

# Using the Internet to Improve Workforce Skills: North Carolina's Approach

David Potenziani  
UNC School of Public Health  
Instructional and Information Systems

# Focus Area G

- CDC promotes efforts in preparedness
  - Goals support workforce development systems
- NC is a regional leader in responding to disasters
  - We've had more than our share of practice
- NC approach to Focus Area G
  - Skill assessment
  - Training Needs Portfolio
  - Trainings Database
  - Feedback

# NC Workforce Development Path

- Initial Project Discussions (early 2002)
- Project Initiation (April 2002)
- Online Needs Assessment (May 2002)  
([www.webFormKit.org](http://www.webFormKit.org))
- Design Specifications (August 2002)
- System Launch (May 2003)

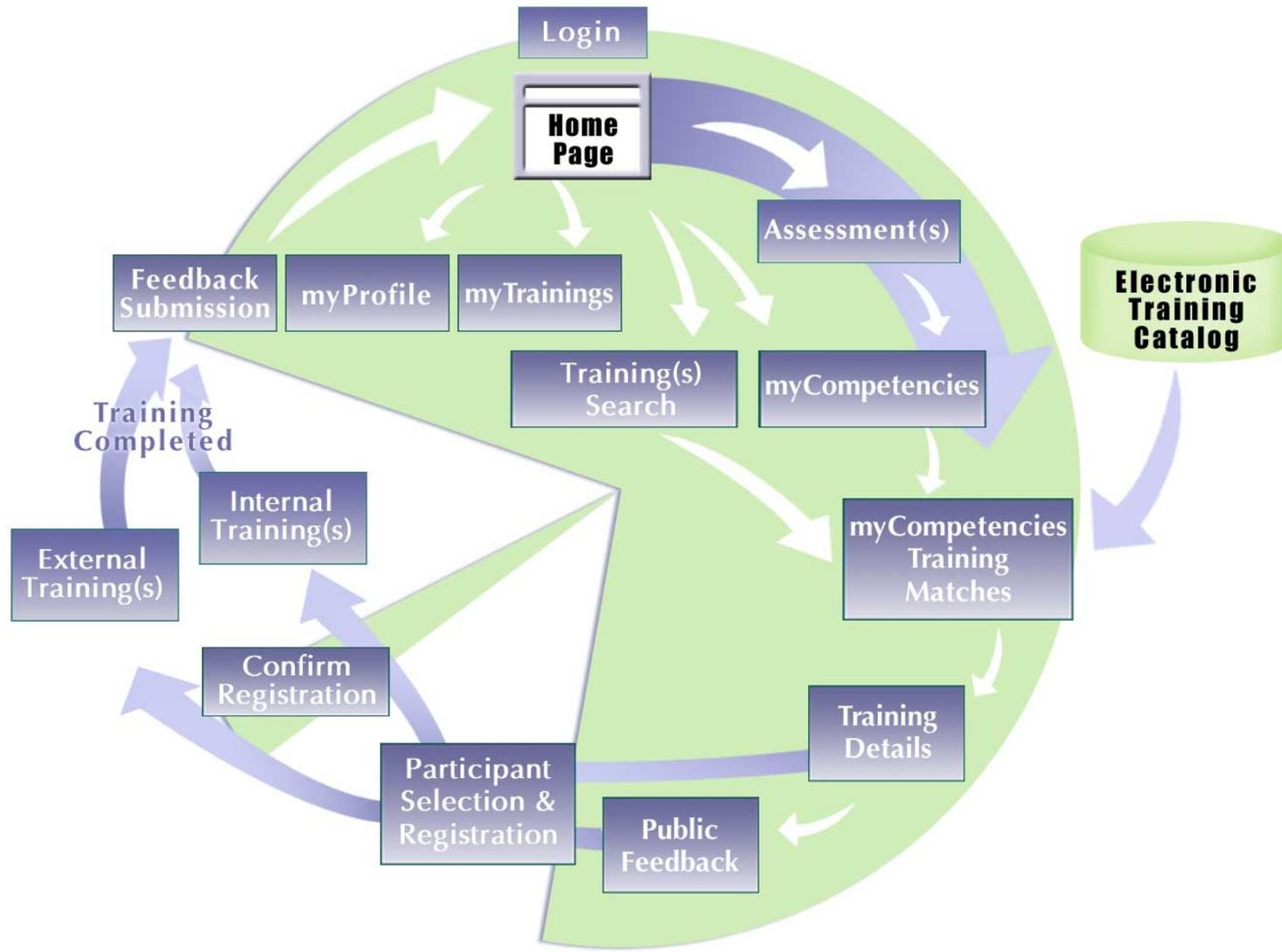
# Technology Needs

- Scalable for thousands of users
- High availability and failover protection
- Flexible data collection and reporting
- Roles-based security

