

**FTS-CDC-EPO**

**Moderator: Garry R. Greer  
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1:00 am CT**

Coordinator: Welcome and thank you for standing by.

At this time, all participants are in a listen only mode.

After the presentation, we will conduct a question and answer session.

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I will now turn the meeting over to your host, Mr. Gary Greer.

Sir, you may begin.

Gary Greer: Thank you.

Good afternoon, this is Gary Greer, the Massachusetts State Laboratory Training and Distance Learning Coordinator, speaking to you from the

Massachusetts Department of Public Health's State Laboratory Institute in Boston.

Welcome to our teleconference, Building Towards Confidence And Emergency Preparedness.

Before we begin the program, a few notes.

CDC, our planners, and our presenters, wish to disclose that they have no financial interest or other relationships with the manufacturers of commercial products, suppliers of commercial services or commercial supporters with the exception of Dr. Mary Hefner.

And she wishes to disclose that she is funded by the following granting agencies; the Midwest Center For Lifelong Learning in Public Health, The Minnesota Emergency Readiness Education and Training Center and the University of Minnesota Center for Public Health Preparedness.

A sign-in sheet was e-mailed to all site representatives this morning.

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After the program, each participant needs to register and complete an evaluation form. Documenting your participation helps us to continue to bring high quality training programs in a variety of formats.

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When you have completed the registration and the evaluation forms, you will be able to print a CEU certificate. California and Florida CEUs can be requested on the evaluation form.

If requesting Florida CEU, please include your Florida licensure number.

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This will signal the attendant that you are having a problem.

If the program experiences technical difficulties, please do not hang up.

Stay on the line until the issue has been resolved.

Again, welcome and thanks for joining us. We have over 30 sites across the nation listening to today's program.

Our speaker, Dr. Mary Hefner, speaks to us from the University of Minnesota Center for Public Health Education and Outreach in Minneapolis.

Dr. Hefner has over 20 years experience in the delta education and holds a Masters degree in Nursing Administration from the University Of Minnesota and a Doctorate in Educational leadership from the University of Saint Thomas.

Mary is currently an evaluator for the HERSA-funded Midwest Center for Lifelong Learning in Public Health, Minnesota Emergency Readiness Education and Training Center and the CDC supported, University of Minnesota Center for Public Health preparedness.

She has developed needs assessment surveys, program evaluation instruments and taught programs on systematic identification of competencies embedded in training activities for health departments in several states and for national audience -- audiences.

It is my pleasure to introduce to you and welcome our speaker, Dr. Mary Hefner.

Mary Hefner: Thanks Very much, Gary, and thank all of you -- thanks to all of you for joining us this afternoon.

I titled the program, Dissecting Training, Building towards Competence in Emergency Preparedness because I think that much of what we need to do is really get very good at dissecting training to determine competencies and to consider how they help us in our capacity building within our agencies.

Slide 2.

When we begin this process of dissecting, we always have to cut carefully. And I think when we are speaking about training; we need to be very cautious and clear in defining our terms.

And so we are going to be talking about what is competency? What are competency sets?

Sometimes we hear the phrase competency models, and so we are going to be talking about how competency sets and competency models are two different things.

Slide 3

We are also going to be talking about what is the difference between capacity and competency.

Frequently I hear those terms used interchangeably but they are actually two distinct concepts. And so we want to be clear when we talk about that.

Finally, we're going to be talking about what is an indicator and what the indicators have to do with competency in the first place.

Slide 4.

So what is competency?

I started working in education about 20 years ago when I was working with nursing students.

And even back then, in the 70s, although I think I just dated myself, we were talking about competencies.

And one of the first persons who was writing about this was a nurse by the name of Dorothy Del Bueno.

And what she said is, competency is the simultaneous integration of the knowledge, skills, attitudes required for performance in a designated role and setting.

And what's so important about this is because we are talking about simultaneous integration.

We are not just looking at a single knowledge set or a single set of skills or a set of values and beliefs that we bring into a situation.

What we are really talking about is how do we bring all these things together.

