

**PROOF COPY ONLY****DO NOT DISTRIBUTE**

JEM

*Developing a comprehensive, integrated and meaningful  
Multi-year Training and Exercise Plan*

Ralph Renger, PhD, MEP  
Brenda Granillo, MS

**ABSTRACT**

*A Multi-year Training and Exercise Plan (MYTEP) is required for compliance with the Homeland Security Exercise and Evaluation Program (HSEEP). The MYTEP is an important tool to a) assist agencies to identify the capabilities necessary for effective preparation, mitigation, response, and recovery and b) develop a training and exercise schedule to meet this need. Federal guidance in completing the MYTEP focuses on the following three key elements: applying the HSEEP building block approach, capability-based planning, and the cycle of continual improvement. The guidance is helpful but requires thoughtful consideration of the interplay between these elements. This article discusses many challenges and solutions for designing an integrated MYTEP including: a) the extent to which the agency goal is to build agency-level or human-level capability, b) the need to address cross-cutting capabilities in resource scarce environments, c) building and maintaining necessary core capabilities, and d) integrating sponsor-required exercises. The application of these concepts is then illustrated using a case example where a MYTEP was designed with a tribal Office of Emergency Management.*

*Key words: multiyear, training and exercise plan, MYTEP*

Federal requirements for training and exercises are provided by the Department of Health and Human Services (DHHS), Assistant Secretary for Preparedness and Response, Centers for Disease Control and Prevention (CDC), and Department of Homeland Security (DHS) cooperative agreements. A state or urban area receiving funds from the Homeland Security

Grant Program under the State Homeland Security Grant Program, Urban Area Security Initiative (UASI), Operation Stonegarden, Metropolitan Medical Response System, or the Citizens Corps Program must develop and manage a comprehensive exercise program, which is compliant with the Homeland Security Exercise and Evaluation Program (HSEEP), a national standard for all exercises.<sup>1</sup> To ensure consistency in exercise program development and management, HSEEP compliance requires adherence to four performance requirements.<sup>2</sup> The focus of this article is on the first of these requirements; the need for a Multi-year Training and Exercise Plan (MYTEP).

Often the agency responsible for ensuring HSEEP compliance is the state, county, or tribal Office of Emergency Management (OEM). To ensure OEM's complete MYTEPs with the highest quality, HSEEP requires the annual completion of a Training and Exercise Planning Workshop and plan update.<sup>2</sup> The workshop consists of a power point presentation supplemented with a user's handbook. In addition, HSEEP provides a MYTEP template to assist users in completing this important planning and scheduling task.<sup>3</sup>

The guidance describes three key elements in designing a MYTEP including a) using the HSEEP building block approach when sequencing exercises, b) using capability-based planning, and c) ensuring continual improvement. However, applying these elements in designing a MYTEP is not as straightforward as the guidance implies. The agency developing a MYTEP is faced with several challenges arising primarily from differences in the interpretation of the definition of these three key elements.

DOI:10.5055/jem.2012.0000

Journal of Emergency Management

**PROOF COPY ONLY****DO NOT DISTRIBUTE**

**PROOF COPY ONLY****DO NOT DISTRIBUTE**

The purpose of this article is to discuss challenges and solutions for developing a comprehensive and integrated MYTEP. A brief overview of the three key MYTEP elements is presented. This is followed by a discussion of the challenges when applying these elements to develop a MYTEP. How these challenges can be addressed is then illustrated through a case example in a MYTEP developed with a tribal OEM. It is important to note this is not an empirical study, rather it is a suggested best practice approach based on the authors' experience in developing MYTEPs. It is the author's hope others will use and test our model to determine its robustness and practical utility in improving training and exercise planning.

#### OVERVIEW OF THE MYTEP ELEMENTS

##### *The building block approach*

HSEEP recommends the MYTEP exercise schedule to follow the building block approach.<sup>4</sup> The building block approach outlines four discussion-based and three operation-based exercises, ranging from a seminar through to a full-scale exercise (Figure 1).