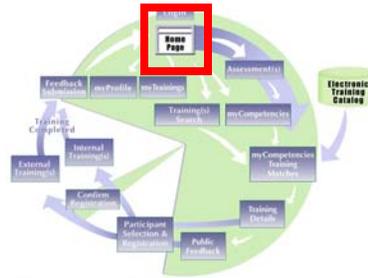
# Technology Choices

- Sun Solaris servers
  - Dev, Test, Production
  - Redundant pairs for production
  - Smart switch technology
- Java (J2EE)
- Apache
- WebLogic
- Oracle
- SAS IntrNet

# NC System Workflow



# User Profile



## Personal Profile Information

Enter the following information for your account. \* = Required Information

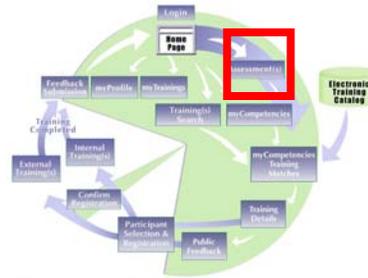
### Account Details

* Account Status:	Active	<small>here users can only "Archive" their account; admin access is required for any other edits (ie, activating or unarchiving)</small>
* Account Type:	- Choose One -	<small>[note: anyone with an account can submit trainings]</small>
* User ID:	cogden	<small>(used to login)</small>
* Enter Password:	*****	* Verify Password: *****
* Secret Question (in case you lose your password):	Pick a suggested question... OR Create your own question: [ ]	<small>(eg, "What city would you like to visit?")</small>
* Answer to Your Secret Question:	Lameloise	
* Default Items per Page:	25	
* Email Preference:	<input checked="" type="radio"/> Send HTML formatted messages <input type="radio"/> Send text-only messages	

### Contact Information

* Name:	Mr.	Chris	Ogden
* Employer:	- Pick Account Type First -	<small>If you don't see your employer, click here to add them. <small>[this changes based on "account type" (eg, Employer vs. Training Provider)]</small></small>	
* Title:	Director, Application and Web Development		
* Occupational Classification:	Health IS/Computer Specialist	?	
Department:	Instructional & Information Services		

# Assessment



## Bioterrorism and General Workforce Development Assessment

Save My Answers So Far Continue

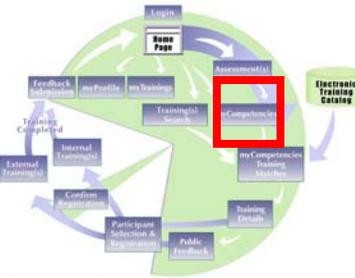
### Section 2: Monitor health status to identify community problems

This section is related to activities that employees of public health agencies carry out in order to monitor the health status of the community. Please tell us how important each of these activities is to your job, and the level of need you have for more training to do this activity. Training can include workshops, classroom-based courses, on-line courses, self-study materials, or seminars.

