

ASPPH Presents Webinar Series

Using Exercises to Measure Preparedness

Thursday, August 6, 2015
11:00 am - 12:00 pm Eastern

ASPPH.ORG

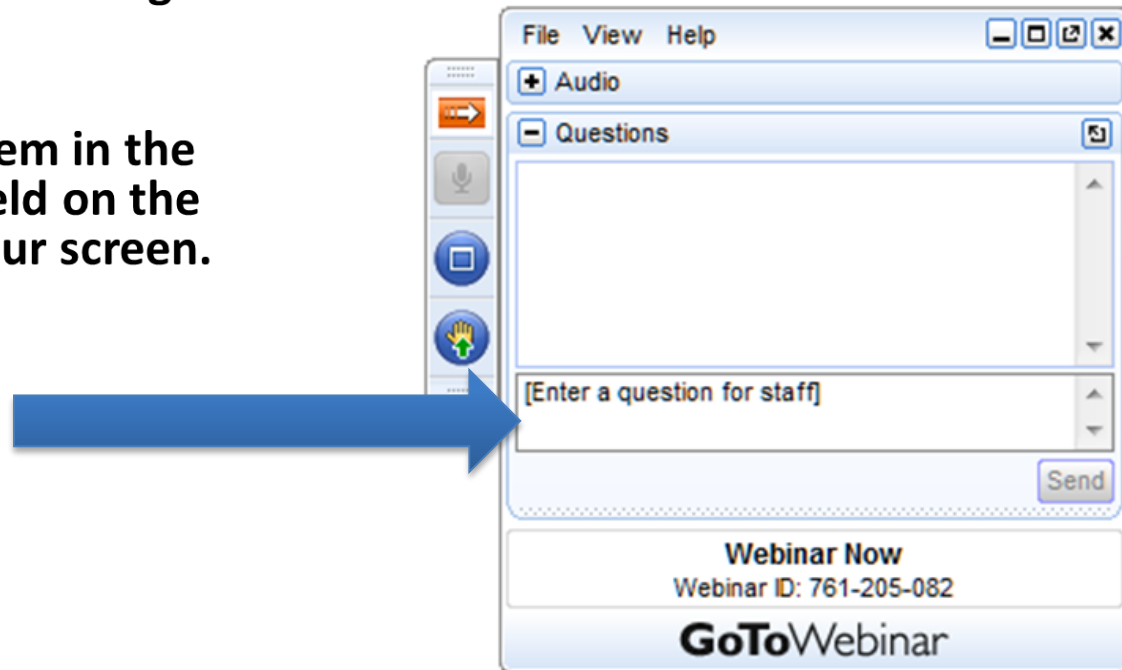
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ASPPH Presents
 **WEBINAR**

Method for Submitting Questions

Join the Conversation...

- You can ask questions in writing anytime during the webinar.
- Simply type them in the “Questions” field on the right side of your screen.



Today's Presenters



Paul Biddinger, MD, FACEP

Vice Chairman, Emergency Preparedness, Department of Emergency Medicine, Massachusetts General Hospital; Director of Emergency Preparedness Research, Evaluation and Practice Program, Harvard T.H. Chan School of Public Health



Elena Savoia, MD, MPH

Scientist, Department of Biostatistics; Deputy Director, Harvard T.H. Chan School of Public Health Preparedness and Emergency Response Learning Center (PERLC)



Using Exercises to Measure Preparedness



August 6th 2015 11:00 AM

Paul D. Biddinger, MD FACEP

Elena Savoia, MD MPH





Acknowledgements

We gratefully acknowledge funding support from the U.S. Centers for Disease Control and Prevention (CDC) supplement to grant number 5PO1TP000307-05 (Linking Assessment and Measurement to Performance in Exercises and Drills - Preparedness and Emergency Response Research Center) and 1U9OTP000307-05 Preparedness & Emergency Response Learning Center.

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Elena Savoia, MD MPH



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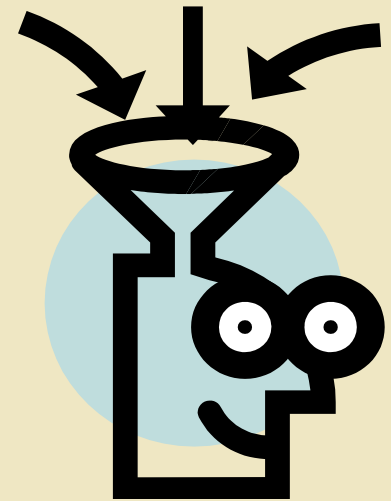


Dorothy Bernard, MPH



Learning Objectives

1. Describe the use of exercises to measure preparedness,
2. Understand the strengths and limitations of the measurement approach to exercise performance,
3. Become familiar with the use of an online tool, available to practitioners, to improve the quality of data collection and exercise evaluation.