The HSEEP building block design purposively begins with discussion-based and moves to operation-based exercises for two reasons. The first reason is related to cost.<sup>5</sup> It is often the case that many potential problems, such as the lack of a clarity surrounding a Memorandum of Understanding (MOU), job responsibilities, chain of command, chain of custody can be identified through discussion. Identifying and making these changes is important because it improves the

likelihood of maximizing the return on more costly operation-based exercises. For example, the after action report (AAR) from a discussion-based table-top exercise (TTX) might identify corrective actions relating to the implementation of an on-site incident command system (ICS). The corrective actions arising from the TTX would include making changes to agency emergency operations plans (EOPs) and standard operating procedures (SOPs): changes critical to the success of a more costly real world test, such as an operation-based functional exercise.

The second reason HSEEP begins with discussion-based and ends with operation-based is related to the process of "gradually" building capability. Discussion-based exercises have little, if any, real world time constraints placed on them, are often competency, or knowledge-based and focus on plan improvement. Operation-based exercises increase the level of stress by requiring the demonstration of actual tasks under real world time constraints. The building block approach is designed to accommodate learning (ie, discussion-based exercises) and provide the opportunity for repeated practice to improve capability (ie, using multiple operation-based exercises).<sup>5</sup> In reality, the transition from discussion to operation-based exercises is often difficult. To assist with this transition, Renger et al.<sup>6</sup> recommend the addition of an eighth exercise, the hybrid, to the building block design.

When designing a MYTEP, it is not necessary to include every exercise type, that is, to follow the complete sequence of exercises from seminar through to full-scale exercise. However, for reasons of cost-effectiveness and capability building, it is important to maintain the general sequence moving from discussion to operation-based exercises.

##### *Capability-based planning*

Davis<sup>7</sup> defined capability-based planning as "planning under uncertainty to provide capabilities suitable for a wide range of modern day challenges and circumstances while working within an economic framework that necessitates choice." The DHS later adapted this definition to the emergency preparedness and response context by substituting the phrase

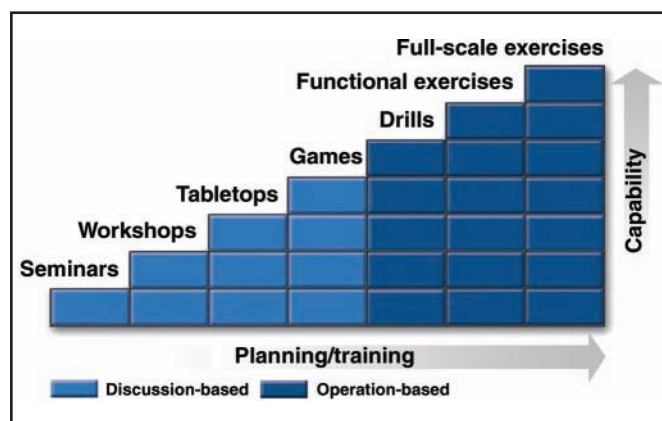


Figure 1. HSEEP building block approach.<sup>4</sup>

**PROOF COPY ONLY**

*Journal of Emergency Management*  
 Vol. 10, No. 3, September/October 2012  
**DO NOT DISTRIBUTE**

**PROOF COPY ONLY****DO NOT DISTRIBUTE**

“modern day challenges and circumstances” with “threats and hazards.”<sup>8</sup>

A key phrase in the definition of capability-based planning is “a wide range of threats.” One interpretation of this definition is the MYTEP should be focused on simultaneously building strength around capabilities needed to address “several” threats. To do this would require analyzing threats with the purpose of identifying cross-cutting capabilities; capabilities needed regardless of the specific threat. Such a strategy is intuitive, efficient, and practical. When faced with limited resources, it makes sense to invest in improving capabilities that can lead to better preparation, mitigation, response, and recovery for a wide range of threats as opposed to investing limited resources in improving threat specific capability.