	How important is this skill to your job?	My level of need for training:
A) Be aware of amount of each important health problems in your community.	<input type="radio"/> 1-Low <input type="radio"/> 2 <input type="radio"/> 3 <input checked="" type="radio"/> 4-High	<input type="radio"/> 1-Low <input type="radio"/> 2 <input checked="" type="radio"/> 3 <input type="radio"/> 4-High
B) Use reports from disease surveillance or vital registry systems to identify important health issues in your community.	<input type="radio"/> 1-Low <input type="radio"/> 2 <input type="radio"/> 3 <input checked="" type="radio"/> 4-High	<input type="radio"/> 1-Low <input type="radio"/> 2 <input type="radio"/> 3 <input checked="" type="radio"/> 4-High
C) Determine appropriate uses and limitations or gaps of existing health data for your community.	<input type="radio"/> 1-Low <input type="radio"/> 2 <input checked="" type="radio"/> 3 <input type="radio"/> 4-High	<input type="radio"/> 1-Low <input type="radio"/> 2 <input checked="" type="radio"/> 3 <input type="radio"/> 4-High
D) Conduct community assessments including identifying needs, assets and priorities.	<input type="radio"/> 1-Low <input type="radio"/> 2 <input type="radio"/> 3 <input checked="" type="radio"/> 4-High	<input type="radio"/> 1-Low <input type="radio"/> 2 <input checked="" type="radio"/> 3 <input type="radio"/> 4-High
E) Communicate with other agencies to identify new disease cases in your community.	<input type="radio"/> 1-Low <input type="radio"/> 2 <input checked="" type="radio"/> 3 <input type="radio"/> 4-High	<input type="radio"/> 1-Low <input checked="" type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4-High
F) Recognize a disease outbreak in your community or nearby communities.	<input type="radio"/> 1-Low <input type="radio"/> 2 <input type="radio"/> 3 <input checked="" type="radio"/> 4-High	<input type="radio"/> 1-Low <input type="radio"/> 2 <input type="radio"/> 3 <input checked="" type="radio"/> 4-High
G) Use statistics to analyze health data and make relevant inferences from the data.	<input type="radio"/> 1-Low <input checked="" type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4-High	<input type="radio"/> 1-Low <input checked="" type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4-High
H) Present information or data on health issues to other health professionals or to the general public.	<input type="radio"/> 1-Low <input checked="" type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4-High	<input type="radio"/> 1-Low <input checked="" type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4-High



# Competencies



Summary | myCompetencies | Search Competencies

## myCompetencies

Quick Status: 3 of 9 Top Priority Competencies are Outstanding

3 High Priority, 6 In Progress\*, 4 Low Priority, 9 Fulfilled, 51 Not a Priority at This Time. 2 Mandatory Trainings Outstanding.

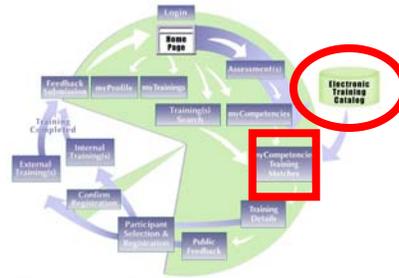
Listed below are the Competencies that have been matched with your assessed needs, which were determined by your completed assessments. Please start by clicking on each of the "High Priority" Competencies (H), in turn, to find (then register and complete) trainings suitable to your needs. More information about the overall training process is available here (?).

Top Outstanding Competencies

Need Training?	Competency Group /ID	Competency ID/Name	Trainings Avail-SignedUp	Email Me When New Trainings?
H	EP.1 Emergency Preparedness	I Describe/Respond to biological agents.	26 ~ 0	<input checked="" type="checkbox"/>
H	ES.7 Link people to personal health services.	A Identify community health care service needs.	0 ~ 0	<input checked="" type="checkbox"/>
H	ES.1 Monitor health status to identify comm. probs	D Conduct community assessments including identifying needs, assests, and priorities.	10 ~ 0	<input checked="" type="checkbox"/>
H	EP.1 Emergency Preparedness	F Use emergency communication equipment.	12 ~ 1	<input checked="" type="checkbox"/>
H	ES.1 Monitor health status to identify comm. probs	A Know amount of health problems in community.	14 ~ 2	<input checked="" type="checkbox"/>
H	ES.1 Monitor health status to identify comm. probs	K Maintain the security of health info.	6 ~ 1	<input checked="" type="checkbox"/>
H	ES.4 Mobilize comm. partners to solve health probs	E Advocate for public health programs/resources.	1 ~ 1	<input checked="" type="checkbox"/>
H	ES.8 Assure an expert public health workforce	E Translate state/local policy into org. structure/programs.	8 ~ 1	<input checked="" type="checkbox"/>
H	ES.9 Evaluate health svcs effect./access./ qual.	D Evaluate programs to meet objectives/performance goals.	7 ~ 0	<input checked="" type="checkbox"/>
H	ES.2 Diag./investigate comm. health probs/ hazards	A Design studies to ID factors for health problems.	0 ~ 0	<input type="checkbox"/>
H	ES.2 Diag./investigate comm. health probs/ hazards	B Read sci. literature to know of new diseases/risks.	3 ~ 0	<input type="checkbox"/>
H	ES.7 Link people to personal health services.	H Develop a budget.	6 ~ 0	<input type="checkbox"/>
H	ES.8 Assure an expert public health	D Ensure staff have/maintain appropriate licenses.	5 ~ 0	<input type="checkbox"/>