Webinar structure

PART A – What does it mean to create an exercise for evaluation purposes?

PART B – What are the strengths and weaknesses in the measurement approach to exercise performance?

PART C – Walk through our online exercise evaluation tool

PART D - Results from field testing

Q&A



Background

Exercises that simulate emergency scenarios are widely accepted as a major component of every well-established preparedness program.

Unfortunately, the **variability in the quality of the exercises** conducted and the lack of standardized processes to measure performance have limited the value of exercises in improving preparedness efforts.



How can we define Exercise Performance Measurement ?

The process of **collecting, analyzing and reporting** information regarding the performance of a **public health or healthcare system and its components** in responding to a **public health threat during an exercise.**





Our experience





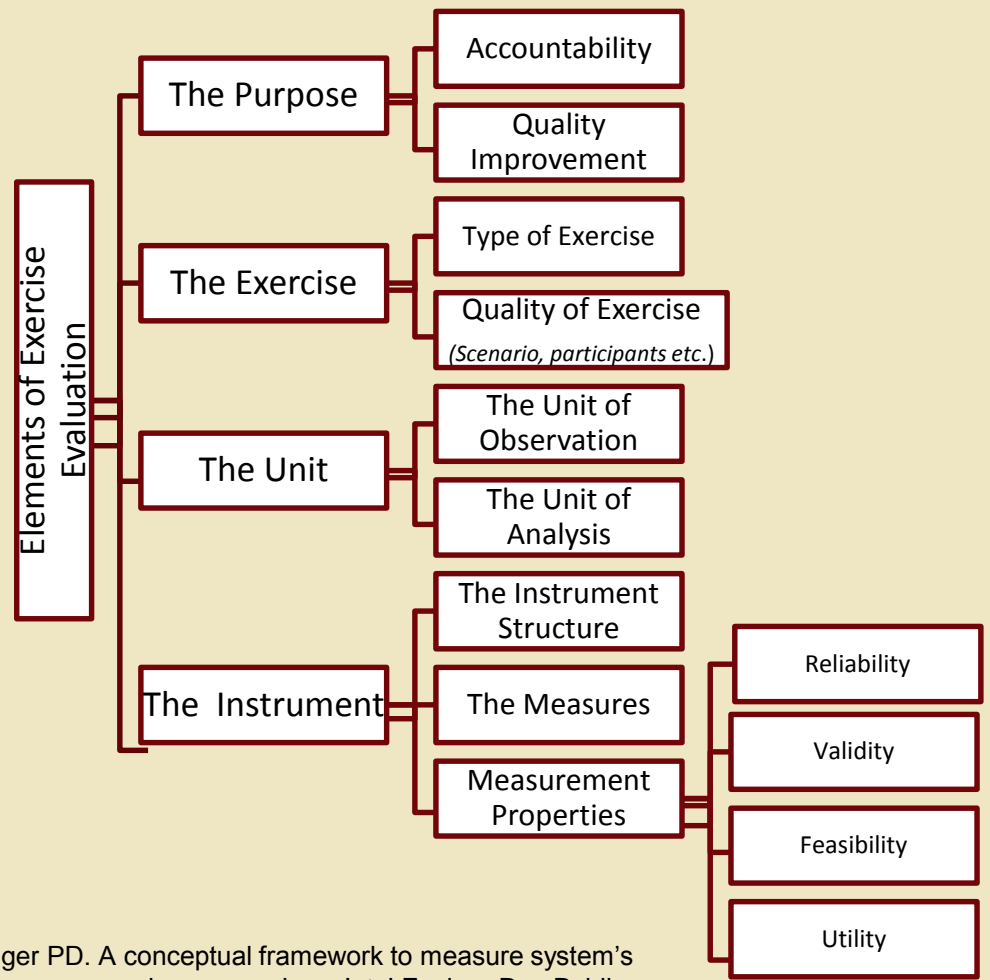
PART A

An exercise **well-suited** for
evaluation purposes!