The Target Capabilities List (TCL) and Universal Task List drive the capability-based planning process.<sup>9</sup> The TCL consists of three levels of analysis: capability-level, activity-level, and task-level. Therefore, when developing a MYTEP, consideration should be given to not only including cross-cutting capabilities from the TCL but also to drill deeper to identify the cross-cutting activities and cross-cutting critical tasks requiring training and exercising. For example, the volunteer management capability consists of 10 activities, such as organizing volunteers and assigning them to disaster relief efforts, collecting and managing cash donations, and coordinating distribution of donations. The collection and management of cash donation consists of six critical tasks, such as collecting cash donations, keeping appropriate documentation from all undesignated cash donations, and coordinating transfer of cash donations. It is the “critical tasks” that should be considered when selecting training opportunities and identifying the best sequence of exercises from the building block approach.

#### *Continual improvement*

The MYTEP guidance also emphasizes the principle of continual improvement.<sup>10</sup> After an exercise, corrective actions and an associated improvement plan (IP) are developed. It is the implementation of the IP and corrective actions that completes the cycle of the exercise program management. The observations and

recommendations for improvement are documented in the AAR, and as part of continuous Corrective Action Plan (CAP) program, managers must prioritize, track, and analyze corrective actions.<sup>9</sup>

#### **CHALLENGES IN DEVELOPING A COMPREHENSIVE MYTEP**

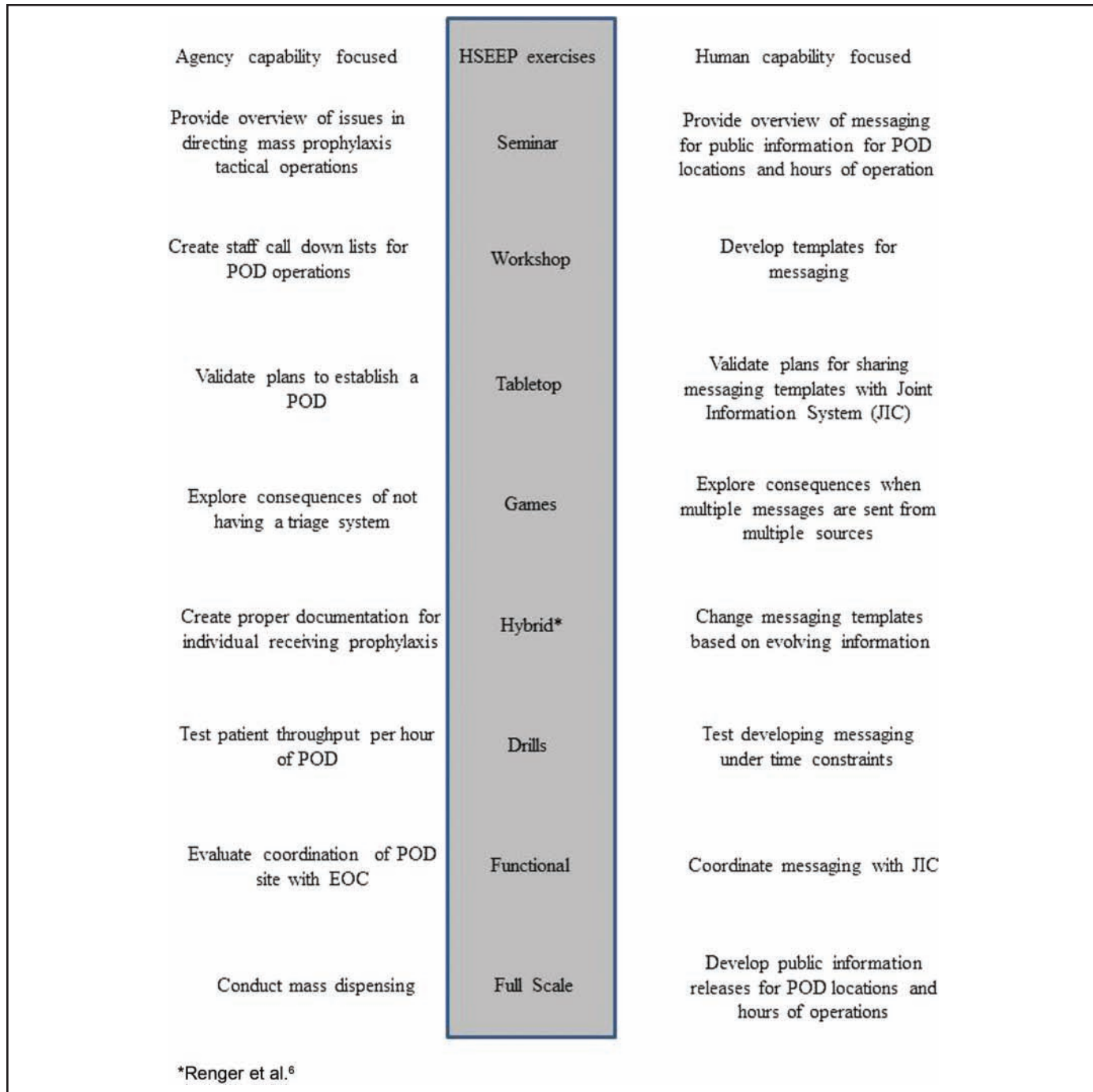
##### *Building agency-level versus human-level capability*