# Training List



- Home
- myProfile
- myAssessments
- myCompetencies
- Training**
- Training Provider
- Feedback
- Reporting
- Info Central

Search Training | Power Search | Add New Training |

## Training List

Here are the results of your search for training.

✚ Mandatory
ⓘ In Progress
✔ Completed
⊘ N

Group: **ES.1 Monitor health status to identify community problems**

Competency: **D. Conduct community assessments including identifying needs, assests, and priorities.**

ⓘ This is a High Priority Competency that you still need to fulfill. ⓘ

(Trainings 1 - 3 of th

[high] D. Conduct community assessments including identifying needs, assests, and priorities.

Show

[Hide Descriptions]

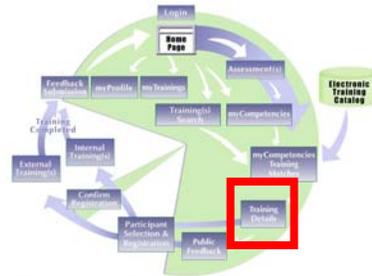
Return to Competenc

Format	Fee	Training Status	Training $\Delta \nabla$	Provider Name $\Delta \nabla$
Face-to-Face	✔	⊘	Principles of Epidemiology	University of North Carolina Chapel Hill, School of Public Health
Face-to-Face		⊘	<u>Assessing Community Assets and Capacity</u>	Illinois Public Health Preparedness Center at the Univ. of Ill. at Chicago School of Public Health
Face-to-Face	✔	⊘	Acute Disease Surveillance and Outbreak Investigation	University of North Carolina Chapel Hill, School of Public Health

1 - 3 of 3

Home | myProfile | myAssessments | myCompetencies | Training | Provider | Feedback | Info Central

# Training Details



- Home
- myProfile
- myCompetencies
- Trainings**
- Feedback
- Reporting
- Info Central
- Admin

Summary | Search Trainings | Power Search | Add/Edit Training | Add/Edit External Training | Add/Edit Training Provider

## Trainings List

(Trainings 60 - 69 of 423) results page Prev 5 | 6 | 7 | 8

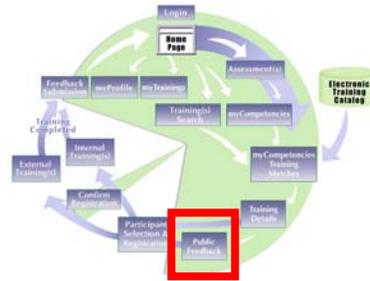
Group & Competency ▾

Training Status ▾	Training & Provider ▾	Training Description ▾ [Hide Descriptions]
<b>EP.1 Emergency Preparedness</b>		
<b>I. Describe/respond to bio-terrorist agents signs/symptoms.</b>		
	<b>On-Site Leadership</b>	Provides an overview of knowledge and skills required for effective health services management. Aimed for individuals who plan to assume management roles in health services and related fields. Three lecture hours.
	<b>ICS for Executives</b>	The incident command system is a standardized organizational system used by federal, state and local organizations for the management of emergency and other events. Although not universally accepted, ICS has been adopted by many agencies. Typical organizations employing ICS are emergency, fire and search and rescue units. It is the policy of Federal Government to utilize ICS to manage all emergency and training incidents...
<b>New</b>	<b>Preparing for Emergency Response: Water Supply Contamination</b>	The primary goal of this new training series for environmental health specialists, supervisors, program managers, on-site wastewater specialists, coordinators, and primary soil scientists is to: * Become expert at the analysis of on-site wastewater failures (determining why it failed). * Learn repair technologies for their "resource tool box" and propose on-site and community off-site alternatives.... <a href="#">[more]</a> <span style="color: red;">[truncated at 500 chars]</span>
	<b>Basic Incident Command System, IS-195</b>	The Incident Command System (ICS) is recognized as an effective system for managing emergencies. Several States have adopted ICS as their standard for emergency management, and others are considering adoption. As ICS gains wider use, there is a need to provide training for those who are not first responders (i.e., law enforcement, fire, or emergency medical services personnel) who may be called upon to function in an ICS environment. This Basic Incident Command System (ICS) Course will begin... <a href="#">[more]</a>
	<b>Bioterrorism: A Public Health Challenge</b>	<i>completed Jun 23 '02</i>
	<b>External Training</b> Journal Article	<i>completed Jul 3 '02: Bioterrorism preparedness plan expected this summer.</i>