The other part of this definition that's really important is this notion of performance in a designated role and setting.

You can be very competent in one role and be moves to another situation and expect that your competency may shift because that context will require from you, different kinds of skills and different kinds of situations.

I think about health educators who are very skilled at working with communities and public information offices who are very skilled at delivering risk communication messages.

When we put them in a classroom, or in a high school gymnasium with 700 frantic parents in a community who are experiencing a meningitis outbreak. That is a different context and a different setting.

And so when people are working on this notion of competency, you have to be thinking about the settings that we want people to demonstrate those skills in.

Slide 5.

This is a definition by (Lucia Enlepsinger) who wrote a book in competency models more recently in 1999. And what you can see is that definition of competency hasn't shifted very much over the last 20 years.

They defined it as a cluster of related knowledge, skills and attitudes that affect the major part of one's job or responsibility that correlates with performance on the job.

The piece that they added is that it can be measured against well-accepted standards and can be improved by training and development.

So we start to bring in this notion of how do we measure competency and how do we evaluate it.

And that is what we work on frequently.

Slide 6.

In both of these definitions that you see, competency is comprised of knowledge, skill and ability elements.

They both talk about simultaneous integration.

Competency is linked to performance and it's specific to a role in the setting.

Slide 7

And as I said, competency measurements and evaluations can only be measured in context.

The example I gave here is -- it's one thing to take a test in a class that's teaching me how to do CPR, it's another thing to walk down the street, see someone laying face down who is blue and unresponsive.

That's when we assess competency.

When you do those things that you were thought to do in that classroom and do them at the level that you want to perform at.

Slide 8.

So if that's competency, what's a competency set?

Competency sets are groups of competency statements. They are developed by groups of professionals, usually in meetings or in consensus committees.

And what they try to do are articulate and cluster specific knowledge, skills, abilities and attitudes. Sometimes referred to KSAS into statements.

They are focused on a specific group of practitioners and they become the benchmark that we measure against.

Slide 9.

So in public health what are we talking about? Well first we are talking about core public health always. Those are the foundation of competencies.

And the foundation of competencies reflects the essential services of public health. These were developed in about 2000 or 2001 by a group called the Council on Linkages between Academia and Practice.

And they came up with these 64 competency statements plus what they called 4 attitudes that are basic statements of skills, knowledge and abilities.

And each of those is correlated back to one of the 10 essential services of public health.

Slide 10.

This is a book you may have seen before. The early version was a light blue, they just did a reprint this year that's bright yellow.

But this is it; these are the core competencies for public health.

Next slide.

If you look inside that book, what you'll see is that those core public health competencies are divided into eight domains.

And a domain is simply something that I think is a book chapter or a tab in a book. It's just an organizational piece.

They developed these 68 statements into clusters doing – focusing on analytic or assessment skills, policy development and planning skills, communication skills, cultural competency skills, community dimensions of practice, basic public health skills, all those (EPI) skills and those skills that we apply everyday, financial management skills, and then considering that everyone is responsible for leadership, there are leadership insistence thinking skills.

So those are the base, steps to foundation and all of us in public health are working to acquire and demonstrate those core public health competencies and provide the essential services of public health.

Slide 12.

Then in 2002, another of competencies were developed. This may be familiar with you also.

Sometimes this are called the (GABE) competencies, sometimes called the Columbia competencies, sometimes called the CDC competencies.

They are all talking about the same thing, and these are the Bio terrorism emergency readiness competency.

Slide 13.

These Bio terrorism emergency readiness competencies are divided and organized into phases that have to do with preparedness and planning, response, recovery, mitigation, and evaluation.

And right away we start to run into a little bit of language glitch because if you look at those, what you'll see - if you look in the book is it talks about core competencies for public health.

So whenever I look at that, the first thing I say is are we talking about the Consul on Linkages core competencies or are we talking about the Bio terrorism competencies?

One thing that helps me sort that out is by calling these Bio terrorism competencies that apply to everyone in public health, cross cutting competencies. And that's the other phase that you'll see.