Careful consideration must be given when designing the MYTEP as to whether the building block approach is being used to build “agency-level” or “human-level” capability. To the authors’ knowledge, this distinction has not been previously made in the emergency management or exercise planning and evaluation literature. We believe this is an important factor significantly affecting the MYTEP design.

To illustrate this distinction, consider a county OEM whose Hazard Vulnerability Assessment (HVA) identified several threats including pandemic influenza, bubonic plague, and anthrax. These threats could be grouped together under a single category called health-related threats. Using the TCL, the OEM might prioritize mass prophylaxis as one cross-cutting capability for health-related threats.

Per the MYTEP guidance, the OEM would then use the HSEEP building block approach to design the MYTEP to build capability related to mass prophylaxis. However, one factor affecting the sequence of HSEEP exercises is whether the OEM wants to build agency-level or human-level capability. If building agency-level capability, the OEM might design each exercise in the building block structure to focus on a different one of the 10 activities within the mass prophylaxis TCL as shown in Figure 2. After each exercise, corrective actions are identified and an IP is developed. At the end of the MYTEP, the agency will have targeted and improved numerous mass prophylaxis activities, leading to an overall improvement in the agency’s capability.

However, the problem is such an approach is not conducive to improve human-level capability. An agency comprises people who must be capable to execute many critical tasks. People need opportunities to learn and practice these tasks. The more opportunity to practice, the more capable they become. Building from the previous example, one important critical



**Figure 2. Using the HSEEP building block approach to build agency-level versus human-level capability to conduct mass prophylaxis.**

task identified under mass prophylaxis is communicating to the public regarding Points of Distribution (PODs) locations and hours of operations. Specifically, the Public Information Officer (PIO) is responsible for developing messages that provide clear direction to

the public, maintain calm, and instill confidence in the response. Figure 2 illustrates how the building block design can be used to build the PIO capability. As before, the process is true to continual improvement as corrective actions and IPs are identified and

**PROOF COPY ONLY****DO NOT DISTRIBUTE**

implemented after each exercise. However, the corrections are continually directed at improving the same set of critical tasks and thus build human-level capability.

There are several important differences between the agency-level and human-level capability building approaches. First, when building agency-level capability, “objectives must change across exercises” to ensure a better overall coverage of the activities required under a capability. Conversely, when designing the MYTEP to build human-level capability “a consistent exercise objective across exercises” is required. Notice too the importance of drilling down to the level of the critical task when building human-level capability. An objective that is observable and operationally defined makes it easier to identify the training and exercises needed and to evaluate their effectiveness.

A second difference is in the interpretation of continual improvement. When engaging in agency-level capability building, the agency can target potentially “any” number of activities or critical tasks related to the capability. In this context, continual improvement refers to the agency striving to cover as many activity or critical tasks of a targeted capability.