## ES.7 Link people to personal health services



# Public Feedback



- Home
- myProfile
- myCompetencies
- Trainings
- Feedback**
- Reporting
- Info Central
- Admin

Summary | Search Feedback | Leave Feedback | **Feedback Left** | Feedback Received

## Feedbacks

(Feedbacks 29 - 32 of 42)  
 results page [Prev](#) [5](#) | [6](#) | [7](#) | [8](#) | [9](#) [Next](#)

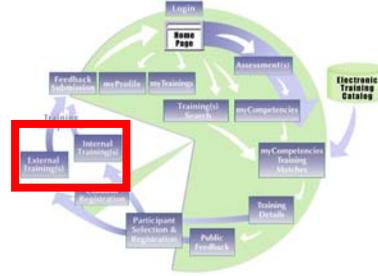
Type	Training	Training Provider	Date Left
<b>Praise:</b>	On-Site Leadership	School of Public Health	Aug 3 '02
Excellent class - I really learned a great deal about leadership and am ready to return to lead my troops to victory. Highly recommended!			
<b>Criticism:</b>	ICS for Executives	Shaky External Training Provider	July 13 '02
This course was horrible. I couldn't even log in. There was no support available. I paid up front and still haven't received a refund. Even after I emailed, phoned, wrote, and faxed. STAY AWAY FROM THIS COURSE!!!			
<b>Praise:</b>	Preparing for Emergency Response	FEMA	June 12 '02
Good stuff. Recommended.			
<b>Neutral:</b>	Basic Incident Command System, IS-195	FEMA	Feb 27 '02
The trainer was good but the room was really cramped, hot, and there weren't any handouts.			

(Feedbacks 29 - 32 of 42) results page [Prev](#) [5](#) | [6](#) | [7](#) | [8](#) | [9](#) [Next](#)

Show  feedbacks per page.



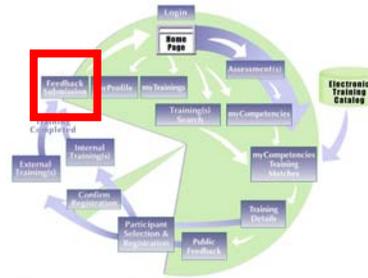
# A Miracle



Here be training!



# Training Feedback



- Home
- myProfile
- myCompetencies
- Trainings
- Feedback**
- Reporting
- Info Central
- Admin

Summary | Search Feedback | **Leave Feedback** | Feedback Left | Feedback Received

## Leave Feedback

Feedbacks are the very important last step in the cycle to fulfill competencies. [Include instructions on why, what constitutes ratings, etc. & use of feedback comments to accumulate ratings on individual trainings as well as the Training Providers in aggregate.]

[Previous](#) Outstanding Feedbacks 3 through 5 (of the 5 total). [Next](#)

Basic Incident Command System, IS-195 from FEMA

When did you complete the Training?

 (mm/dd/yyyy)

How would you rate the Training's Quality?

Opinion	Strongly Disagree	Disagree	Agree	Strongly Agree
* I would recommend this training to coworkers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* I intend to use the information gained from this training in my job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Overall this training was excellent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

All things considered, how did you find training at meeting its stated objectives?

\* Overall, is your comment positive, negative or neutral?

