OF ILLINOIS
AT CHICAGO

Office for the Protection of Research Subjects (OPRS)
Office of the Vice Chancellor for Research (MC 672)
203 Administrative Office Building
1737 West Polk Street
Chicago, Illinois 60612-7227

Approval Notice
Amendment to Research Protocol and/or Consent Document – Expedited Review
UIC Amendment # 1

March 17, 2014

Magaly Angeloni, DrPH(c)
Community Health Sciences
613 Academy Avenue
Providence, RI 02908
Phone: (401) 339-8584 / Fax: (401) 222-2456

RE: **Protocol # 2013-0941**
"How TRAIN (Training Finder Real-Time Affiliate Integrated Network) Affiliates are approaching evaluation of public health training"

Dear Dr. Angeloni:

Members of Institutional Review Board (IRB) #2 have reviewed this amendment to your research under expedited procedures for minor changes to previously approved research allowed by Federal regulations [45 CFR 46.110(b)(2)]. The amendment to your research was determined to be acceptable and may now be implemented.

Please note the following information about your approved amendment:

Amendment Approval Date: March 17, 2014
Amendment:
Summary: UIC Amendment #1 dated March 7, 2014 (received 3/10/14) is an investigator-initiated amendment to submit the signed data agreement from Public Health Foundation-Training Finder Real-time Affiliate Intergrated Network (TRAIN).
Approved Subject Enrollment #: 652269
Performance Sites: UIC, Public Health Foundation
Sponsor: None

Please note the Review History of this submission:

Receipt Date	Submission Type	Review Process	Review Date	Review Action
02/10/2014	Amendment	Expedited	02/14/2014	Modifications Required
02/20/2014	Response To Modifications	Expedited	02/26/2014	Modifications Required
03/10/2014	Response To Modifications	Expedited	03/17/2014	Approved

Please be sure to:

□ Use your research protocol number (2013-0941) on any documents or correspondence with the IRB concerning your research protocol.

□ Review and comply with all requirements on the enclosure,
"UIC Investigator Responsibilities, Protection of Human Research Subjects"
(http://tigger.uic.edu/depts/ovcr/research/protocolreview/irb/policies/0924.pdf)

Please note that the UIC IRB #2 has the right to seek additional information, or monitor the conduct of your research and the consent process.

Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact the OPRS at (312) 996-1711 or me at (312) 355-2764. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Betty Mayberry, B.S.
IRB Coordinator, IRB # 2
Office for the Protection of Research Subjects

Enclosure: None

cc: Michael Fagen, Faculty Sponsor, Community Health Sciences, M/C 923
Jesus Ramirez-Valles, Community Health Sciences, M/C 923

TRAIN-Related Definitions

COURSES IN TRAIN

Active Course: A course whose content is still applicable and could be offered any time again.

Inactive Course: A course whose content is no longer up to date or will no longer be used. A TRAIN Administrator will need to make it "inactive", otherwise it will remain active.

Expired Course: An expired course could be active or inactive. An expired course is one that has been offered in the past, and could be offered again, but is expired because a session is not scheduled in the future at this point.

LEARNERS IN TRAIN

Active Learner account: An account that is currently in use by a learner.

Inactive Learner account: an account that has been made inactive by the TRAIN Administrator because the account is no longer valid, it has false data, has been used for testing, or due to the learner's death. However, Affiliates may have other reasons to deactivate a learner's account, such as the active has been merged with another account, etc.

APPENDIX 13.

Interview Tool

Introduction to the Study "How TRAIN (TrainingFinder Real-Time Affiliate Integrated Network) Affiliates are approaching evaluation of public health training"

Date _____

Dear XXXXXX TRAIN Administrator, XXXX Training Coordinator, (or other work title), [NOTE THAT SEPARATE EMAILS WILL BE SENT]

We are very thankful your Agency has agreed to participate in the research study to learn how TRAIN Affiliates are approaching evaluation. The Data Use Agreement that will allow the Public Health Foundation to release data pertaining to the learners in your agency has already been signed, and we will be using those data to prepare an individualized profile of the training that takes place in your agency for your review and comment. As planned, the next part of the study ***is your participation in a group interview*** *to respond questions related to the current practices your agency has with regards to the use of TRAIN as a tool, and how training is planned, conducted, tracked and evaluated in your agency. You have been identified as key staff with responsibility for* ***TRAIN, training and/or staff development in your agency****, and we are contacting you today to provide more information about the interview for this study.*

Please note that your participation in the interview is your ***individual decision, is completely voluntary*** *and in no way will affect your agency's participation in the study. This study will NOT collect any individually identifiable data, and no Affiliate or their staff will be identified by name in any of the aggregate reports or publishable material. Your answers will be kept confidential, will not be released to your agency's management and will only be used for purposes of this study. There are no direct benefits to the agencies or individuals participating in this research, and potential risks include loss of confidentiality of the interview data collected. All data collected for the study, including the content of the interview, will be kept for 3 years after study completion and will be destroyed by a) deleting it from the investigator's computer where it was housed and b) shredding all hard copies. Although we ask everyone in the group to respect everyone's privacy and confidentiality, and not to identify anyone in the group or repeat what is said during the group discussion, please remember that other participants in the group may accidentally disclose what was said. If needed, any materials relevant to this research can be made available to participating Affiliates by request. Other entities that can access to research-related data include UIC IRB/Office for the Protection of Research Subjects (OPRS), the state of Illinois Auditors, and key personnel from the Public Health Foundation. Lastly, note that if you have questions about your rights as a research subject or concerns, complaints, or to offer input you may call the OPRS at 312-996-1711 or 1-866-789-6215, or email at uicirb@uic.edu.*

For your convenience, in the next pages you will find the questions that will be posed at the time of the interview. This will be a ***one-hour individual or group interview*** *depending on whether or not other staff from your agency also voluntarily agrees to take part in the interview. To facilitate accurate transcription, we ask your permission to have a* ***note taker*** *on the call and to* ***record the audio*** *through the conference call service. Your approval is important and would make the interview time-efficient, as well as help us transcribe the interview should technology fail (e.g., power loss or computer crash). Please contact me with any questions related to this study and the interview at mangel6@uic.edu or (w) 401-222-7741 or (c) 401-339-8584 after hours.*

After reviewing this material, please respond back via email indicating your consent to: a) participate in the interview, b) allow a note-taker, and c) allow recording of the interview, or simply respond indicating that you ***"agree to the interview, note-taker and recording of the interview"****. If you agree to participate, you will receive another email with a doodle containing available times when the interview can take place.*

Thanks in advance for your time and cooperation and your contribution to public health through your participation in this study.

Sincerely,

Magaly Angeloni
DrPH candidate, University of Illinois at Chicago
Mangel6@uic.edu

INTERVIEW TO PARTICIPATING TRAIN AFFILIATES' STAFF

Interview date:

SECTION I. BACKGROUND

Good morning (afternoon) and thanks for agreeing to participate in this interview. My name is Magaly Angeloni and I'm a student from the University of Illinois at Chicago (UIC) working on my DrPH dissertation on the question of approaches TRAIN Affiliates are taking to evaluate public health training. Let's begin with some basic information.

1. Agency name:

2. Type of health department with respect to LHDs (ASTHO profile): No LHDs If

other, explain:

3. Estimated population served by the agency:

4. Number and type of employees in the agency/ies (include everyone who is expected to have an account in TRAIN):

5. Number of courses in TRAIN for learners in this jurisdiction:

6. Number of years using TRAIN:

7. Interviewees:
   a. Interviewee 1 name: Role: TRAIN Administrator If other, explain:
   b. Interviewee 2 name: Role: TRAIN AdministratorIf other, explain:
   c. Interviewee 3 name: Role: TRAIN Administrator If other, explain:

SECTION II. INTRODUCTION

As included in the materials you received previously, the goals of this research are to understand the efforts TRAIN Affiliates take to manage, track, and evaluate training. The results will NOT identify individual agencies without prior written approval and review by the TRAIN affiliate. Through this interview, we hope to hear your perspective about training and training evaluation, and therefore we have included open-ended questions. For each question, please provide the background and expand on the views about the issues at hand. If your agency has a document that could contribute to further answer a question, briefly answer it and indicate the contact and process to share a copy of that document.