And what people are trying to do is say that these are the competencies that cross all public health roles for emergency preparedness and response.

The other thing they did in this book was they developed a series of role specific competencies.

So everybody has the cross cutting (129) competencies.

And then there are about nine other expanded sets of competencies, one of those having to do with public health laboratory staff.

Next Slide.

So in the public health laboratory staff competencies, what you see are detailed articulation of the cross cutting competencies as they relate to laboratory staff.

And what they do is they identify additional competencies that are needed to be performed by laboratory staff in most three phases of preparedness.

One of the things that (Sheila Escott) did from CDC in preparation for this program today was forwarded me a set of laboratory competencies that you have been working on in terms of preparedness and response.

The language is a little more specific because it talks about describing the role of hygienic laboratories, sentinel, basic capacity laboratories and those kinds of things but they are very similar and they think very closely of the CDC laboratory competencies, the ones that came out of Columbia in 2002.

So I think we are all on the same page, really in term of this basic competencies for prepared ness and for the specialty competencies.

Next Slide.

Well, if anything about competency sets is that once we start writing them, they just grow and grow and grow and grow. And there are well over a 100, and that is an old count. I would bet there are probably up to a 130 different specialized competency sets.

The American Society for Clinical Laboratory Science, if you go to their Web site, also talks about this notion of competency based training, education and credentialing.

So within the professional associations, there are efforts and work going forward to also bring forth competencies and statements to help shape training and to look at evaluation of performance.

So competency is not something I think that's going to go away. I think the trick for us is to figure out like everything else in the world, how to make it manageable and how to make it work for us.

Slide 16.

So if that's what competency is and that is what competency sets are, what's this notion of competency models?

This is a term that started to crop up in the 90s and I think as I look at it, it is a meeting of human resources and really education training and very – and some management administrative systems theory coming together.

It really is a systems approach, and when people are talking about competency models, what they are talking about are groupings of competency sets that you pull together, targeted to a specific role and then these are linked to job design, the way we write job requisitions, the way we do our tasks, our well requirements.

They get used in terms of appraisal systems for performance evaluation.

And when people are using competency model approach, they are also doing things like working at the competencies, working at the indicators, training people who interview for positions, build that into their question sets.

And once you do that, then you truly have a system where you bring people in, you've looked at them in terms of what competencies they have, where some gaps might be, that can be addressed in training and then we are constantly giving feedback in the appraisal system and what you've got is a closed loop that helps people develop competencies.

Slide 17.

So building competency, in this little pyramid is a model I've used. Well, we'll start with core public health because that's foundational to what we do. We deliver the essential services of public health.

We've established that the Bio terrorism emergency readiness competencies 139 are for everybody. So they're the next step up in that pyramid.

For this particular group, the laboratory science competency sets which stack on top of that.

And you can build your pyramid as tall as you want to build your pyramid. You just keep adding competency sets and then start to work on that in terms of role descriptions, positions, training.

Slide 18.

What you have in here is an example of a public health laboratory staff manager

You have core public health, you have the cross cutting competencies, emergency readiness, you have laboratory science competencies and then you

have on top of that core competencies for supervisors, managers and executive, things that will talk about fiscal management and risk management.

Next slide.

What we are always trying to do is figure out how to thread the needle, top to bottom through that pyramid.

We always try to link things, and we do that because we try this question about what is capacity? And how do we build capacity inside our organizations?

Well capacity is the ability of an organization to perform in a specific way, just different than the individual performing in a specific way.

And there are many dimensions of capacity. If you look at the bottom of this particular slide, you see knowledge, skills and attitudes. That's competence.

And from one element in capacity but it is not the whole ball of wax. So when people start to use those words interchangeably, I'm always trying to clarify that in training, we're talking about one element. And if we are truly going to measure capacity, we have to look at many other things.

We have to look at human capital. Meaning, do we have the right kind of people in the right kinds of positions?

Do we have a lot of vacant positions and how does that impact our ability to respond?