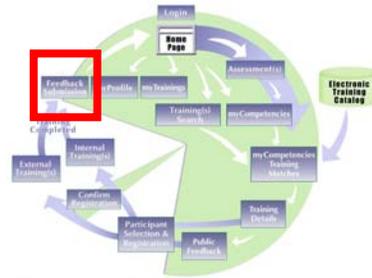
- Positive
- Negative
- Neutral

\* Enter your comment (up to 250 characters):

What impact did this training have on it's intended competencies? (based on a rating scale: 1=Not at All Confident ... 4 Completely Confident)

	Rate your confidence that you could	Rate your confidence that you can	* Do you still need training in this
--	-------------------------------------	-----------------------------------	--------------------------------------

# Competency Improvement



What impact did this training have on it's intended competencies? (based on a rating scale: 1=Not at All Confident ... 4 Completely Confident)

Competency	Rate your confidence that you could have performed the competency before you took this course.	Rate your confidence that you can perform the competency after completing the course.	* Do you still need training in this competency to do your job?
A. Define situations that require an emergency response.	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> Yes <input type="radio"/> No
B. Describe the responsibilities of a health department during an emergency situation.	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> Yes <input type="radio"/> No
C. Describe your health department's emergency response plan.	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> Yes <input type="radio"/> No
D. Describe the incident command system in your community.	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> Yes <input type="radio"/> No
E. Carry out your role and responsibilities in an emergency response.	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> Yes <input type="radio"/> No
F. Use emergency communication equipment.	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> Yes <input type="radio"/> No
G. Perform your communication role in an emergency (communication within the health department, with the media, or with the community).	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> Yes <input type="radio"/> No
H. Find resources that will help you carry out your responsibilities during an emergency.	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> Yes <input type="radio"/> No
I. Describe the signs and symptoms of biological agents that may be used in a bio-terrorist attack (i.e. Plague, Small Pox, Anthrax), and respond appropriately when you suspect someone in your community has been exposed to one of these agents.	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> Yes <input type="radio"/> No
J. Describe the signs and symptoms of exposure to chemicals that might be used in a terrorist attack (i.e. Sarin, Ricin), and respond appropriately when you suspect someone in your community has been exposed to one of these agents.	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4	<input type="radio"/> Yes <input type="radio"/> No

# Other Features and Functions

- Reports for Policy Makers
- Training Vendor Input
- System Management

# Report Writer

Home myProfile myCompetencies Trainings Feedback **Reporting** Info Central Admin

Summary | Saved Reports | Create New Custom Report

## Query By Example (QBE) Saved Reports

Select a report or create a new one.

[New](#)

Action	Dataset ▲▼	Name ▲▼	Description ▲▼	Author ▲▼	Last Saved ▲▼
<b>Static Reports</b>					
<i>none.</i>					
<b>Your Private Reports</b>					
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Run</a>	Trainings	Training by Provider	List of all Training's by UNC	Mary Davis	08/20/02
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Run</a>	Competencies	Competency by Participants	List of Participants' needed competencies	Dave Potenziani	07/23/02
<b>&lt;&lt;Group's&gt;&gt; Reports</b>					
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Run</a>	Competencies	Competency by Provider	List of competencies that Harvard covers in Training	Rachel Stevens	07/31/02
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Run</a>	Trainings	 Training by CE Credit	List of Training's offered for CE credit	Steve Cline	06/31/02
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Run</a>	Feedback	UNC SPH Feedback	List of feedback for UNC-CH School of Public Health	Janet Alexander	08/11/02
<b>Public Reports</b>					
<a href="#">Run</a>	Feedback	 Negative Feedback by Provider	List of negative feedback by Training Providers	Penny Whiteside	06/21/02
<a href="#">Run</a>	Trainings	 Training by Location	List of Trainings in (my) area	Lorraine Alexander	08/22/02
<b>My Pending Reports (ie, submitted for group or public viewing but not yet reviewed)</b>					
<i>none.</i>					



# Flexibility

- Can shift with developments
  - Rapid development of needs assessment surveys
- Monitoring
  - Standard report accessible by state and local officials
  - Standard report presents status of competency levels
    - By State, County, Occupation, etc.
    - Aggregation of data
  - Customized reports according to state needs