To accurately capture all the information you provide and facilitate note-taking, you have already agreed to let us record this telephone call. The recording will only be used for transcription and data analysis purposes and in no case your name will be identified without your explicit, written permission. You will be asked to review the recording transcription and provide feedback as necessary, to ensure the conversation has accurately captured the meaning it intended. Do you have any questions before I begin the recording of this call?

[ADDRESS THEM AS NEEDED-CAPTURE QUESTIONS ASKED]. Thanks. Now let's start with information about your agency.

BEGIN THE RECORDING.

#	QUESTIONS	ANSWERS
ABOUT TRAINING AND STAFF	a. Please describe how training and staff development is handled in your agency: including responsibilities, requirements, level of staff involved.	

#	QUESTIONS	ANSWERS
	b. How would you describe the coordination/collaboration between the TRAIN Administrator and the Training/Staff Development person? • What would be an example of such coordination or collaboration?	
	c. In general, how does staff feel about the training and staff development efforts in your agency?	
	d. How would you improve the current training and staff development strategy in your agency?	
	e. What do you see as challenges or barriers to implement those improvements?	
2. ACCREDITATION	a. What is your agency's position with regards to Public Health Accreditation?	
	b. How has accreditation impacted the areas of training and staff development in your agency?	
3. IDENTIFY TRAINING NEEDS	• How does your agency identify the training needs of staff? what method (survey, questionnaire, focus groups), how often (yearly, every 5 years)?	
	• How has this method worked?	

#	QUESTIONS	ANSWERS
	• Has the agency prepared a training plan or workforce development plan as a result of the training needs assessment?	

4. TRAIN ADMINISTRATOR RESPONSIBILITIES	a. As a TRAIN Administrator, what are your responsibilities with regards to TRAIN?	
	b. How do you think your role should be expanded/modified to make your job easier?	
	c. What other resources (beyond you) are available in the agency to manage/administer TRAIN?	
	d. How does your agency engage staff in the use of TRAIN?	
	e. What are the TRAIN features you use the most?	
	f. Do you use training plans in TRAIN?	
	g. Would you say your agency is making the best use of TRAIN? If not, what would you change?	
	h. What do you see as barriers to improve the use of TRAIN?	
5. TRAIN USERS, ENROLLMENT, SETUP COURSES	a. Are there any aspects of TRAIN that are **mandatory** in your agency for all users? For training providers? or management?	
	b. What are all the types of **TRAIN users** in your agency (employees, contract employees, interns, temporary workers, etc.)?	
	c. Please briefly describe the **enrollment process** to open and maintain TRAIN accounts current.	

	d. Please describe your agency's process to **set up courses** in TRAIN; forms used, approval, criteria for courses, etc.	
	e. What comments do you have about the enrollment and setup courses you currently have?	
	f. What do you think are barriers to improve those processes?	
6. EVALUATION PRACTICES	a. Please tell us everything about how **courses are evaluated.**	
	b. Who would normally be responsible for the evaluation of courses?	
	c. Do instructors use their own evaluation?	
	d. What type of evaluation TOOLS has the agency used? (surveys, questionnaires)	
	e. Is there a paper or electronic evaluation? Are there pre and post tests, etc.?	
	f. What role does **TRAIN** play in the evaluation of courses?	
	g. Could TRAIN be used in other ways to evaluate courses? How?	
	h. Do you think staff in general is doing better as a result of the training the agency offers? Why yes or why not?	
	i. Does your agency know if training is making an impact on staff, the work, or the agency as a whole?	
	j. Should the agency be doing more to evaluate training? What should be done?	
	k. What do you think has prevented the agency from doing more to evaluate training?	
#	**QUESTIONS**	**ANSWERS**
M PE	a. Please tell us how your agency uses the Public Health and/or the Emergency Preparedness Core Competencies in TRAIN.	

	b. Are instructors teaching courses for your agency aware of the Core Competencies?	
	c. What do you think should be done to improve use of Core Competencies?	
	d. What do you see as barriers to implement those improvements?	
#	**QUESTIONS**	**ANSWERS**
8. REPORTS	a. Please share with us about the use of reports from TRAIN. What reports do you run, for what purpose, how often? b. Have you found those reports useful? c. What would be more helpful in terms of reports for the agency? (more canned reports, more features, more frequently run). d. Is there anyone else in the agency who can comment on this issue about the use and preparation of reports?	
9. REVIEW AND WRAP UP	a. Do you have additional responsibilities related to training and staff development that we haven't discussed yet? b. Is there anyone else who has a key responsibility with regards to training and evaluation of courses that we should talk to about some of these topics?	
	a. Is there anything else that you think is important about training and staff development in your agency which was not yet been covered with the interview? b. Any other document that you think may be valuable regarding training and training evaluation? c. Any other contact you think we should talk to for additional information?	

Thanks for your valuable time and cooperation. As indicated before, you will receive a follow up email with the list of documents you offered to share with us as discussed today. Once we receive the documents, we might contact you to clarify any issues that we may find in the documentation.

Finally, once results become available, you may receive a draft copy of the report prior to publication. Note that reports will be prepared only in aggregate form and no agency will be identified without written permission.

We thank you again for your participation. Do you have any questions now?

APPENDIX 14.

Letter Inviting TRAIN Affiliates to Participate

Date _____

Dear TRAIN Affiliate,

Email to be sent to: Names and job titles of the 1) TRAIN Administrator or Primary Contact, 2) Secondary Contact(s), (these contacts vary at each agency, and could be the Human Resources Director, Training Administrator, Affirmative Action Officer, or other staff responsible for training and staff development), and 3) the TRAIN Affiliate director or individual with the authority to decide about participation in the study, sign the Data Use Agreement, release documentation and provide feedback on the results of the study, if interested.

This correspondence is to invite your agency, as a TRAIN Affiliate, to participate in a research study that seeks to **describe the efforts TRAIN Affiliates are taking to evaluate public health training**. As you may recall, back in May at the TAC conference in Rhode Island, I was pleased to meet most TRAIN Administrators and briefly introduced the idea of this research, as part of the DrPH dissertation through the University of Illinois at Chicago (UIC). Please note that I have now received approval to conduct this research from UIC's Institutional Review Board, and therefore I am prepared to begin the data release and collection process. Agreeing to voluntarily participate in this research involves participation in ALL four (4) areas described below:

1. **DATA RELEASE:** Authorize the Public Health Foundation (PHF) to release Affiliate-specific data that is described in PHF's website and available for researchers (www.phf.org/resourcestools/Pages/TRAIN Data Use Agreement DUA.aspx). Note that the Principal Investigator will sign a TRAIN Data Use Agreement (attached) with the Public Health Foundation for this purpose, once Affiliates confirm their participation and therefore approve the release of their data. The researcher will use these data to prepare an Affiliate-specific, one-page summary of the characteristics of the use of TRAIN (volume of users, courses completed, course availability, etc.). This summary will be shared with the Affiliate for comments and input, to ensure it accurately reflects the Affiliate's TRAIN profile.

2. **INTERVIEWS:** Authorize the TRAIN Administrator and Training Coordinator (or Human Resource Director or the individual responsible for training in your agency), to review the information related to this study and INDIVIDUALLY and DIRECTLY respond to the study's investigator (via email at mangel6@uic.edu) as to whether or not they agree to voluntarily participate in a one-hour interview via teleconference. Their responses will be kept confidential. Please note that participation in the interview is voluntary and will not/should not affect in any way the employer/employee relationships between the individuals in these positions and the TRAIN Affiliate agency, and will not affect the results of the study. Interviews will be conducted and arranged with the individual(s) who agree to participate after reading and understanding the study's goals and conditions and having the opportunity to ask questions, if any. If only one individual agrees to participate, the interview will be setup with that person only. If more than one individual agree to participate, they will be asked to participate in a group interview. The (individual or group) interview will be scheduled at a mutually convenient time, and the interviewee(s) will be asked to consent to record the conversation to facilitate accurate transcription. The interview consent and questionnaire will be sent ahead of time to help preparation and ask any additional questions about the study, the interview or anything else related to the interview.

3. **DOCUMENTATION:** Authorize the release of documents that are used by the Affiliate in relation to training and staff development, as well as tools used to evaluate public health training. These documents will be identified through the interview with the staff, and include, but are not limited to:
   a. Agency's Workforce Development Plan and/or Training plan (if separate)
   b. Agency's Training Evaluation plan/scheme
   c. Course Evaluation tools currently in use (surveys, pre and post tests, questionnaires, etc.)
   d. Reports currently in use to evaluate/quantify training (TRAIN and non-TRAIN generated)
   e. Other relevant documents that may be available, including Logic models, goals/objectives, strategic plan containing workforce development goal, dashboard measures, course specific or agency wide training reports, etc.