Physical Capital, here in Minnesota, we've been blessed with a brand new state laboratory. That is an example of physical capital. Very important, you have to have the right buildings and structures for people to work out of.

Economic capital, you obviously have to have the money and the support to make that happen.

You have to have social capital, and that has to do with your network. It's every thing from the county commissioners who develop your funding to state legislators and national networks and you have their cultural capital. You have to understand both the cultures and beliefs of the persons who serve. And you also have to understand the culture of the people that you partner with in terms of organizations because that's an element of culture also.

Slide 20.

So capacity and competency are not the same thing. Individual competence contributes to capacity but isn't capacity. Individual performance is developed through training that reflects competencies and competencies are comprised with individual skill inability element.

Slide 21.

I wanted to service model with you. This is a model that was developed by Cathy Minor at Emory University along with some of her colleagues there and with John Travis from CDC a few years back.

And for me, it lays out nicely with notion of how competence and capacity fit together. And it called the mock model because that stands for the – and the

source of their last names, but if you start over in the left upper corner, what you see is a little box that says work force competencies.

And following the lines straight down, what you have in between is really a learning need assessment and all the stuffs in map which then leads to some statement of instructional competency.

Now people use the word instructional competencies.

I think that means the same thing as learning objectives and broad learning objective.

Sometimes people call themselves competencies, that's my language, more verbiage. And it would be helpful if we could all get on the same page with that but we're not quite there yet.

But you have this notion of how you develop training plans?

You've done your assessment, you put your plan together, you organize it, you implement it, you evaluate for learning.

(Air) takes off, sort of, I guess (unintelligible) I would say which takes this individual performance. And there's sort of dotted line across from that but just credentialing.

And credentials are what an individual gets. If you follow the line straight up, what you see is individual performance contributes to organizational performance.

And the dotted line across, and that is accreditation.

Agencies become accredited based on the performances of individuals.

So you can see there's a difference between accreditation and credentialing.  
And then individual performance contributing to organizational performance  
and it's a circle we keep on learning.

Slide 22.

Well where did that take us?

Well if we're going to really work on developing competence, it's really  
important for us to get very, very good at stating what it is we want people to  
be able to do.

And that takes us to the notion of instructional objectives.

And I think they are at the heart of everything that we need.

They provide focus for us, they reflect learning needs assessment.

They communicate both to the instructor and to the learner with the intent of  
the training (airs).

They are also what we used to target our evaluation and as a set they say if  
this is what we're going to accept as evidence to somebody can do what it is  
we taught them to do. So they're very important.

Slide 23.

Learning objectives are really written at two different levels of specificity. If you read a paragraph that describes a conference, generally what you're talking about are general learning objective. They're telling you what the conference is going to do.

That's very different than saying what a learner is going to be able to do, and the language is different.

It's much broader, it describes a purpose and it isn't directly measurable and we can't probably evaluate competency until we get to that level of being very clear and very specific about learning objective.

Slide 24.

The way we get there very specific about learning objectives is by focusing on what we call the domains of learning.

And what it says is that there are three really different dimensions or kinds of knowledge that we learned.

We have the cognitive domain which is about facts, we have effective domain which is about values and beliefs, we have the psychomotor domain which is about thinking and doing, and not just about doing and those really become the different kinds of learning that we need learners to engage in.

Within these domains, and our domain again is just a tab - a chapter in the book. Each domain has different levels of learning and they are arrange from the lowest level to the highest level.

They move from simple to complex. They move from concrete to abstract and each level includes the levels that precede it.

Slide 25.

So the first domain is the cognitive domain. This is sometimes referred to as blooms taxonomy.

Blooms was revised in 2001 and one of the things that we learn in life is that we never learn at once we get to learn it twice. So we're all re-learning blooms taxonomy.

It has six levels.

At the very basic level, we simply ask people to remember the information.

One step up from that is we actually ask people to comprehend it.

You want them to understand it. That's different in just being a little to remember it.

Next stop, we want people to be able to use the information. That's the level of application.