Conceptual Model: Key Elements of Exercise Performance Measurement



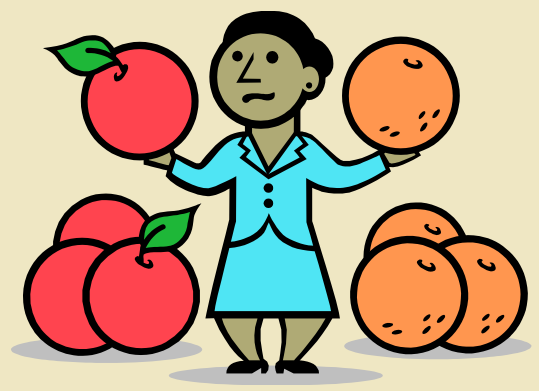
Savoia E, Agboola F, Biddinger PD. A conceptual framework to measure system's performance during emergency preparedness exercises. Int J Environ Res Public Health. 2014 Sep 17;11(9):9712-22



Key element 1: the purpose of the measurement

Accountability vs Quality Improvement

*Are health systems prepared ?
Are levels of preparedness improving ?*





Quality Improvement



What went well ?
What went wrong ?
Where was the plan inadequate ?





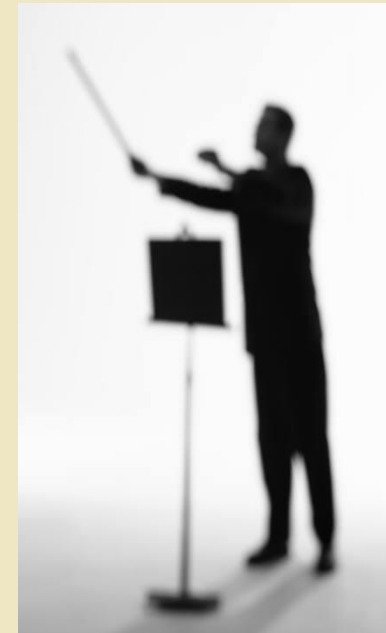
Key element 2: the characteristics of the exercise



Participants



Scenario



Timeframe

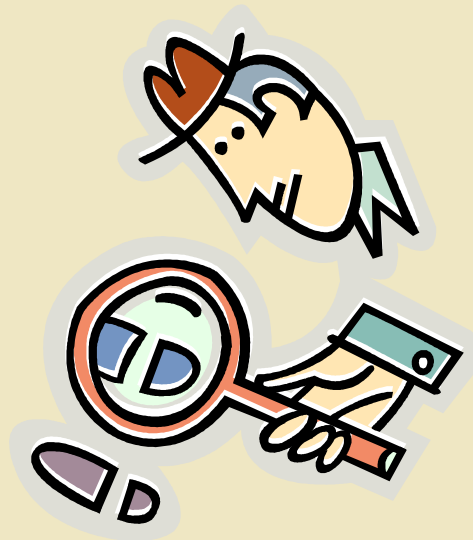


PART B





Key element 3: the unit



...of observation



Public health or
Healthcare

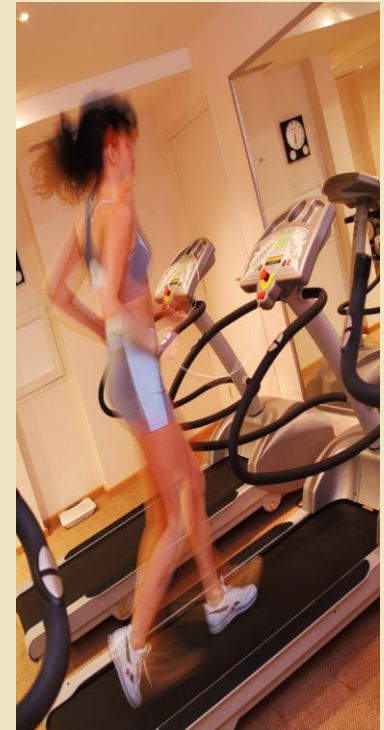
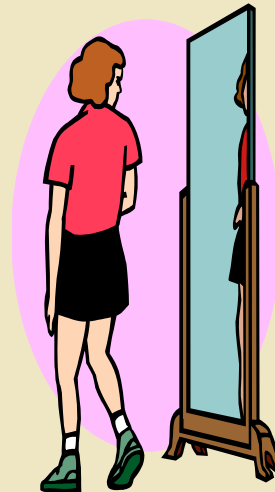
...of analysis