4. **FEEDBACK:** Review and/or provide feedback on the documents that will be prepared as a result of the study, which include:
   a. An Affiliate-specific TRAIN's profile, designed with the data released from the PHF, and,
   b. An Affiliate-specific analysis of the course evaluation tools, and,
   c. The transcript from the interview, to ensure accuracy of the information captured, and,
   d. Drafts of the manuscripts or other products prior to publication.

From the Affiliate's perspective, the time commitment to participate in the study is estimated to be 10 hours per agency, over the course of 6 to 10 months, as follows:

- Group Interview with the TRAIN Administrator AND Training Coordinator, or Human Resource Director or staff responsible for training and staff development in the agency: 1 hour
- Review interview transcription for accuracy: 1 hour
- Documentation gathering (will vary by agency): 2 hours
- Reviewing summary results of the study: 4 hours
- Responding to communications related to participation in the research: 2 hours

Please note that this study will NOT collect any individually identifiable data, and no Affiliate or their staff who voluntarily agreed to participate in the interview, as stated in item 2 above will be identified by name in any of the aggregate reports or publishable material. There are no direct benefits to the agencies or individuals participating in this research, and potential risks include loss of confidentiality of the interview data collected. All data collected for the study, including the content of the interview, will be kept for 3 years after study completion and will be destroyed by a) deleting it from the investigator's computer where it was housed and b) shredding all hard copies. Although we ask everyone in the group to respect everyone's privacy and confidentiality, and not to identify anyone in the group or repeat what is said during the group discussion, please remember that other participants in the group may accidentally disclose what was said. If needed, any materials relevant to this research can be made available to

participating Affiliates by request. Other entities that can access to research-related data include UIC IRB/Office for the Protection of Research Subjects (OPRS), the state of Illinois Auditors, and key personnel from the Public Health Foundation. Lastly, note that if you have questions about your rights as a research subject or concerns, complaints, or to offer input you may call the OPRS at 312-996-1711 or 1-866-789-6215, or email at uicirb@uic.edu.

To respond about your participation in this research, kindly respond via email at mangel6@uic.edu within the next two weeks, but **no later than DATE TO BE INCLUDED ONCE IRB IS APPROVED**. In your response, please include one of the choices as below:

- I WOULD LIKE TO PARTICIPATE. PLEASE SEND ME THE DATA USE AGREEMENT THAT WILL BE SIGNED BY (Name and contact information of the person who will sign the Data Use Agreement to authorize data release from the Public Health Foundation):

  I also authorize you to contact:

  (a) names, job titles and contact information of the TRAIN Administrator, and,
  (b) names, job titles and contact information of any other individual(s) who are responsible for training/training evaluation/staff development in your agency

  to review the study's goals and conditions and **voluntarily individually and directly** notify the study's investigator about their decision to participate in an one-hour interview. Should they decide to participate, they are authorized to be in the interview during regular working hours.

Your name and position within the agency –

- I DECLINE TO PARTICIPATE IN THIS STUDY.

Your name and position within the agency.

Upon your approval to participate, the name of your agency will be listed in the attached TRAIN Data Use Agreement, and will be sent to you for signature to begin the data release process. I'm available for any questions or clarification you may need to process this request, and thank you in advance for your consideration and commitment to make progress in the public health workforce development.

Sincerely,

Magaly Angeloni

Mangel6@uic.edu

Cc: Sam Adams, Rhode Island TRAIN Administrator

Attachments: Research Study Abstract, TRAIN Data Use Agreement

RESEARCH STUDY ABSTRACT

1. Background

The need to develop the public health workforce is well-documented through the literature. Public Health Accreditation, a program launched in 2011, requires health departments to develop and revise a workforce development plan annually. Hence, agencies are developing this plan, many of them in conjunction with the Public Health Training Center (PHTC) in their area, and using TRAIN. TRAIN (TrainingFinder Real-time Affiliate Integrated Network) is a public health learning management system that contains over 29,000 courses and allows creation and tracking of courses, individual and groups' annual training plans, course registration, pre and posttests, evaluation methods, individual profiles creation, reporting and more. Currently, about 28 public health agencies are considered TRAIN affiliates and use TRAIN as their learning management system.

2. Study Goals

- Describe the current approach used by TRAIN affiliates to evaluate training
- Inform public health about current gaps, research and practice needs
- Promote the value of training evaluation

3. Study question: What approach are TRAIN affiliates taking to evaluate public health training?

4. Study Design

Retrospective, qualitative analysis of secondary data and documentation that evidence the *approach* currently in use by the TRAIN affiliates network, as it relates to training evaluation.

5. Data Collection

The study proposes the collection and analysis of data and documentation from a sample of no more than 15 TRAIN affiliates. Data encompasses the following:

- Individual or Group Interview to the TRAIN administrator and staff responsible for the training in the agency (up to 3 staff per agency)
- Agency's Training plan and Workforce Development Plan (if separate), Agency's Training Evaluation plan
- Training Evaluation tools (surveys, pre and post tests, questionnaires)
- Any reports currently in use to evaluate/quantify training (TRAIN and non-TRAIN generated)
- Any other relevant documents that may be available, including Logic models, goals/objectives, strategic plan containing workforce development goal, dashboard measures, recent reports, etc.

6. Data Analysis

The following steps will be taken to conduct data analysis, which will begin as soon as data is collected:

- Documents received will be inventoried, printed, numbered, duplicated, stored in 2 places, and categorized into either a) narrative documents, or b) forms

- Documents will be read twice, highlighted, and coded [in-vivo and a priori] - Independent coder will repeat the process and results will be compared and validated - Narrative-heavy documents (e.g., plans) will be loaded into NVivo software for analysis - Measures included in the documents will be analyzed using Wholey's criteria for good performance measures - All results will be summarized in tabular format and responses connected to the sub-questions - Based on the initial data collection, a follow up interview might be conducted with some of the study participants
7. Thesis Products and Workplan: Thesis with two (2) manuscripts - Projected Graduation Date: Spring 2014
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APPENDIX 15.

Qualitative Data Analysis, by Affiliate, by Topic: TRAINING

TRAINING PRACTICES AND STRATEGIES

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
TRAINING PRACTICES							**TRAINING PRACTICES**
Training was centralized through a training center in the past		Agency has a strategic map team charged to develop a competent workforce	Training is taking place in units but not overall education and training plan yet	No central responsibility for training in the agency; training only takes place in some units	Agency has a branch responsible for workforce development, and overall training initiatives, that houses TRAIN	Agency has 6 units and each unit manages their own training; no one person oversees training;	*5/7 Affiliates said there is no central unit overseeing training in the agency (1/7 does).* *However, all 6 Affiliates mentioned signs of a broken system, such as lack of overall ownership of training. Centralization and making a cultural shift were mentioned as solutions.*
Supervisors identify training needs for employees at annual performance evaluations			The HR Office is in charge of training for the agency	Agency requires the completion of an Employee Development Plan (EDP), which would trigger training; hope to see results in the future	Lack of ownership for overall training responsibility is a problem; HR is responsible for HR training, nursing for nurses training, etc.	Centralizing training would help set training requirements (i.e., requiring use of TRAIN)	
Need a cultural shift to encourage training as a professional development tool, not a burden				In a survey, more than half of the respondents felt [lack of] agency support was a high barrier for them to attend training; work is needed in the workforce development area	Hopes agency is concerned about the training they offer		
				The HR office is organizing most of the agency's training			

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
TRAINING STRATEGY							**TRAINING STRATEGY**
Lack of agency's efforts to engage staff in training, staff development			Plenty of room for improvement in training	No emphasis on workforce development in the past	Training is valued at both, Local and State level		*3/7 Affiliates mentioned training is taking place in silos, in different pockets within the organization, but no agency-wide strategy. There seems to be a lack of enthusiasm and overall support for training and professional development.* *Centralization is a desirable way to organize training, supported by leadership engagement (and partnerships)*
Each department develops their own training plan, workshops and courses			Training is a priority only in certain divisions/pockets within the agency	Lack of overall, agency-wide strategy doesn't send a good message to staff			
Lack of strategy is being addressed by the agency's workforce development plan				Agency's emphasis on the Employee Development Plan and supervisors' oversight may help a change			
No person in charge of developing a training strategy			No luck getting buy in to get Preparedness group to do another training plan				
Lack of staff and technology to implement							
Currently, lack of enthusiasm about training and professional development							
Think agency is moving back to centralized training				Workforce development wasn't a priority before; now leadership and academia working together and		Some staff would like a better, more centralized way to offer training	