Level 4 is analysis. When people can analyze they can differentiate and they can organize information.

The fifth level is evaluation which is judgment and critique.

And then level six is actually creating brand new ideas and new knowledge and new models and that's very high level learning.

Slide 26.

So here's some examples of what that looks like.

If I'm asking for someone to simply list the events that created the French Revolution, all I'm asking for people to do is remember it.

If I write a learning objective that says, the learner has to be able to state the meaning of the world concentration. They have to be able to understand it.

A learning objective like differentiate pre and post causes of real failure is about analysis. And if I were asking a learner to evaluate the results of current research about the correlation between obesity and type 2 diabetes, that's an evaluation learning objective.

And if you look at the difference between remembering and evaluating, you can see it that the kind of knowledge we're transmitting to the learner is very different. Much more abstract by as much more conceptual civilization remark to put it together.

Slide 27.

So what I'm going to ask you to do is take about 30 seconds here and I want you to try it out.

Here you see a list of five learning objective. And I'd like you to take a shot and try to match that learning objective for the cognitive domain taxonomy.

Okay. So let's take a look at this.

If you look at the first objective which is describing challenges basing public health professional plan for the year 2020, I think that's written at the level of understand. We're asking people to comprehend.

If we ask people to design a surveillance program for use in their agency we are asking them to create. That's a very high level scale. And it would take the ability to analyze and apply and comprehend to be able to do that.

And that's that notion that I said things are kind prior article. If you're at the highest level you're doing all the other ones too.

Number three, critiquing research findings in terms of the usefulness to providing methods of maintaining (stress) that's really about evaluation. That's critique.

Listing three causes of diseases associative with the agricultural industry is about being able to remember what you were taught.

And finally, obviously, analyzing the relational dynamics occurring in communities when there's a shooting in a school is about analysis.

So let's go on to the next domain.

Slide 28.

The next domain is affect of domain. And I personally find this one the toughest. It's about values and beliefs. And it is the toughest but the other

thing to remember is that it is the domain that lights the fire and sense people out the door to create change. So it's important in one we're doing training we want to be sure that we're addressing the affect of domain.

So at the very basic level, all we're asking people to do is receive. We're asking people to simply be willing to listen to what someone has to say.

At the next level up, we're asking people to respond.

We want people to react in some way to show some interest we'll be willing to participate.

The third level is valuing.

And when people value, they attach a worth to something.

They begin to think it's really not only interesting but important.

At the next level up organization, people began and what we're trying to help them learn how to do is resolve complex between two different kinds of values.

I might value savings from my child's college education and I might value taking a cruise to Mexico but somehow I'm going to have to resolve that. And that's what organization is about.

And then at the very highest level in this domain is something that we call value complex or characterization by value.

I sometimes call this the Gandhi level. When people are at this level they have integrated these values into their lives to an enormous degree. And so that's the highest level in the affect of domain.

Slide 29.

Here are some examples of the affect of domain learning objective.

From a list of volunteer activities, select three that match personal interest and preferences.

We're asking them to respond in some way.

And in these examples I bolded certain words and that's because in learning objective, it's the verb that creates the level. So you're very careful with your verbs.

The next one, explain the impact of belief systems on compliance with health directive. That's about valuing. What do people value? What are their beliefs?

The next example is integrate three activities that support personal or emotional health into a daily schedule?

That's that notion of integration and that's very complex.

And what you have to remember when you write a high level objective like that is your learning objective directs your evaluation.

So the only way I could measure that kind of an objective is by doing a follow up study with people because I really wouldn't know if they have integrated something into their life until I could go to them six months later and say, are you exercising 30 minutes to your time a week or four times a week?

So you also have to keep in mind that's your right to training. What the evaluation is going to look like and if you have the resources to do it because I thought we got to sink together?

Slide 30.

All right. So here's a couple of examples for you to try out. There are five of them here and take a couple of minutes again and see if you can match them up.

Okay. Let's take a shot at this.

The first one, recognizing accountability issues and ethical dilemmas in application of advanced life support technology, I'm calling responding.