Key element 4: the instrument

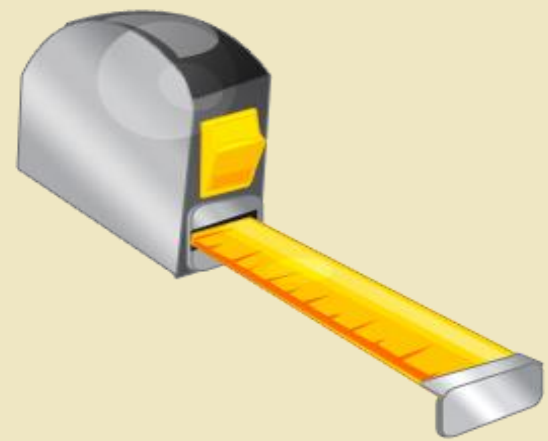


±2 pounds





Measurement Properties



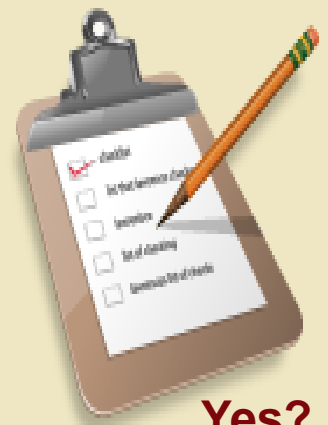
Reliability and Validity



The Measures and the Evaluation Form

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
(1)	(2)	(3)	(4)	(5)

Likert Scale



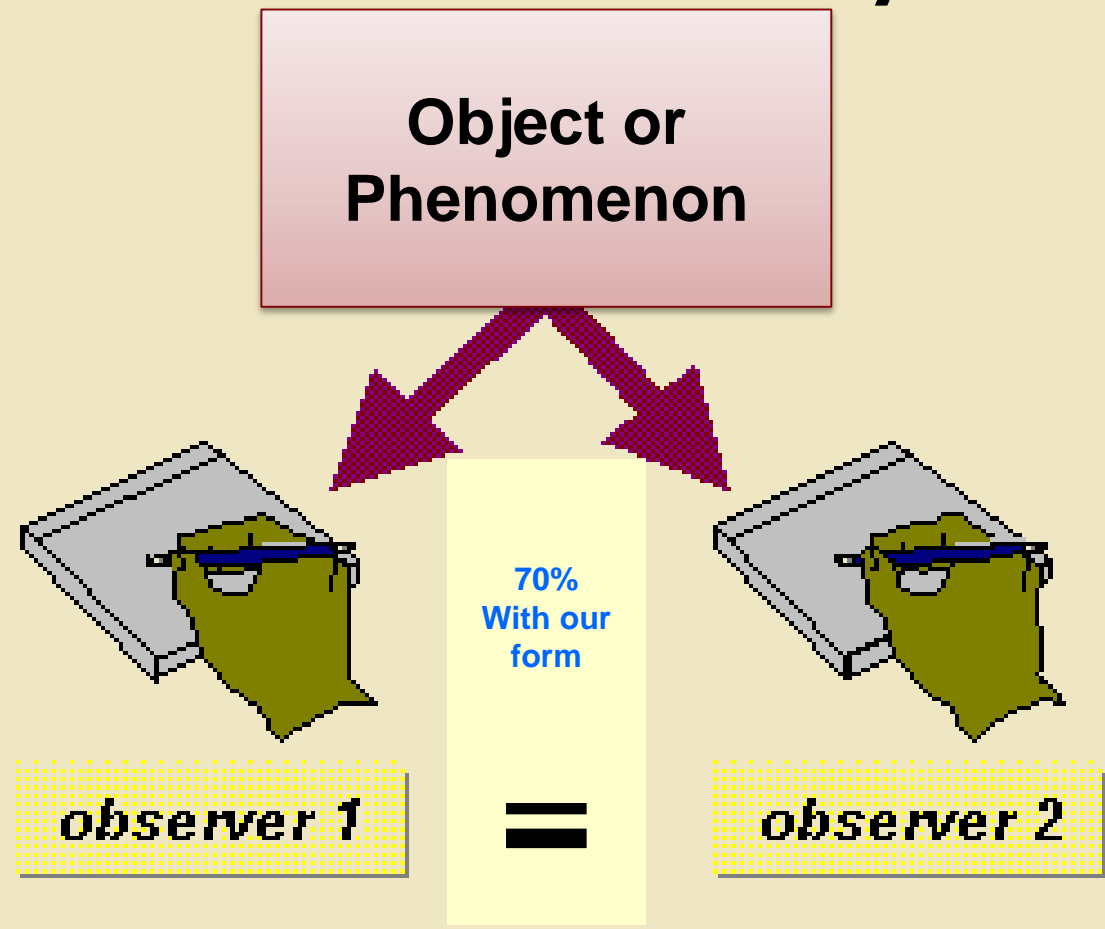
Yes?
No?