Conversely, when building human-level capability the “same” critical task is continually improved over time. This distinction has important implications not only for exercise design as noted earlier but also for exercise evaluation. In the case of building human-level capability, tracking individuals (or position titles) across exercises is required to be able to evaluate continual improvement. Tracking across exercises is not required, or even meaningful, if the focus is building agency-level capability: the evaluation simply needs to monitor whether changes identified as a result of single exercise were made. For example, whether changes to an EOP, SOP, or MOU were made.

Third, because exercise objectives vary across exercises, the opportunity for repeated practice when building agency-level capability is limited. Granted, the opportunity for repeated practice is less important as the focus is on developing a MYTEP to improve written documentation such as agency EOPs, SOPs, and MOUs.

#### *Including sponsor-required exercises in the MYTEP*

The second challenge is most agencies, such as OEMs, are often funded by multiple sponsors. These sponsors often stipulate activities to include comprehensive strategies regarding community planning, implementation, and exercising. For example, the DHHS released the Public Health Emergency Response Grant, with \$1.4 billion administered by the CDC to 62 awardees, including 50 states, eight territories and freely associated states, and four localities to upgrade state and local pandemic influenza preparedness and response capacity. The funding was distributed in four phases with an emphasis on mass vaccination planning to assure readiness at the state and local levels for implementation of large-scale mass vaccination campaign’s, including planning and exercising. The MYTEP must incorporate sponsor-required exercises, there is no other option. The challenge is when the sponsor-required exercise objectives are not aligned with those of the agency, for example sponsor-required exercise objectives focus on building human-level capability, whereas the agency priority is on building agency-level capability. In this case, the OEM may be forced to design the MYTEP with an independent set of exercises so opportunities for knowledge acquisition (ie, discussion-based) and repeated practice (ie, operation-based) are provided. This would naturally be very costly.

In summary, the DHS Training and Exercise Plan Workshop (T&EPW) notes the importance of identifying priority areas for capability-based planning. The problem is the MYTEP guidance provides little direction as to “how” to identify priority capabilities. The only suggestion in the T&EPW handbook and workshop is to review IPs for capabilities needing reinforcing. This suggestion is good but has some limitations. For example, IPs may not be available (and/or are inadequate) as in the case of a fledgling agency developing a MYTEP for the first time, or with agencies which may have not been diligent in conducting exercises and/or completing AARs correctly, or in the case where a new mandate requires redirecting resources to building a new set of capabilities (eg, the pan flu initiative).

**PROOF COPY ONLY****DO NOT DISTRIBUTE**

**A CASE EXAMPLE ILLUSTRATING HOW TO DEVELOP A  
COMPREHENSIVE MYTEP**

*Incorporating agency-level versus human-level  
capability building into a MYTEP*

The authors worked directly with one tribal OEM to develop an integrated 3-year MYTEP. Tribal OEM staff expressed the need to build both agency-level and human-level capability for several reasons, including staff turnover, leadership buy-in, and maximizing existing resources. Initially, the tribal OEM scheduled *one workshop annually* to focus on building agency-level capability for the Restoration of Life Lines or Emergency Public Information and Warning. The workshops were scheduled for a half-day event in which tribal participants from their respective districts would be invited to attend. The plan was to focus on a different activity within the targeted capability each year. Thus, over the course of the 3-year MYTEP, the tribal OEM would have achieved a broad coverage of the target capability. Specifically, the workshops were planned to produce changes to EOPs and SOPs, either in the form of rewriting existing plans and procedures or providing additional annexes or addendums.

The challenge was to honor the need to develop agency-level capability while simultaneously building human-level capability. To meet this goal, the authors turned to the HSEEP building block approach and building human-level capability by moving from discussion-based to operation-based exercises. Therefore, each workshop was coupled with a *template for conducting a drill* to reinforce and test the objectives targeted in the workshop. This would allow tribal participants completing a workshop to then customize a drill to further practice and build human-level capability.

The workshop and drill are evaluated using HSEEP Exercise Evaluation Guides. The AARs will then be used not only to make changes to the EOPs and SOPs, building the agency-level capability, but also to identify training opportunities and future exercises to build deficiencies in human-level capability. In so doing the cycle of continual improvement is completed for both the agency-level and human-level capability.