I'm asking people to just show some interest on that and recognize that there are accountability issues for us.

The second example, select personal heroes from the list of famous public figures. I'm asking people to value a little bit for the heroes and that has to do with the touching worth.

Number 3, mentoring a colleague new to the field of laboratory science. That's very complex. Serving as a mentor is really a commitment to another person in terms of helping them develop their profession.

So that's a high level skill.

Selecting priorities for use of discretionary income is about organizing and resolving most complex.

And the last one describing issues of peripheral responsibility in promoting primary and secondary prevention in order to effect social change, I'm calling receiving.

Slide 31.

So let's take a look at the last domain. With just psychomotor, this one is probably the easiest for all of us because we focus and scale a lot.

At the lowest level, perception, were simply asking people to use their senses to gather cues.

At the level we call fat, we want people to be ready to act.

At the third level, guided response, people tend to follow some directions to perform a scale. It's about imitation and trial and error.

I think about when I was a student nurse and I was learning how to take blood pressures. And I go into the skills lab and there be a little tardy here that would say, pick up the blood pressure cup and hold it so the Velcro is facing you.

And I pick it up and I hold it (from the top), you know. It's that notion of - it's very sort of step by step by step. Really.

Mechanism.

When people are at the level of mechanism and they've been taught to that level, what they can do is perform a scale of some confidence.

It's consistent. It's loose. They know what they're doing. They're not following the check list anymore.

At the level of complex over at response, they're very proficient. They're skillful, they're accurate, they move to it.

In adaptation, they can modify the skill to respond to a situation that they're in. And then origination is about creating whole new pattern for the movement and whole new ways of doing things.

Slide 32.

So example of psychomotor domain learning objective, if I'm asking a learner to identify the correct meter for a waltz, I'm talking about perceptions that about cues.

If I ask them to display the correct position of feet for addressing the tee, you did a lot of this on your golf lessons, that's guided response. That's the very beginning level skill and if you're looking into feet and you're looking at the tee and at step by step.

If we were asking our learners to modify the strength of which a volleyball is hit based on location of opponents, that's adaptation. If what - put it together and make some judgments and perform it in different way.

You know, if we were asking people to compose something totally new like a sonata that's about origination.

So let's go to Slide 33, the next slide.

And here again, our few examples for you to take a look at and see if you can match up the psychomotor domain to these learning objectives. Take a couple of minutes.

Okay. So let's take a look at this.

If I were asking a learner to demonstrate the ability to make chocolate chip cookies without a recipe I'd be asking really for mechanism. Some confidence on that because they don't get to used by recipe. They just had to know how to do it and be able to do it.

If I were asking someone to gather materials needed to weed a garden, that's about readiness to act. That's fact.

If I ask people to alter their responses to request for information based on the assessed stress level of a client, that's about adaptation.

Number 4, creating an arrangement of common folk music for performance by String Quartet is about origination. It's a creation.

Number 5, distinguishing among the needs of cats based on their meow is about perception. Again, it's listening to cues.

Number 6, using a template provided by conference organizers write a letter to the editor to inform the community of the upcoming event. I'm calling that guided response because I'm using a template. It's not an original letter. And I'm going to let the learner have a template.

Number 7, demonstrate the ability to perform a square dance as part of a group performance, this complex of their response, that's a scaled level in moment.

Slide 34.

So let's examine this specimen a little bit. If we had a class with aside of learning objectives, how could we use them in a way that feasible to us beyond simply structuring the training and figuring up the evaluation.

One of the ways that it becomes useful is by trying to identify the level of skill development targeted by a training.

Slide 35.

The groups that wrote the core public health competencies that council on linkages to find some levels of learning. And this had become fairly commonly used.

At the awareness level we're asking people to develop basic levels of mastery. Wherein at this level can identify a concept to skill and may have limited ability to perform it.

Slide 36.

The council on linkages knowledgeable level defines a knowledgeable level of learning as the intermediate level of mastery of a competency. People can apply a skill as well as simply describe it.

Slide 37.