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
				making it a priority			
In the past training was centralized; now training is done only if mandated (i.e., audits, grants)							
Lack of agency's efforts to engage staff in training, staff development			Plenty of room for improvement in training	No emphasis on workforce development in the past	Training is valued at both, Local and State level		
Each department develops their own training plan, workshops and courses			Training is a priority only in certain divisions/pockets within the agency	Lack of overall, agency-wide strategy doesn't send a good message to staff			
SUMMARY							
° *TRAIN Administrator doesn't directly work with HR, works in Preparedness* ° *General trainings are coordinated by HR, Preparedness and IT; ethics trainings coordinated by Legal.* ° *Training was centralized until 2008; agency now considering centralization again* ° *Recent*	° *Agency requires staff to take training based on the position; everyone is required to take FEMA courses*	° *No centralized training function or responsibility in the agency* ° *TRAIN Administrator is in HR but doesn't deal with public health technical training* ° *TRAIN Administrator participates in the training committee* ° *Agency has a workforce development training schedule using the results of a Core*	° *Training is done through the HR* ° *Agency is making the use of TRAIN a priority for 2014* ° *Education and training not a high priority for the last 10 years* ° *Unit-level and division-level training plans exist, but are mostly area-specific (epi, HR, management)* ° *Working on the Workforce development plan*	° *(Volunteer) TRAIN Administrator is based at a separate partner agency that houses TRAIN and the Preparedness program; the public health agency has another learning management system and hasn't fully adopted TRAIN. Some LHDs use and like TRAIN* ° *Training happens at different levels;*	° *TRAIN housed in public health side, not in the Preparedness program within a small branch that coordinates training for the whole department* ° *Personnel is responsible for personnel training, and each program is responsible for training in their own area* ° *Accreditation is forcing strategic conversations*	° *Agency has centers and each center has a training responsibility and is setup differently; no one person oversees training for the agency* ° *Centralizing training would help more use of TRAIN* ° *TRAIN Administrator is part of planning committee* ° *Recently using post evaluation for selected*	

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
management changes have been positive [for training purposes] ° *Training needs identified by supervisors at annual performance evaluations* ° *Perceived lack of engagement, enthusiasm, resources and support with respect to training*		*Competencies assessment* ° *New director appointed 3 years ago and consolidated units, etc., supporting Accreditation* ° *Disconnect between the TRAIN Administrator and the PIM (existence of a training plan, participation in accreditation*	° *Identified gaps in the workforce development area and addressing them through the workforce development plan* ° *Has conducted a workforce assessment survey, hasn't implemented findings yet* ° *PIM not involved in evaluations* ° *Planning to apply for accreditation*	*some are managed by the training unit at the partner agency, but nothing with respect to public health. Programs have their own required training, but no central responsibility for training in the public health agency.* ° *Recently completed a training needs assessment for local and state public health; results say little investment has been put into workforce development in the past; now looking to address that need.* ° *Planning to develop a training plan* ° *Require an Employee Development Plan (EDP) for each employee* ° *New leadership is very committed*	*about training and workforce development, to change the past practice that training was driven by programs* ° *Moving from face to face, 2-3 days training programs to micro courses using technology, and facing resistance from staff* ° *Training needs assessment is done by doing the TRAIN self-assessment and a survey* ° *Worked with academic partner to determine tools in use, design standard evaluation, implement 360 component in training* ° *Working in silos and using budgets in silos* ° *Require Course Providers to standardize processes to setup courses in*	*courses*	

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
				to employee and workforce development; training now becoming a priority ° *Submitting documentation for Accreditation in March 2014*	*TRAIN* ° *Staff slowly moving to accept online training (vs live training)* ° *Leadership changed 3 times in 2 years*		

TRAINING OPERATIONS

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
REQUIREMENTS							**REQUIREMENTS**
All staff at all levels are required to take some trainings; agency monitors completion	Required training is determined based on position/job responsibility	Agency requires training such as HIPAA, internet security	Some trainings are required, like HIPAA, HR, etc.	The agency requires some training, including ICS training	Requiring training is a trend Administrator is trying to change	There are agency level required training (HIPAA, etc.) and other specific topics (Preparedness, nursing training)	*All 7 Affiliates reported their agencies require a set of trainings, usually the privacy (HIPAA), Preparedness (ICS), and others such as sexual harassment, internet security and others. Some agencies monitor the completion of required trainings within a timeframe, and the HR department is also involved. At least 2 Affiliates would prefer to move away from requiring training because it creates a different dynamic, and making training more appreciated would be a better approach.*
Every employee must take 5 courses a year, each year		Required training creates a different dynamic in the recipients; demonstrating the value of training might be sufficient		Other than required training, nothing else is going agency-wide	Some trainings that are "required" nobody knows WHO (law, agency, program) requires them	HR informs staff about the required trainings, supervisors monitor the training completion	
HR assists if trainings are required		Management monitors completion of required training			There are required trainings at the local and state level	All staff must open a TRAIN account within 2 weeks of starting on the job	
Everyone (staff, interns, security personnel) must have an account in TRAIN, because the required training is through TRAIN		Use TRAIN to monitor completion of required training			New employees sign up in TRAIN before they start, and take required training on the first day on the job	Required trainings are taken within a timeframe (first quarter of the year, within 30 days, etc.)	
Some units have mandatory training, like the Lab		Completing the evaluation is not mandatory for learners					
TRAIN ACCOUNTS							**TRAIN ACCOUNTS**
TRAIN and training is available to		Opening an account in TRAIN	Anyone (internal and external) can	No pre-authorization			*4/7 Affiliates have no requirements*

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
others, like hospitals, LHDs, etc.		is mandatory, because required courses are through TRAIN	open an account in TRAIN	required to open a TRAIN learner account			*to open an account in TRAIN*
COURSES							**COURSES**
Trainings are only completed if required		Training now is focused on 3 CC, based from assessment scoring		The training unit is requiring some trainings; also looking for training for management staff	Looking to offer many training topics to build staff capacity (i.e., QI, performance management, wellness)	Most trainings are for school nurses, and other courses, like Preparedness courses are for everyone	*5/7 Affiliates said training is taking place in their agencies, but mostly in sections of the agency, and on a voluntary basis.*
Trainings for employees are based on job responsibilities		Training is made available to others in larger agency			Local university is assisting by prioritizing/assessing TRAIN courses for a given topic		
					Training is now focusing also on the individual (i.e., wellness courses)		
TRENDS							**TRENDS**
Working hard to educate learners and instructors to accept/adopt online learning					Moving away from face to face training to online training		*2/7 Affiliates said they are moving to online, shorter training and leaving the long, face to face modality, mainly because of budget cuts.* *Moving to online training is not easy or quick, but they are taking strong steps to bring learners to adopt this new way of training,*
Budget cuts and cost of face to face courses are causing agency to move towards online courses					Changing trends: in the past 1 hour course was worth 1 continuing education credit, now they are only ½ hour courses		
Learners take time to adapt to the new technology and training modality (about half like it, half resist it)					Prefer not to required long courses, and to offer "bite size" courses		
					Everyone prefers face		