Narrative



Inter-Rater Reliability





Validity



Face



Content



Criterion



PART C

Let's take a look at our tool: The Online Exercise Evaluation Database





Online Exercise Evaluation Tool

- You have access to exercise performance measures tested for reliability and validity
- You have access to more than 500 different performance measures
- You can download the measures into an evaluation form
- Very soon you will be able to use the analytical feature to generate basic outputs based on your exercise data.



What Types of Measures are Available To You ?



**A goalkeeper's performance:
TASKS AND ACTIONS !**

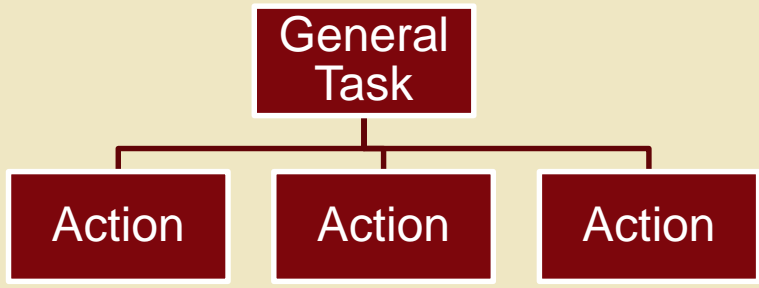


**A public health system performance:
TASKS AND ACTIONS !**



What Types of Measures Are Available To You?

150 GENERAL TASKS



500 ACTIONS

Task X

Action 1	yes/no
Action 2	yes/no
Action 3	yes/no
Action y

1...2...3...4...5...6...7...8...9...10



Exercise Evaluation Tool

The screenshot shows a web browser window displaying the website for the Emergency Preparedness Exercise Evaluation Tool. The browser's address bar shows the URL phasevtechnologies.com/studies/lamps/index.php. The website header includes the Harvard T.H. Chan School of Public Health logo and the LAMPS logo (Linking Assessment and Measurement to Performance in PHEP Systems). A navigation menu contains 'Home', 'Project Background', and 'Contact Us'. The main content area features the title 'Emergency Preparedness Exercise Evaluation Tool' and a brief description: 'The Emergency Preparedness Exercise Evaluation Tool was created to help evaluators capture data during a disaster exercise. Public health and healthcare agencies will find this database helpful in developing exercise evaluation forms for the optimal evaluation of their preparedness exercises.' Below this, there are two red call-to-action boxes. The first box is titled 'Generate Evaluation Form (Without logging in)' and features an image of a clipboard with an 'EVALUATION' checklist showing options for 'Excellent', 'Good', 'Average', and 'Poor', with 'Excellent' checked. The second box is titled 'Take the Online Training on Using this Tool' and features an image of a hand writing 'ONLINE TRAINING' on a whiteboard.

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<http://phasevtechnologies.com/studies/lamps/index.php>



File Edit View History Bookmarks Tools Help

Phase V LAMPS Harvard T.H. Chan School ...

phasetechnologies.com/studies/lamps/selectTask.php

Search



Home Project Background Contact Us

EMERGENCY PREPAREDNESS EXERCISE EVALUATION TOOL

Public Health and Healthcare Capabilities

- Community Preparedness
- Community Recovery
- Emergency Operations Coordination
- Emergency Public Information and Warning
- Healthcare System Preparedness
- Healthcare System Recovery
- Information Sharing
- Medical Countermeasure Dispensing

- Medical Material Management and Distribution
- Medical Surge
- Non-Pharmaceutical Interventions
- Public Health Laboratory Testing
- Public Health Surveillance and Epidemiological Investigation
- Responder Safety and Health
- Volunteer Management

Incident Response Stage

- Incident Recognition
- Notification
- Activation/Mobilization

- Incident Response
- Recovery

Submit



PHAS Phase V LAMPS

phasevtechnologies.com/studies/lamps/selectTaskPreview.php

Notification of appropriate agencies of a hazardous materials incident

<input checked="" type="checkbox"/> Identified how entities would be notified of a hazardous materials incident or potential incident	What is role of CMED and who notifies CMED?_	Information Sharing	Notification
<input checked="" type="checkbox"/> Identified what agencies should be notified of a hazardous materials incident	-	Information Sharing	Notification
<input checked="" type="checkbox"/> Identified who would be responsible for notifying appropriate agencies of a hazardous materials incident	-	Information Sharing	Notification

Notification to first responders and key stakeholders of decision to activate surge plan

<input checked="" type="checkbox"/> Identified all key stakeholders across all disciplines	What key stakeholders would you notify?_	Information Sharing	Notification
<input checked="" type="checkbox"/> Identified back-up methods to communicate with first responders and key stakeholders	-	Information Sharing	Notification
<input checked="" type="checkbox"/> Identified how decision to evacuate would be disseminated to first responders and other key stakeholders	-	Information Sharing	Notification