And the council on linkages has defined the proficiency for an advanced level as in advance level of mastery and the ability to synthesize critique or teach the skill to other people.

Slide 38.

One of the things that I think about then is the definition of competency that we looked at the beginning, both of them, by (DelBueno) and by (Lucier) and (Lipsinger).

Competency requires the ability to apply knowledge, skills and abilities.

And if you look at the awareness level description that we just talked about, people develop it. The awareness s level have a very limited ability to perform a skill.

And when we think about the ability of people to respond in crisis situations, but they're not going to have a checklist, they're going to have to have some of ability to perform quickly in a stressful situation. I think we're looking at something else.

Slide 39.

I think what we're looking at is an intermediate or an advanced level.

The knowledgeable level, people can apply and describe what they're doing.

I'm not sure that we need everybody at the proficient level but I do think we need people at the knowledgeable level.

Slide 40.

So how come we use what we've just talked about. Well we can classify things. As I was starting to try to work on this, probably about 4 or 5 years ago, thinking about what I know about learning objective, I know the demands of learning are arranged from simple to complex. It's a higher level of learning to be able to evaluate and remember.

And I look at this definition from the council on linkages and they are also written in a sequence, training at the awareness level, it's less skills and at a proficient or advanced level, slide 41.

So I put those two things together and it seem that to me – we could categorize our training activities by analyzing learning objective and the language of learning objective.

And know that if we're developing a training in which we're asking people to remember or comprehend information or to be willing to listen to us, or to be able to perform a skill in a very, very basic way.

We're talking about awareness level training.

On the other hand, if we want people to be able to apply and analyze and understand what they're doing and why it's important and to place a value on

that. And we want them to be able to perform smoothly, then we're talking about developing training at the knowledgeable level.

Again, over here, on this table, proficient and advance tests to do with evaluation, creation, origination. I'm not sure that we need everybody to be teachers or to be able to create new systems.

So, I think what we can do is look at our training plans, figure out where they fall, and if we're doing a lot of awareness level training, we may be able to be thinking about how do we kick that up a notch.

And if we're spending a lot of time, trying to develop everyone at the proficient level, we may be able to use our resources in another way.

And that's what we've been thinking about here at our centers -- how to get it to the right level and use our resource as well.

Next Slide, 42.

So, what do we know -- we know that (DTER) competencies are built on the core of public health competencies, (unintelligible) competencies are for everyone who is a public health responder.

And we know that the language of learning objective can be correlated to a level of skill that we want and need to develop.

Slide 43 -- I've talked a little bit about evaluating competency, as we've gone through this presentation.

But I think it's important to think that, within the learning objective, there specific knowledge skill and ability elements. And sometimes we were refer to these as indicators. And separate indicators are developed to research in written and behavioral terms, and we use them to evaluate progress.

If you think for example, when someone has had a heart attack, one of the indicators that hospitals will use of their ability to treat that patient is how fast that someone get an aspirin. Did they get it at home? Did they get it in the ambulance? Did they get it as they were rolling at the door? That's an indicator of quality, an indicator of performance.

So what we've tried to do here at our center is develop indicators and review and see for assessment what we've done at our states.

We developed 29 indicators that reflect cross cutting indicators.

And then 90 that are all specific. For example, some of the core or cross cutting bioterrorism indicators that we've developed here on Slide 44.

Are identifying the modes of transmission for all biological agents concerned. Demonstrate the ability to correct -- to correctly use TPE. Communicate directions in a clear and concise manner, and recognize signs of post traumatic stress and the behavior of self or colleagues following an event.

Those are the things that we want everyone in public health to be able to do.

Slide 45.

As I said, we also develop some more specific indicators. And here are a couple of the ones that we develop at the laboratory of science and pathology.

Describe how to arrange for transport of a specimen. Correlate the type of specimen at the appropriate level of laboratory required before we proceed on analysis.

Describe procedures used to rapidly analyze suspected biological chemical agents, for identified precautions to be taken for autopsy and bio terrorism is suspected.