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
					to face training, but resources are forcing agency towards online training		*using TRAIN as the conduit.*
					TRAIN facilitates online training		
Budget cuts are impacting training		Currently had NHPII funding to support training, but not enough resources			Due to budget cuts agency moving to online courses (no live training); staff needs time to adapt		
					Staff resists the use of technology for training purposes; progress is very, very slow		
STAFF VIEWS							**STAFF VIEWS**
Most staff appreciates having TRAIN and access to many courses free of charge		Staff would like to have more trainings offered		New employee orientation, setting expectations are good		Some staff think TRAIN is difficult to use, but it maybe because of their lack of consistent use	*4/7 Affiliates said the staff in general appreciates the availability of courses through TRAIN, and would like more trainings being offered; 1 said some staff finds TRAIN difficult to use but it could be because some users don't access the system often enough.*
		How training is presented to staff is important to get their interest			Having in house experts to offer training on their area of expertise could be a morale booster		
Being part of a network (TRAIN) is useful because courses created by others are available to all Affiliates		No mandate to complete courses (all is voluntary)	TRAIN reporting tool is useful, and was used a lot for the NIMS training plan; not anymore				
SUMMARY							
TRAIN Administrator assigned to TRAIN	*TRAIN Administrator assigned to*	*TRAIN Administrator assigned to TRAIN*	*TRAIN Administrator assigned to TRAIN*	*TRAIN Administrator assigned to TRAIN*	*TRAIN Administrator assigned to TRAIN only:*	*TRAIN Administrator assigned to TRAIN*	*2/7 TRAIN Administrators are a resource*

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
only: *No*	*TRAIN only:* *Yes*	*only:* *No*	*only:* *Yes, but part time*	*only:* *No*	*No*	*only:* *Yes*	*dedicated to TRAIN on a full time basis; the remaining 5 have other assignments and/or are less than full time*
° *Agency requires selected training, and programs may require topic specific trainings* ° *Budget cuts forced transition to online training* ° *TRAIN is made available to external partners* °	° *Some training is required, depending on job*	° *Agency requires training on selected topics, and also requires opening a TRAIN account* ° *Making training required is not preferred* ° *More training is desirable*	° *Agency requires training on selected topics* ° *Anyone can open an account in TRAIN* ° *Agency used the training plan tool in TRAIN for the National Incident Management System (NIMS) in the past [unknown reasons why is no longer in use, since it is still a requirement]*	° *Agency requires training on selected topics, like ICS; all other training is not required* ° *Anyone can open an account in TRAIN*	° *Agency requires training on selected topics* ° *Employees are asked to open an account in TRAIN before they start the job* ° *Mandated training is not viewed as desirable* ° *Budget cuts forced agency to move towards shorter, online training and staff resists the change*	° *Agency requires training on selected topics, including Preparedness* ° *Staff required to open an account in TRAIN within 2 weeks of starting the job* ° *Supervisors monitor completion of required training*	

TRAINING NEEDS ASSESSMENT

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
TOOLS AND PROCESS							**TOOLS AND PROCESS**
Training needs assessment was sent to all staff	Each regional trainer is contacted each new fiscal year about training needs; central office also asks for other training needs; then central office offers training face to face or online, and coordinate training for what they don't offer in house	The competencies assessment was done for the first time ever, every employee completed; will be done again in a year	Recently completed the training needs assessment to identify training needs	Recently (last year) did a training needs assessment for local and state, based on the Core Competencies	Have 2 tools for assessing training needs: short survey asking what topics staff wants, and the annual TRAIN assessment of the Core Competencies	Not sure what has been used in the past, but hoping to get buy in to do some assessment in the future	*6/7 Affiliates said a training needs assessment has been conducted in the agency, although each have done it in a different way, schedule and using a different tool and format. (1 Affiliate wasn't sure if one has been done in the past but is planning to do one).* *One Affiliate does the assessment through a regional partnership and gets individualized results for the state, and other Affiliate has a two-prong approach with a local academic partner and is moving to do the 360 evaluation.*
Have done surveys in the past, but after any survey is important to be responsive to the needs		Did assessment in survey monkey to add other questions	Conducted a survey years ago when required and funded by Preparedness	Plans to partner with public health and local academia to implement findings in a training plan	Once needs are identified, look at expertise in house; like peer to peer setting to learn		
		Each individual program also does its own internal assessment, and in addition they may need to do another assessment (i.e., preparedness)	Conducted a training needs assessment via survey 1.5 years ago	Dialogue on training needs will take place because of the requirement to do the Employee Development Plan (EPD)	Still have "ways to go" for training, but this is a good start		

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
		Did a training needs assessment in 2008; and after that was done every two years by a regional center, through an online survey; results are broken down by state			This is 3rd year doing self-assessment using TRAIN and based on the Core Competencies for all Local and State employees; get about 50% response		
					Tool in use has been validated by a local university		
					Planning to use the 360 assessment in the future		
					With the assessment they haven't found anything they didn't know before		
					Having a Workforce Development Plan and an annual assessment through TRAIN is a good start to identify gaps		
SUMMARY							
° *Training needs assessment was recently (1-2 years) administered*	° *Training needs are assessed every fiscal year by consulting the regional offices and via survey* ° *Training is planned using this information*	° *Competencies assessment was done for recently, also did a survey to get additional information* ° *Regional center administers assessment and breaks down findings by state* ° *Programs may*	° *Conducted a training needs assessment via survey recently (1-2 years)*	° *Conducted a training needs assessment based on the Core Competencies recently (1-2 years)* ° *Plans to partner with academia to implement findings*	° *Conducts training needs assessment through annual TRAIN assessment of the Core Competencies tool and also via survey* ° *Partners with academia on the tool selection and administration*	° *Unsure if training needs assessment was conducted before (relatively new hire, within 1-2 years)*	

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
		have their own assessment (i.e., preparedness)					

CORE COMPETENCIES

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
USE/AWARENESS							**USE/AWARENESS**
Not all instructors are aware of the CC		Course Providers are aware of the CC		The agency's training needs assessment is based on the CC	The agency's training needs assessment is based on the CC		*At least 4 of the Affiliates reported using the Core Competencies, including 2 who based their training needs assessment on them*
				Not applying the CC yet in any other ways	Have an annual assessment on the CC through TRAIN; individual and aggregate results		
USE/BARRIERS							**USE/BARRIERS**
CC need to have easier definitions to understand, for all Tiers			Selecting the right CC for a course requires field understanding, which is not common; a user-friendly guide would help		Selecting the CC requires the Course Providers to do planning on the training, but that doesn't always happen	Course Providers are confused about selecting the CC	*4/7 Affiliates said Course Providers are confused about the CC, and to use the CC requires having a full understanding and it would help to have easier definitions of the CC.*
CC are a great concept, but a lot of people don't understand them			Need to educate the agency about the CC				
	CC can be used more if Course Providers were required to use them when setting up a course	TRAIN Administrator could require the completion of CC if the agency makes it mandatory	TRAIN Administrator could require the completion of CC if the agency makes it mandatory		Course Providers are required to select CC	Course Providers are required to select CC; except when no CC applies to the course	*3/7 Affiliates said they could require (2/7 already do) Course Providers to select a CC for courses if the agency made it mandatory. They also said they could make it a requirement if the CC were user friendly and there*
		TRAIN Administrators don't verify the accuracy of Core Competencies assigned to	Agency not requiring CC because they are not user friendly and Course Providers not				

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
		courses because using them is not mandatory	always select a CC for their courses				*was a way to verify the CC were accurately selected.*
No tool to apply the CC; CC are good if there is a tool to use it	No systematic way to track CC					No system available to validate if CC were selected appropriately	*4/7 Affiliates indicated that while courses can be searched by CC, users search only by topic.* *3/7 Affiliates said that the difficulty with the CC is based on the fact that there is no systematic or automatic tool to select, apply, identify courses, and verify the right selection of CC.*
Agency can require the CC when there is a tool to interpret them and apply them							
TRAIN allows course search by CC, but people search by topic	Most Course Providers select applicable CC when they setup a course		Not all Course Providers select a CC for the courses they setup		TRAIN allows course search by CC		
TRAIN has nothing setup to automatically suggest courses by CC							
AFFILIATES' ADDITIONAL DATA							
Category of Course Providers with Active account in TRAIN: "A" *D. 1-50* *E. 51-100* *F. >100*	*Category of Course Providers with Active account in TRAIN: "C"* *D. 1-50* *E. 51-100* *F. >100*	*Category of Course Providers with Active account in TRAIN: "B"* *D. 1-50* *E. 51-100* *F. >100*	*Category of Course Providers with Active account in TRAIN: "A"* *D. 1-50* *E. 51-100* *F. >100*	*Category of Course Providers with Active account in TRAIN: "A"* *D. 1-50* *E. 51-100* *F. >100*	*Category of Course Providers with Active account in TRAIN: "C"* *D. 1-50* *E. 51-100* *F. >100*	*Category of Course Providers with Active account in TRAIN: "B"* *D. 1-50* *E. 51-100* *F. >100*	*All 7 Affiliates have Course Providers who are responsible for setting up courses in TRAIN. By set categories, 3 Affiliates are category "A", 2 are "B" and 2 are "C"*
° *Not all Course Providers are*	° *Could use the CC more if*	° *Course Providers are*	° *CC are not user friendly*	° *Training needs assessment is based*	° *Training needs assessment is*	° *Course Providers are*	°