*Designing the MYTEP to include sponsor-required  
exercises*

The tribal OEM expressed a need to include exercises to meet grant requirements to maintain a consistent funding stream. Figure 3 depicts several options for designing the MYTEP to include required exercises. The option selected depends on a) the relationship between the required exercise objectives and the objectives identified as a result of the capability-based planning and b) whether the required exercise objectives are agency-level capability or human-level capability focused. The easiest option from a design standpoint is when the objectives of the required exercise align with the objectives identified by the agency through capability-based planning. For example, if a required HHS drill focuses on POD throughput and an OEM has identified mass prophylaxis as a target capability, then the drill can simply be included as an exercise in the building block sequence.

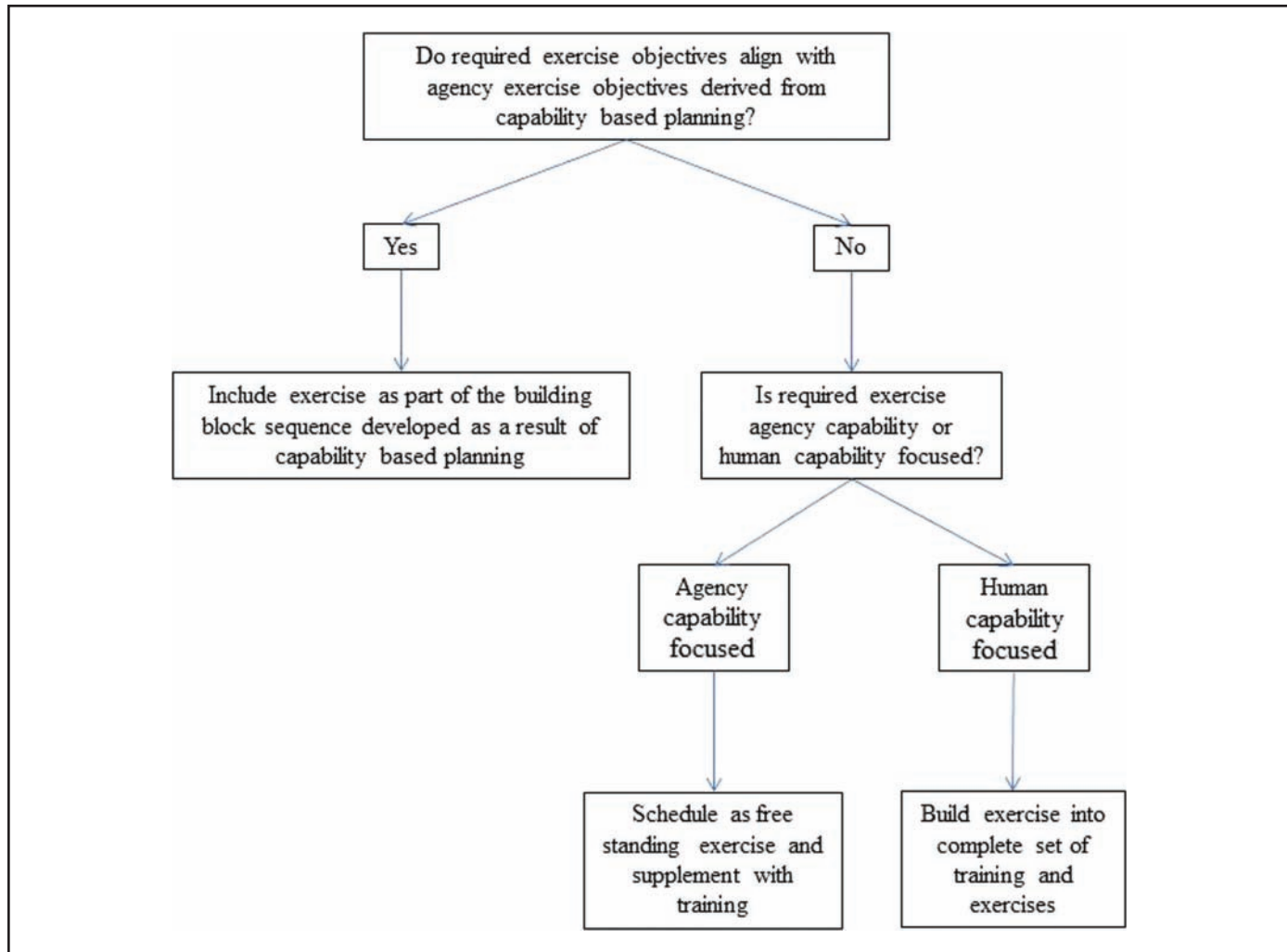
If the required exercise objectives do not align with agency identified objectives as a result of capability-based planning, then there are two options. Which option is selected at this point depends on whether the required exercise objectives are focused on building agency-level or human-level capability. If the required exercise objectives are focused on building agency-level capability, then it is suggested to schedule the required exercise as single and free standing. The single exercise could be supplemented with training. Corrective actions from the exercise would be used to make improvements.