Those indicators represent and are linked each one of the bioterrorism competencies.

Slide 46.

So what do we think the future looks like?

I think as we move down the road of competency evaluation and looking at the contribution of competency through capacity, I think we can expect performance measurement requirements.

The developed and determined that are linked to these competencies.

I think we need to consider how to develop and use behavioral indicators and measure progress towards competency?

We want to build indicators into training and evaluation tools, that's something we're doing here now. It's just trying to take these indicators, match them to the targeted capabilities list and the universal task list and the whole (line) security materials to CDC goals, so that we're really getting the bang for the buck when we're doing evaluation.

And we want to use good educational design to develop competency based training.

Because it really makes it possible for us to determine if the training makes a difference.

Competency can only be measured in context.

Now, we're always looking at how do you get really to that practice setting, and is it making a difference.

So with that I think conclude and open the floors for questions. I think we have a few minutes for those.

Coordinator: All right, then.

I will now begin the question and answer session.

If you would like to ask a question, please press star-1 in your telephone key pad.

To withdraw your request, press star-2.

If you are on a speakerphone, you may need to lift your telephone receiver before making your selection.

One moment please for the first question to queue up.

Gary Greer: Thank you Dr. Hefner.

As we are waiting for the questions to come in.

We have a couple of questions of our own here.

Why should everyone learn the cross cutting competencies. Why not just their own role-specific ones?

Mary Hefner: I think the reason that the cross cutting competencies were written for everyone is because the competencies were selected in an all hazards approach.

And we don't really know what kind of hazard or emergency events we're going to be dealing with.

I mean, obviously in an infectious disease or bioterrorism events, or in a chemical event, there's a need for doing a lot of analysis of specimens and for tracking and for doing some forensic (EPI).

Or in an incendiary event, we may be doing less of that initially.

But we still are going to need people to help research capacity.

We still are going to need people to be able to communicate clearly and use phone and faxes and satellite phones and all those kinds of materials and to help answer questions or answer the phone.

So we really want everybody on the same page because it - adds - adpts tolerability to response.

Gary Greer: And secondly, why should we really be taking the time and effort to build these competency model systems into our public health agencies?

May Hefner: There's a saying - and I have to attribute to a man by the name of Frederick Petersen, who is in the hospital association of Western Pennsylvania.

And what I heard him say, which makes sense to me, is culture trumps strategy every time.

And I think what that means is -- if we think about this notion of creating organizations where people are learning all the time and we're all engaged in life long learning, and needing to be flexible in our response, and being able to move all sorts of different ways.

What we really need to create are cultures in which is learning is part of what we do.

And we can strategize and sort of build it out separately from our organizations.

But I think what we really should be thinking about, is focusing on is - how do we build systems. And how do we build the learning culture?

Gary Greer: Thank you.

Operator, are there any additional questions at this time?

Coordinator: We're sure there are no questions on the phone line, sir, we'll turn it back over to you for further comments.

Gary Greer: Well thank you very much.

If anyone does have additional questions, they can email their question to the (NE) office at [nltn.org](http://nltn.org). Dr. Hefner will send a response to you to your question by email.

To repeat, you may send additional questions to (NE) office at [nltn.org](http://nltn.org).

I'd like to remind all of the participants listening to the program to sign in on the sign in sheet and to register and complete an evaluation form by June 3.

When you have completed the registration and evaluation form, you'll be able to print a continuing education certificate.

The directions for this are in the confirmation letter that all site representatives receive and in the general handout.

Remember that documenting your participation helps us to continue to bring high quality cost effective training programs in a variety of formats.

To the 30 sites that are listening across the nation, thank you.

This concludes our program.

The National Laboratory Training Network thanks Dr. Mary Hefner.

I hope that all of you will consider joining us for future programs and that you will continue to make the National Laboratory Training Network your choice for laboratory training.

From the State Laboratory Institute in Boston, Massachusetts, this is Gary Greer.

Good day.

Coordinator: This concludes today's conference call.

Thank for your participation.

You may disconnect.

END