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
aware of the CC ° *CC are a great concept but there is no practical way to interpret and apply them*	*Course Providers were required to use them*	*aware of the CC* ° *The use of CC could be required if agency makes it mandatory* ° *When CC are selected, there is no general practice to verify the selection was appropriate*	° *Selecting the right CC requires understanding of them* ° *The use of CC could be required if agency makes it mandatory, but not all Course Providers use the CC for their courses*	*on the CC; no other use of CC in the agency*	*based on the CC* ° *Course Providers are required to select CC for their courses, but use requires knowledge and understanding, which not everyone has*	*confused when selecting CC for their courses* ° *Currently, no system or method to validate the right selection of CC*	

ACCREDITATION

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
DESIGNING THE WORKFORCE DEVELOPMENT PLAN							**DESIGNING THE WORKFORCE DEVELOPMENT PLAN**
Working on the Workforce Development Plan for Accreditation		Now have a Workforce Development Plan for Accreditation	Working on the training/evaluation plan because of Accreditation	Working on the Workforce Development Plan, needs assessment and training plan for Accreditation	Working on the Workforce Development Plan for Accreditation	Working on the Workforce Development Plan for Accreditation	*6/7 agencies are working on the Workforce Development Plan for accreditation. The plan includes a training schedule and evaluation.*
Working on the training/evaluation plan because of Accreditation			Agency is addressing identified gap on workforce development				
There was no training plan before now		In the past, training plans at the division level, no agency-wide	Working on the training/evaluation plan because of Accreditation		Have a Workforce development plan for the first time	The Workforce Development Plan was done recently	*5 Affiliates mentioned they are either working on or already have a Workforce Development Plan, which is an Accreditation requirement.*
					Agency didn't have anything similar to the Workforce Development Plan before		
					Agency's conversations on training are starting for the first time for Accreditation		
SUPPORT FOR TRAINING							**SUPPORT FOR TRAINING**
TRAIN Administrator is part of the committee to			Accreditation is causing support for TRAIN		Now agency promoting TRAIN to track training	Accreditation is causing support for TRAIN	*3 Affiliates said accreditation is causing support for TRAIN; 1*

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
develop the Workforce Development Plan							*additional Affiliate reported the TRAIN Administrator is in a planning committee to design the workforce development plan*
					Accreditation is causing support to include TRAIN in agency's policies and document training	Now using TRAIN for reports	
Accreditation brought emphasis on training			Accreditation brings a new focus on training		Accreditation brought the need to do training more efficiently and effectively		*3 Affiliates mentioned Accreditation is bringing emphasis on training*
Accreditation is on director's agenda		New director is supportive of Accreditation and created a unit to do this work		The Performance Management office is creating a new employee orientation	A new employee orientation is being developed	Office of performance improvement was created for Accreditation	*5 Affiliates explicitly said their leadership is supportive of Accreditation*
AFFILIATES' ADDITIONAL DATA							
Accreditation status: Applying	*Accreditation status: Applying*	*Accreditation status: Applying*	*Accreditation status: Applying*	*Accreditation status: Applying*	*Accreditation status: Applying*	*Accreditation status: Applying*	*All 7 Affiliates are preparing to apply for Public Health Accreditation*
Workforce development plan: in progress	*Workforce development plan: in progress*	*Workforce development plan: in progress*	*Workforce development plan: in progress*	*Workforce development plan: in progress*	*Workforce development plan complete*	*Workforce development plan complete*	*2 Workforce Development Plans are complete; other 5 in progress*
° *Agency's leadership is in support of Accreditation* ° *There was no training plan before Accreditation, now working on the Workforce Development*	°	° *Agency's leadership is in support of Accreditation* ° *There was no training plan before, now preparing a Workforce Development Plan for*	° *Working on the Workforce Development Plan for Accreditation* ° *Accreditation is causing support for TRAIN*	° *Working on the Workforce Development plan, training needs assessment for Accreditation* ° *New employee orientation under development*	° *No workforce development or training plan for the agency before; now working on the Workforce Development Plan for Accreditation* ° *New employee*	° *Working on the Workforce Development Plan for Accreditation* ° *Accreditation is causing support for TRAIN*	°

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
plan (which includes training schedule) ° *TRAIN Administrator is in the Workforce Development committee* ° *Accreditation is causing support for TRAIN*		*Accreditation*			*orientation under development*		

EVALUATION PRACTICES

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
OVERALL EVALUATION STRATEGY							**OVERALL EVALUATION STRATEGY**
No evaluation agency-wide	No current procedure to evaluate training	No current effort or knowledge about the impact of the training they provide	Not doing evaluation of training	Evaluation is only done for agency-level courses		Some courses have evaluations	*All 7 Affiliates reported evaluating training for some courses, or units within the agency, but there is no agency-wide strategy to evaluate training they offer.* *One Affiliate uses a standard evaluation for all courses in TRAIN, and another Affiliate has a standard evaluation for a group of courses.* *[Assessments are quizzes of the material; evaluations focus on training satisfaction]*
No current effort or knowledge about the impact of the training they provide	Assume training offered is making a difference because it is job specific	Use assessments and evaluations but not consistently	Only one course setup by a division uses assessments (quiz) and evaluation and also a post assessment	No current evaluation conducted on trainings offered	Assessments (quizzes) and evaluations are definitely key		
No evaluation is conducted at the agency level		Only courses offered agency-wide use assessments (quizzes) and evaluations; one course had 100% assessment completion because it was required			No current comprehensive strategy for evaluation		
In the past, visual assessments (smiley face) were applied, when courses were done face to face							
Mostly they just have online							

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
assessments to evaluate trainings							
TRAIN ROLE IN EVALUATION							**TRAIN ROLE IN EVALUATION**
TRAIN allows evaluation tracking, but most courses don't require an evaluation	Several Course Providers use training plans in TRAIN	TRAIN has great features, which could be useful for evaluation if used consistently and extensively			Staff uses TRAIN for self-assessment; supervisors access results and use data to recommend training	Agency uses TRAIN for evaluations and assessments (quizzes)	*All 7 Affiliates use TRAIN's features for tracking training, as well as for assessments (quizzes on the training content) and evaluations (learners' views on the training). However, there are many evaluations and are not used consistently*
There are many assessments (quizzes) setup in TRAIN	TRAIN is used to track evaluations (not in paper)	Not sure about how evaluation is tracked			TRAIN can track pre, post, assessments (quizzes) and reviews; all part of evaluation		
It would be great to have a standard evaluation in TRAIN to apply to all courses					TRAIN allows to edit the [standard] evaluation but it is a burdensome task		
Some courses use a pre tests, many use a post test			TRAIN is only being used in a scale of 1-10, a 1	TRAIN has not been fully adopted yet in this agency	A post post evaluation is now available in TRAIN, but is voluntary	Now use post evaluations only for some courses	
EVALUATION TOOLS							**EVALUATION TOOLS**
Evaluation tools may be in paper or electronic, depending on the course	Most Course Providers design their own tools to use and put them in TRAIN	Evaluations are done in paper and electronically	Evaluations are tracked on paper and survey monkey		TRAIN has the option to do the current standard evaluation, which is not sufficient (too few questions)		*3 Affiliates reported their Course Providers use evaluation tools either in paper or electronically*