Notification to first responders and key stakeholders of decision to evacuate

<input checked="" type="checkbox"/> Identified all key stakeholders across all disciplines	What key stakeholders would you notify during an evacuation?_	Information Sharing	Notification
--	---	---------------------	--------------



Phase V LAMPS

phasevtechnologies.com/studies/lamps/selectTaskPreview.php

<input checked="" type="checkbox"/>	Identified how decision to shelter in place would be disseminated to staff	List how message was/would be communicated within entity you observed__	Information Sharing	Notification
<input checked="" type="checkbox"/>	The entity had a procedure or protocol to ensure confirmation of shelter in place order was received throughout the facility	-	Information Sharing	Notification
<input checked="" type="checkbox"/>	Notification to staff of decision to activate downtime procedures			
<input checked="" type="checkbox"/>	Followed procedure or protocols to notify staff of Activation/Mobilization of downtime procedures	Time clinical staff was first notified of downtime procedures Activation/Mobilization__	Information Sharing	Notification
<input checked="" type="checkbox"/>	Identified appropriate person/personnel to implement notification process	How is notification for Activation/Mobilization of downtime procedures of clinical staff handled?__	Information Sharing	Notification
<input checked="" type="checkbox"/>	Message included type of downtime, actions to be taken, and the potential length of downtime	-	Information Sharing	Notification
<input checked="" type="checkbox"/>	Used pre-defined messages to notify staff of Activation/Mobilization of downtime procedures	-	Information Sharing	Notification

Search Again Export Excel

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LampsEvaluation [Read-Only] - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Format

Normal Page Layout Page Break Preview Custom Views Full Screen

Workbook Views Show Ruler Formula Bar Gridlines Headings

Zoom 100% Zoom to Selection

New Window Arrange All Freeze Panes Unhide

View Side by Side Synchronous Scrolling Reset Window Position Window

Save Workspace Switch Windows Macros

HSPHLogo

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

2 HARVARD
3 SCHOOL OF PUBLIC HEALTH
4 LAMPS
5
6
7 Please complete this evaluation form.
8 This form is designed to assess the emergency response capabilities required to respond to the situation presented during this exercise.
9
10 Observed Agency or Entity Name:
11 Location
12
13 For the evaluator, please answer the following questions about your training or experience:
14 1. Length of time you have been involved directly or indirectly in emergency preparedness activities?
15 2. Number of public health or emergency preparedness trainings you attended in the past year:
16 3. Have you been formally trained in the incident command system (ICS)?
17
18
19
20
21
22 Number of emergency response exercises (tabletops, functional or full-scale) attended in past three years
23 Using a scale ranging from 1 (none or no experience) to 5 (extensive experience), do you feel that the participants (either directly observed or
24 called during the exercise) from the agency you evaluated were able to adequately represent their facility's expertise in:
25
26
27
28
29
30
31
32
33
34
35
36

	Score
Representation of senior management perspective and decision making	1 2 3 4 5
Knowledge of entity resources and capabilities	1 2 3 4 5
Specialty expertise within the agency (facility engineers, etc.)	1 2 3 4 5
Knowledge of existing emergency plans and procedures	1 2 3 4 5
Contacts and interpersonal relationships to others outside of the agency	1 2 3 4 5
Information management	1 2 3 4 5
Personnel resource management	1 2 3 4 5

Cover Sheet Measures End sheet

Ready 75%



LampsEvaluation [Read-Only] - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View

Normal Page Layout Page Break Preview Custom Views Full Screen

Workbook Views Show Zoom Window

A5 Initial external dissemination of information

1	Exercise Date:	Exercise Name:	Evaluator Name:	Date:										
2	General Task	Specific Action	Detailed Observations	Overall Performance for										
3		(Yes/No)		General Task										
4	(check all boxes and fill in spaces as appropriate)			1= Unsatisfactory 5= Good 10=Excellent										
5	Initial external dissemination of information	<input type="checkbox"/> Yes <input type="checkbox"/> No	Communicated information accurately	-	1	2	3	4	5	6	7	8	9	10
6		<input type="checkbox"/> Yes <input type="checkbox"/> No	Discussed what information would be disseminated to external partners	-										
7		<input type="checkbox"/> Yes <input type="checkbox"/> No	Discussed when and how information would be disseminated to appropriate external stakeholders/partners per existing protocols or procedures	-										
8		<input type="checkbox"/> Yes <input type="checkbox"/> No	Discussed who would develop information	Prompt If not observed, ask how and what information would be developed and disseminated										
9		<input type="checkbox"/> Yes <input type="checkbox"/> No	Disseminated information in a timely fashion	-										
10		<input type="checkbox"/> Yes <input type="checkbox"/> No	Disseminated information to appropriate external partners per existing protocols or procedures	Prompt If not observed, ask how information would be developed and disseminated to external partners										
	<input type="checkbox"/> Yes <input type="checkbox"/> No	Identified appropriate	List how message was											