There are two reasons why it may be best to schedule the required exercise as free standing as opposed to integrating into the building block approach. First, if the required exercise objectives are at odds with the agency-identified priorities, then designing an additional set of exercises to round out the building block approach to support it is likely too costly. Second, if the required exercise objectives are focused on building agency-level capability, then repeated opportunities to practice may not be necessary.

The tribal OEM is required to participate in several required exercises, including an annual statewide exercise. At the time of writing this article, the objectives for the required exercises were undefined.

**PROOF COPY ONLY**

*Journal of Emergency Management*  
Vol. 10, No. 3, September/October 2012  
**DO NOT DISTRIBUTE**

**PROOF COPY ONLY****DO NOT DISTRIBUTE**

**Figure 3. A decision tree for incorporating required exercises.**

Therefore, it was recommended the tribal OEM become active participants on the exercise design team for these exercises. This will provide an opportunity for the tribal OEM to align their objectives with those of the required exercises. If the tribal OEM objectives can be aligned with the required exercises, then this will result in cost savings and another opportunity to build agency-level capability (through the focus on a new capability activity) or to build human-level capability (through an additional opportunity to practice). However, it is possible the tribal OEM will not be able to align their objectives with those of the required exercises. Unfortunately, if this is the case, then the MYTEP will contain added exercises and added cost.

#### *Identifying priority areas through capability-based planning*

A potential solution for identifying priority areas lies in the definition of capability-based planning. As noted earlier, the definition emphasizes selecting capabilities that can address “a wide-range” of threats. Therefore, it could be argued that priority areas should be target capabilities that are cross-cutting.

One way to identify a set of cross-cutting capabilities is to examine the HVA. The HVA often identifies numerous threats. This potentially makes the task of identifying cross-cutting capabilities daunting and onerous. However, under such circumstances, it may be useful to initially group hazards: a concept similar to that used by the Federal Emergency Management Agency

**PROOF COPY ONLY****DO NOT DISTRIBUTE**

<b>Table 1. Identification of capabilities</b>				
<b>Priority area/capability (from TCL)</b>	<b>Cross-cutting</b>	<b>Develop plans</b>	<b>Practice capabilities</b>	<b>Do not feel capability is applicable</b>
Emergency public information & warning	X	X	X	
Citizen evacuation & shelter in place		X	X	
Mass care				X
Structural damage assessment				X
Restoration of life lines	X	X		
EOC management	X		X	
On-site incident management (ICS)	X		X	
Other				

(FEMA) when planning for a catastrophic event.<sup>11</sup> Grouping hazards makes it easier to define a common set of response and recovery target capabilities.

The HVA for the tribal OEM identified flooding, wind, dust storms, and drought as major threats. These threats were grouped under a category called “severe weather.” Grouping the hazards this way made it easier for the tribal OEM to conceptualize cross-cutting target capabilities needed for effective preparation, mitigation, response, and recovery. The method used to prioritize the capabilities and identify whether the capabilities were cross-cutting first required the review of the 37 TCLs to categorize capabilities, followed by the completion of a table to check whether a capability was cross-cutting, required testing to improve written plans, and required continual practice for the workforce (Table 1).