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
Evaluation tools are in TRAIN, but only depends on the Course Provider	Most Course Providers only use post evaluations (not pre)		Most evaluations are electronically, unless there is a rare issue with TRAIN		Currently have a validated standard evaluation tool to use for each training modality		*(TRAIN or survey monkey), while the other 3 use them in TRAIN (electronically).*
			Course Providers use the same standard post assessment and evaluation for all the courses in one unit				
Evaluation tools may be in paper or electronic, depending on the course	Most Course Providers design their own tools to use and put them in TRAIN	Evaluations are done in paper and electronically	Evaluations are tracked on paper and survey monkey				
EVALUATION RESPONSIBILITY							**EVALUATION RESPONSIBILITY**
Evaluations are tracked in TRAIN, and are up to the Course Providers		No requirement for Course Providers with regards to evaluation	No requirement for Course Providers with regards to evaluation; but they are encouraged to use evaluations		Only some Course Providers look at the evaluations	Course Providers are not required to do evaluation	*6/7 Affiliates reported evaluation of training is decided by their individual Course Providers, with regards to the frequency, type, format and how and when evaluation results are used.* *One Affiliate has a standard evaluation that is applied to all courses in TRAIN, and reported little or no interest from most Course*
			Course Providers are responsible for training evaluation		Most course providers have no interest or desire to do evaluations		
Only some of the Course Providers require evaluation			Course instructors decide to do an evaluation, if they want to	The training unit is responsible for evaluation, and plan to develop an evaluation tool for courses in the future	For courses for CE credit, a group quarterly pulls evaluation results and document them		
Evaluation tools	Courses are		Evaluations for				

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
are created by the instructor/trainer	evaluated by user evaluations or ratings		trainings are not required, only encouraged				*Providers as far as evaluating courses.*
Assessments and evaluations are up to the Course Providers	Assessments and evaluations are up to the Course Providers	Assessments and evaluations are up to the Course Providers	Course Providers use their own evaluation		TRAIN Administrator requires Course Providers to include an evaluation on trainings	Evaluation used varies depending on the Course provider	
Some Course Providers use their own evaluation	Course providers or their supervisors are responsible for training evaluation	Evaluations are included if the course is agency-wide (i.e., HIPAA)			Very few Course Providers look at evaluation results		
Agency can do more to evaluate training		Think staff is doing better as a result of training (no evidence though)	Not sure staff is doing better as a result of training		Training without evaluation doesn't inform if training is making a difference		
EVALUATION BARRIERS							**EVALUATION BARRIERS**
	Not requiring evaluations because lack of time, human resources	Lack resources to do more evaluation	Lack dedicated staff, knowledge of the importance	Not ready yet to do any training evaluation	Lack of time, educational level and interest of the Course Provider		*5/7 Affiliates said agencies lack the resources (time, expertise) and interest is preventing them to do training evaluation*
		Lack of time and consistency; also difficulty to apply levels 3 and 4 of Kirkpatrick			Only have data if courses go through TRAIN, half of the units don't setup courses in TRAIN		
		Training evaluation is not at the forefront of the effort			It needs a cultural shift to make training evaluation an agency practice		*2 Affiliates mentioned the need to make evaluation a priority, having a centralized*
		Training			Evaluating a		

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
		departments in general are not evaluating, or not evaluating thoroughly enough			course takes lots of planning, and not everybody is on board yet		*training unit and a cultural shift would be necessary to conduct training evaluation. It could also help to make evaluation part of the course design and send reminders to complete evaluation.*
		A solution could be to make evaluation part of the course design for every course			Lack of a centralized training unit		
		Too many variables that could impact on the organizational performance, ROI, go beyond training itself			Completing the evaluation after the course maybe a factor in not completing it; a reminder from TRAIN could be useful		
					It takes a lot of effort to get staff to use TRAIN for all courses		
SUMMARY							
Kirkpatrick's Level of training evaluation: No evaluation tools made available to the study	*Kirkpatrick's Level of training evaluation: No evaluation tools made available to the study*	*Kirkpatrick's Level of training evaluation: 1, 2*	*Kirkpatrick's Level of training evaluation: 1, 2*	*Kirkpatrick's Level of training evaluation: No evaluation tools made available to the study*	*Kirkpatrick's Level of training evaluation: 1, 2, and trying 3*	*Kirkpatrick's Level of training evaluation: 1, 2 and trying 3 for some courses*	*Evaluation tools from 4/7 Affiliates were available for the study; all 4 Affiliates are using levels 1 and 2, and 2 Affiliates are starting/trying level 3 of the Kirkpatrick model of training evaluation*
° *No evaluation conducted*	° *No current procedure for*	° *Conduct assessments*	° *Only a set of courses include*	° *No evaluation done for courses*	° *Use assessments (quizzes) and*	° *Only some courses include*	°

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
agency-wide ° *TRAIN is used for evaluation tracking, assessments and pre tests and post tests; most courses don't require an evaluation* ° *Evaluations are in paper or electronic, depending on the course* ° *Evaluation tools are selected and administered depending on the Course Provider* ° *Assessments and evaluations are up to the Course Providers*	*conducting evaluation agency-wide* ° *TRAIN is used to track evaluations, and several Course Providers use also the training plan feature* ° *Course Providers design and select their own tools* ° *Evaluations are up to the Course Providers* ° *Lack of resources to require evaluations done*	*(quizzes) and evaluations, but nothing agency-wide* ° *TRAIN has the features for evaluation, if used consistently and extensively* ° *Evaluations tracked on paper and electronically* ° *Course Providers use the same standard post assessment and evaluation for all selected courses in one unit* ° *Evaluations are up to the Course Providers* ° *Lack of resources to conduct training evaluation* ° *Evaluation not integrated in training design*	*evaluation and also a post assessment; nothing agency-wide* ° *Only about 10% of TRAIN is used (1,in a scale of 1-10)* ° *Evaluations are up to the Course Providers* ° *Lack of dedicated staff to conduct more evaluation*	*offered; partner agency does evaluations only for trainings offered by them* ° *TRAIN resides at a partner agency, and public health hasn't fully adopted the system* ° *Training unit in the partner agency is planning to develop an evaluation tool* ° *Agency not ready to do evaluation*	*evaluations and a standard evaluation for all courses setup in TRAIN* ° *TRAIN is used for self-assessments, pre and post tests, assessments; editing the evaluation is cumbersome* ° *Course Providers are trained to use the standard evaluation tool [insufficient because too few questions]* ° *Course Providers are required to use the standard evaluation; very few look at the results on their own; monitoring results is done quarterly for credit courses only* ° *Lack of time, resources, a centralized unit to conduct more evaluation*	*evaluations* ° *TRAIN is used for evaluations and assessments (quizzes) and post post evaluations only for some courses* ° *Evaluations are up to the Course Providers*	

ORGANIZATIONAL ISSUES

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
SYSTEMATIC ISSUES							**SYSTEMATIC ISSUES**
Agency in need of a cultural shift to encourage training as a professional development	Agency doesn't have a systematic way to measure the impact of training; it depends on Course Providers	Given the resources available, doing well regarding trainings offered	Need more staff and support to dedicate to the effort	More than half of the respondents felt [lack of] agency support was a high barrier for them to attend training	Need a culture shift to have the foresight in planning [training]	Need buy in from the leadership and the staff to use TRAIN	*Together, all 7 Affiliates referred to issues related to the lack of a centralized training unit, and the need for a cultural shift to support and promote training.*
Lack of strategy is being addressed in the workforce development plan			Need to value the importance of training	Employee development program (EDP) is mandatory, and 10% of staff hasn't done it; important to understand the value of it for the organization as a whole	It is the culture, until [training] becomes routine, saturation won't be achieved		
Other than mandated courses, lack of an overall training plan		No central person for the agency, so no centralized training function	No single person in charge of training/education				
		Hopes for a centralized training unit with budget to support training	Lack of dedicated staff, expertise to support training and evaluation				
LEADERSHIP							**LEADERSHIP**
Agency lacks staff development component to truly engage staff		No training plan for the agency; only for some units	Need a leader/champion of training; it hasn't been one in a long time	Not having an overall agency-wide strategy doesn't send a good message	Barriers include competing priorities and lack of consistent leadership	Haven't done a training needs assessment, need buy in for that	*5/7 Affiliates expressed the lack of leadership consistency affects training and staff development. Leadership has also been in*
Agency doesn't promote professional		Senior management doesn't engage	Leadership must inspire staff and create the	Leadership has been in transition; new leadership	Leadership deals with many serious issues (cutting		