Cover Sheet Measures End sheet

Ready



The screenshot shows a Microsoft Excel spreadsheet with the following content:

- Worksheet Name:** End sheet
- Formulas Bar:** Please fill out the following section:
- Row 1:** Please fill out the following section:
- Row 3:** Please describe 3 successes and 3 challenges you observed regarding the ability to recover from the incident.
- Row 12:** Please describe 3 actions or 3 changes that could have been taken to recover from the incident.
- Row 21:** Notes
- Row 27:** Additional Comments

A red arrow points from the bottom right of the spreadsheet area to the 'End sheet' tab in the bottom-left corner of the Excel window.



PART D: Field testing





Field testing of the tool: January-September 2014

- 14 agencies (4 hospitals + 10 public health agencies) from 8 states
- Structured interviews were conducted with all users (exercise planners) to:
 - 1) Assess the use of the tool during exercise evaluation planning efforts,
 - 2) Compare the tool with other instruments of evaluation and
 - 3) Determine how results can be used for after action reporting purposes.



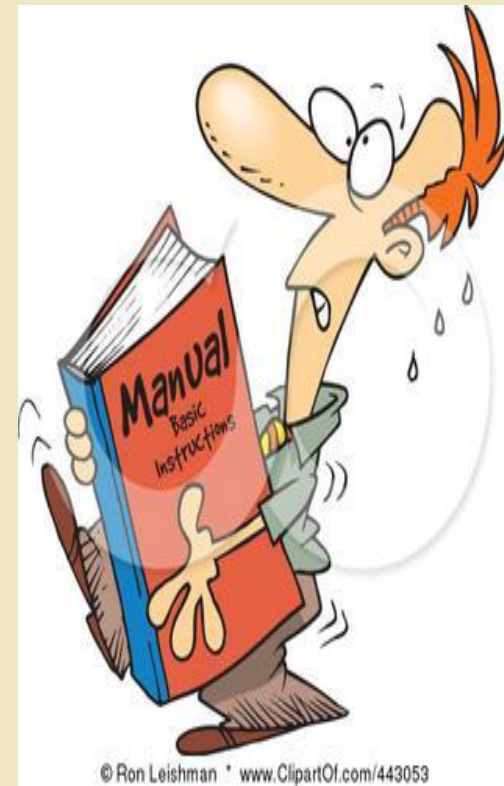


Field testing

- **Total number of exercises:** 23 [1 workshop; 10 tabletop; 4 drills; 4 functional; 4 full scale]
- **Average number of exercise players:** 34
- **Average number of evaluators:** 5
- **Top 3 capabilities tested:** Emergency Operations Coordination; Emergency Public Information & Warning and; Information sharing
- **Purpose of the exercise:** 80% was for both performance assessment and training

Our end users background

- Average number of years in emergency preparedness: **13**
- Training in HSEEP: **70% (Yes) ; 30% (No)**
- All users had experience in planning an exercise
 - **Average number of exercise planned in the last 3 years: 7**
- 90% have experience in creating exercise evaluation form
- 85% have experience in evaluating an exercise
- 85% have experience in writing after action report



Interview Results

- 93% of users found the evaluation toolkit helpful in creating evaluation forms for their exercise(s)
- 93% of users would you use its again

Reason(s) cited for liking the toolkit:

- Applicability of metrics
- Alignment with target capabilities (HPP and PHEP)
- Provided guidance on what was needed for evaluation
- Useful for exercise development
- Ability to customize