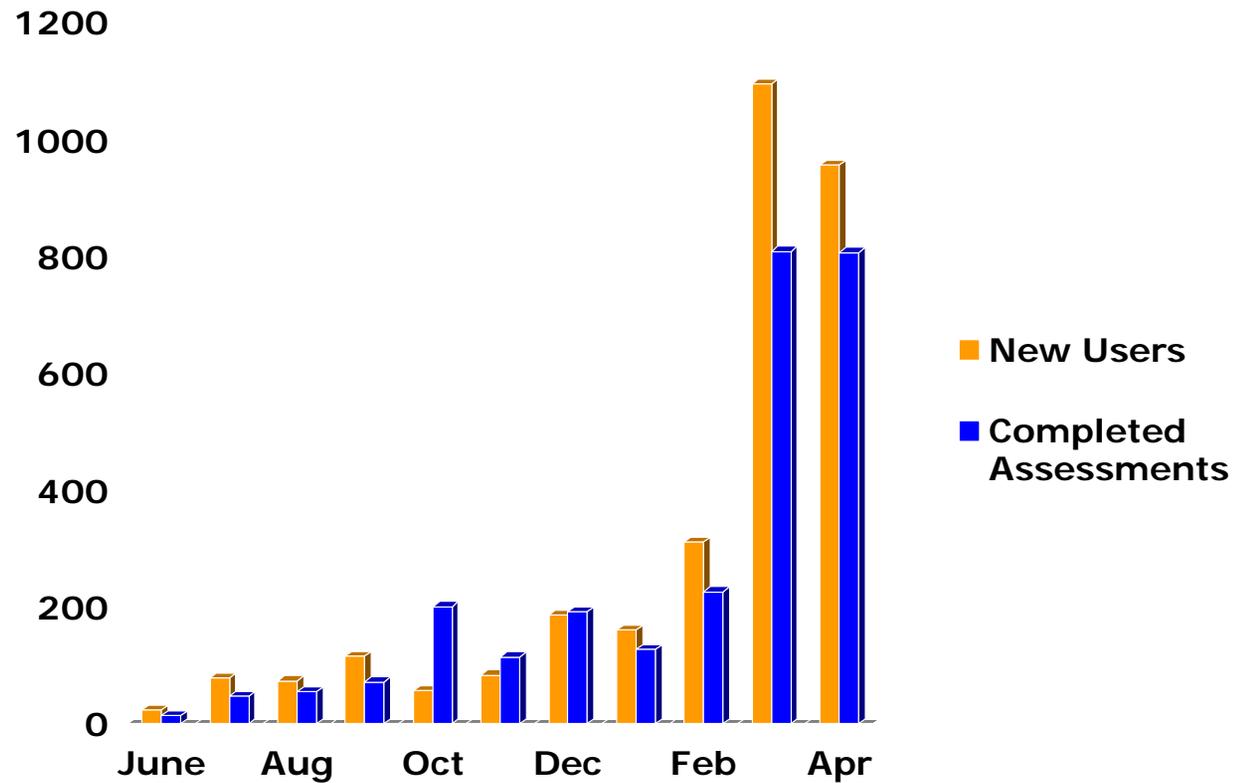
# Policy Challenges

- Who has access to reports on aggregate data?
  - State Health officials
  - Preparedness Center
- How will individual data be used?
  - Lifelong learning
  - In case of crisis, identify individuals well trained in a specific area
  - Just-in-time vs. just-in-case
- What will ensure participant honesty in self-reporting?
- Open versus closed-system development
- Vendor submissions of training resources

# Challenge: Incentives

- Completing the skills assessment
- Use the entire system—not just visit training catalog
- Return to system to complete feedback on trainings and competency improvement
- Possible incentives
  - Offer certifications in specific competency areas using a defined “curriculum” of trainings—e.g. Epidemiology, Outbreak Investigation, Preparedness—at basic, intermediate, advanced levels
  - Provide training dollar reimbursement once feedback is completed

# New Users and Completed Assessments



June 2003 – April 2004

# Conclusion

- Comprehensive workforce development system
  - Effective at the individual and aggregate levels
  - Supports individual job growth
- Training needs matched to competencies
- Flexible in emergencies
- Provides data for informed policy decisions

**Full Site:**  
<https://publichealthpreparedness.org>

**Demo Site:**  
<http://wfpdemo.sph.unc.edu/>

**User: Demo1**  
**Password: 00000000 (eight zeroes)**