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
development		staff about the role/value of training	environment for [training]; agency lacks the support from leadership	now supportive of training	jobs, budget), so training becomes low priority		*transition recently in 3 of the agencies, one of which had 3 different Commissioners in one year. 1 Affiliate had seen positive changes with their most recent leadership change.*
Lack of staff and technology to implement [training]			No one from leadership promotes TRAIN or show the benefit of becoming a Course Provider	Training hasn't been a priority before, but now is clearly becoming a priority	Have performance measures to achieve for training, but much remains still to be done		
Changes in management have been positive			Lack of leadership and consistency are issues				
Using surveys is good, but results must be addressed to keep credibility			Never been asked by management to prepare a training report		Nobody (staff or management) asks for training reports		*3/7 Affiliates said management rarely, if ever, asks for reports related to training issues.*
					Used reports years ago, and management felt there is no more need		
BUDGET							**BUDGET**
Agency receiving multiple budget cuts		Lack of funding			Everyone is somewhat in a silo, and budgets come in silos		*3/7 Affiliates mentioned budget and funding as issues that are affecting training in their agencies*
Due to fewer resources, agency moving towards more use of technology, a change for staff		No training budget established for the agency; individual requests are submitted			Travel budgets were cut; so now using online trainings		
		Main barrier is budget: team to monitor training have other jobs					
SILOS							**SILOS**

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
Organizational culture and interagency silos hinder collaboration		TRAIN Administrator is part of the committee working on workforce development issues	TRAIN Administrator has no connection with the training needs assessment	Little collaboration creates difficulty the selection of one of the two learning management systems			*4/7 Affiliates referred to the silos that hinder collaboration and affect training. 2 Affiliates said TRAIN Administrators are now part of a committee for Workforce Development issues.*
TRAIN Administrator is part of the committee working on workforce development issues			Sufficient training taking place in divisions and units, but nothing agency-wide		Some units/programs have training plans		
					Everyone is somewhat in a silo, and budgets come in silos		
SUMMARY							
° *Agency doesn't promote training and staff development* ° *Need of a cultural shift to do so* ° *Agency works in silos* ° *Budget cuts affecting the agency*	° *NO systematic way to measure impact of training in the agency*	° *Budget cuts are affecting the agency, and no budget targeted for training* ° *Agency doing what is possible for training, with the resources available*	° *Lack of dedicated staff to work on training and training evaluation* ° *Lack of [consistent] leadership to support training (requests reports, etc)* ° *Current training efforts at the unit level (silos), nothing agency-wide* ° *Centralizing training might*	° *Agency's leadership has been in transition; new leadership supports training, is now making it a priority* ° *Agency requires completion of Employee Development Program (EDP), which is monitored by supervisors and reviewed*	° *Agency's leadership has been in transition* ° *See a need of a cultural shift to promote training* ° *Budget cuts forced the agency to move to online training* ° *Agency works in silos*	° *Needs agency buy in to further promote the use of TRAIN*	°

AFF1	AFF2	AFF3	AFF4	AFF5	AFF6	AFF7	SUMMARY
			help	*annually; this might have an impact in training in the future*			

APPENDIX 16.

Quotes ABOUT TRAIN features and more

TRAIN REPORTING FEATURE	OTHER TRAIN FEATURES
• Yes, they [canned reports] have been very helpful. • As far as I know more than 10 people in our agency has access to the reports and have been using them. My team (training) probably use it more than others. • I have never used the reports form TRAIN • I use both, the canned and ad hoc reporting tool, probably equal amount of use. • Reports are not run in any particular timing (quarterly or yearly). Reports are run just then someone requests it and it is predominantly for my use or info, • Yes, find canned reports useful. • What I use is the Ad-hoc, that is the only system I use. I don't use the canned reports, that is cumbersome. I'm not an excel person, • We rarely use ad hoc reporting – too complex – not enough time to sit down and create those reports. • Most of the reports using are canned reports • The excel export report from the course roster is used a lot; the training plan reports all of them are used a lot; the evaluation reports are used some; and then we use a learner report to kind of monitor the growth of TRAIN and then we use google analytics to monitor activity. • I still work…. to verify attendance and verify course registration and run yearly reports for them for their annual reports • I use the evaluation report to evaluate the different courses, I also use some of the canned reports I've used the session state report • I share [the reports] with my supervisor and manager. They are not really asked	• I'm aware of the survey function haven't used it yet but probably will in this coming year- have a need to create a survey • A couple of years ago I became aware of the conference function and we had received a grant from the XX and we created a conference on QI; • TRAIN's conference feature to track enrollment, etc. and I found out to be pretty useful • We use the TRAIN system in several different places for registration purposes for large meetings so we can track the people and provide information, the conference feature and registration process for a regular event. • We use online modules, a lot of videoconferencing courses, and seasonally we use a lot of conferences. • I discovered the library resource where you can save those documents in the library and gives you a hyperlink to play in the course and then when someone hits the launch button that material is in TRAIN vs. on our site, so I can update it and it also keeps a history so that if you want to update the material (typo or error) you check out and then you can check in a new material and it saves the history and you can go back and see when something was changed and what it was before you changed it, so save the history and creates those URLs so it eliminates extra steps and we don't have the material in our server. • There is a lot of promising practices and one of them I was looking at is to get the hyperlink and how to use it and how it will benefit, now it won't save video files, but a lot of the materials we use are pdfs or other documents, so that is huge for us. • If you click launch your computer is trying to download the video, and the internet is not ours, it may take 2 hours, so it is trying to download; I'm trying to work with IT to figure out a webstreaming like youtube or something

for, that is one of those things that if you don't show it to them then they won't review them • Struggles I find with reporting is we've been with TRAIN for 10 years and we have a lot of people who are in there and manage their own account, they won't use it for years, they leave and the account remains active and there is no control mechanism to do that so that makes it difficult	like that, trying to find a way to do streaming vs to download to your computer. • In some ways it would be nice to require an approval to open an account, to prevent duplicate accounts and to know when and who is opening an account; • Well, one of the things that would be nice to be required to move to the next step for example an expiration date is one of the things that sit there forever because we don't have an expiration date

WISH LIST AND OTHER ISSUES

- Tech failure, glitches. They vary. One example will be that TRIAN automatically created 20+ sessions for a course that the course provider didn't want and it takes KMI, affiliates and PHF several weeks debating the policy of deleting course contents before KMI received the clarification to delete the extra sessions that the Course Providers didn't create in the first place
- [would like] more variables in the ad hoc reports
- The Assessment and evaluation mechanism in TRAIN is not terribly user friendly is a little challenging to get through
- Really the system is not easy to use – creating accts is very difficult, posting a course is a very complex patched-together system that takes a lot of work to do – once you got an acct created registering for courses isn't quite so bad but everything is such a long process. CP spend a lot of time, a lot of hours creating courses, they spend a lot of time supporting their audience and creating acts and so forth, not an intuitive system at all
- The cloning would be a solution to copy like there is a cloning option for courses so most info is there and you don't have to rewrite everything, maybe you have to rewrite 2 things.
- TRAIN can be improved as far as a reminder – I know that now you can't print the certificate until you complete the evaluation
- And assessment, if there was a way to clone those because we have a lot of courses, it would be nice if there was a way to clone so a standard evaluation and then as changes are made go in and if you have another course and manipulate it to make a little changes to do it instead of creating the whole thing again.
- Also it would be nice if there was a way to print or get a copy of the course evaluation questions very easily in the course assessment question, and the correct answers
- what sessions have been created for different courses and for tracking mechanisms, I've tried using different ones, but most of them are not necessarily what I need
- More canned reports, more features, more tools to make generating reports easier, faster, and useful for those who manage the system.
- It would be helpful to have more canned reports and more features to frequently run.
- It would be nice if it was more training in-depth training on ad hoc reports within TRAIN
- Unfortunately [TRAIN] does not include very much public health content nor the reporting capabilities that public health often requires.

VII. VITA

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	Performance Improvement and Accreditation Manager (2011 – present) Deputy Chief, Healthy Homes and Environment Team (2008-2011) Manager, Childhood Lead Poisoning Prevention Program (1998-2011) KIDSNET Operations Manager (2002-2007)
SIGNIFICANT	"Formulating a Workforce Development Plan: A Policy Analysis" UIC-School of Public Health, Poster Presentation, Chicago, April

PRESENTATIONS: 2012

"Lead Poisoning in Rhode Island: 25 years of progress" RI's Lead Poisoning Prevention Month Annual Conference, June 2003

PUBLICATIONS: "Improved childhood blood lead screening in Rhode Island", Best Practice Initiative from the US Department of Health and Human Services; October 2002

"The Foundations of Better Lead Screening in Children in Medicaid – Data systems and collaboration," Alliance to End Childhood Lead Poisoning, April 2001, pp. 34-38.

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