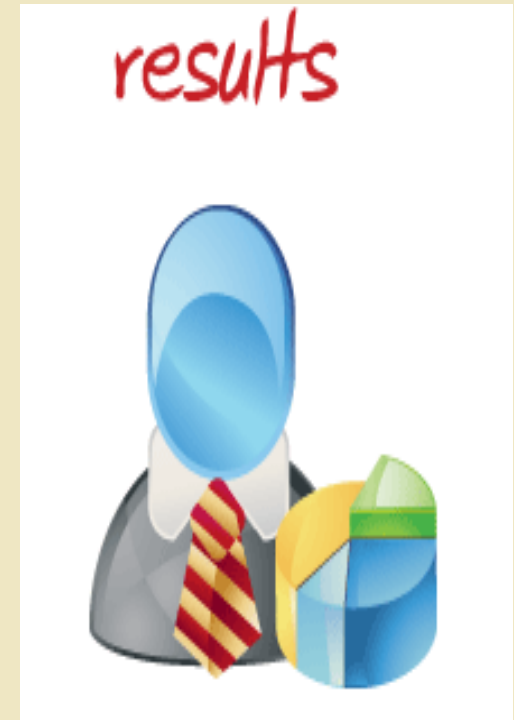
Reason(s) cited for not liking the toolkit:

- Required too much customization



Interview results

- 43% of users used the toolkit for other purpose other than evaluation purpose
 - Exercise development
 - Training
 - Evaluation of real world incident (One user plans to use it for this purpose)
- 72% of users liked the final evaluation form that was generated from the toolkit.
- 93% of users found the data collected with the evaluation form helpful in generating an AAR





Comparison with other instruments

➤ **Which evaluation instrument method do you prefer?**

72% HSPH; 21% HSEEP; 7% Other

➤ **Which instrument do you think will best allow you to measure changes/improvement over time?**

79% HSPH; 7% HSEEP; 14% Other

➤ **Which instrument do you think best captured the root causes that positively and negatively influenced performance during the exercise?**

79% HSPH; 7% HSEEP; 14% Other

➤ **Which instrument do you think is easier to use?**

65% HSPH; 21% HSEEP; 14% Other



If you are interested in using the toolkit:

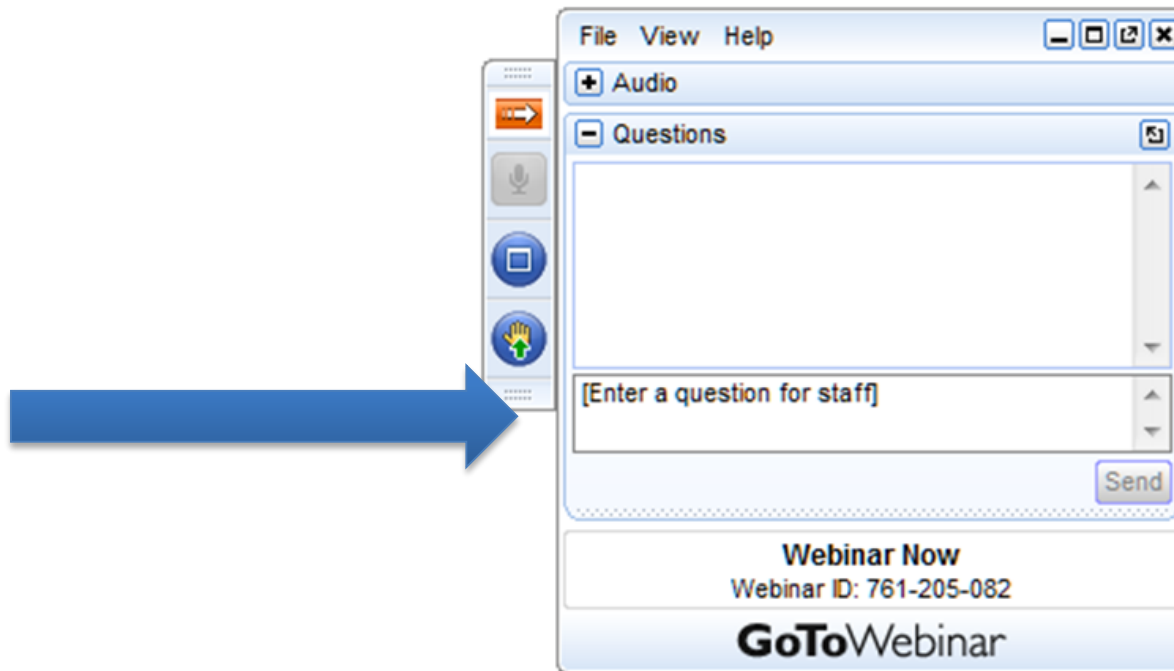
<http://phasevtechnologies.com/studies/lamps/index.php>

If you need assistance or are interested in participating in a cohort of users please contact: eprep@hsph.harvard.edu



Questions and Comments?

Join the Conversation...



Thank you!

See the webinar event page on the ASPPH website for a link to the **archived webinar**:

<http://www.aspph.org/event/aspph-presents-using-exercises-to-measure-preparedness/>

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