What distinguishes the tribal OEM MYTEP from other MYTEPs is its effort to go beyond simply identifying capabilities, but drilling deeper into specific activities and critical tasks. The emphasis on prioritizing critical tasks is important because it is from these from which exercise objectives are defined. With specific exercise objectives defined, it is now possible to engage in a meaningful and thoughtful selection process of training and exercises best suited to meet these exercise objectives.

#### *Scheduling opportunities for building core capabilities*

Many capabilities are fundamental to prepare, mitigate, respond, and recover from an event. Such

capabilities we refer to as core capabilities. Examples of core capabilities include the cross-cutting capabilities identified through capability-based planning and perhaps some of the capabilities listed under the common mission in the TCL: planning, communications, risk management, community preparedness and participation, and intelligence and information sharing.

Using past AARs, the tribal OEM identified two core capabilities they wished to include in the MYTEP: Emergency Operations Center (EOC) Management and On-Site Incident Management (ICS). Because a) they are core to all response and recovery efforts and b) of high annual staff turnover, it was reasoned core capabilities should be trained and exercised regularly. Further, because the ICS is integral to EOC structure and communications, it was reasoned these two capabilities could be trained and exercised jointly. Therefore, the MYTEP scheduled a drill to activate the EOC twice annually to ensure all staff remains capable. In the event a real world event causes the EOC to be activated, the exercise can be cancelled at the discretion of the OEM.

#### **SUMMARY**

Agencies, such as OEMs, responsible for developing MYTEPs are provided federal guidance and templates to assist in completing the scheduling of training and exercises. However, simply scheduling exercises using the building block approach does not ensure the exercise themselves are meaningfully connected.

**PROOF COPY ONLY**



**PROOF COPY ONLY****DO NOT DISTRIBUTE**

Capability-based planning is a necessary first step in developing exercises with continuity, but it is not sufficient in developing a meaningful MYTEP. An understanding of the extent to which agency-level and human-level capability are being targeted for continual improvement is critical. A focus on agency-level capability results in a coverage approach necessitating different objectives across exercises. If objectives vary across exercises, then by definition the opportunity for repeated practice is minimized. A focus on human-level capability requires the opportunity for knowledge acquisition followed by repeated opportunities to practice. To build human-level capability, MYTEP exercises must be linked by the same objective over time. Therefore, the key to a well-planned MYTEP is not simply the application of the HSEEP building block approach, but more importantly an understanding of the type of exercise objectives (ie, agency-level vs human-level) that bind them.

Building agency-level and human-level capability can occur simultaneously and do not necessarily require two separate sets of building-block-based exercises: it is often possible within a single set of MYTEP exercises to accomplish both goals. Exercises can not only include a variety of objectives to cover several target capability activities but also maintain a core of common exercise objectives related to building human-level capability. In fact, when the goal is to build both agency-level and human-level capability, every effort should be made to integrate these objectives within a single set of building block exercises. Doing so is necessary from a standpoint of cost-effectiveness; saving both time and money.

However, it is important that the two levels of capability-based planning be explicitly differentiated. This is important from an exercise evaluation standpoint. A set of exercises coordinated to build human-level capability should a) use the same performance measure over time to be able to evaluate change and b) include a mechanism for tracking the performance of individual agency staff over time. This is quite different from exercise objectives focused on building agency-level capability, which simply require checking whether corrective actions

from one exercise were implemented, usually in the form of changes to written documentation such as EOPs, SOPs, and MOUs.

When attempting to integrate agency-level and human-level capability building into the same set of exercises, there is a direct relationship between the number of exercise objectives and the difficulty in designing and evaluating an exercise. As the number of exercise objectives increases so does the difficulty in designing and evaluating the exercise. The recommended total number of exercise objectives is 10 or fewer.<sup>12</sup> Based on the authors' experience, the ideal number is between three and five.

The MYTEP is the first required assignment in completing the Emergency Management Institute (EMI) Master Exercise Practitioner (MEP) certification. The first author completed the MEP. During the exercise debriefing conducted by EMI staff, the first author noted three types of mistakes.

First, MYTEPs were developed which used all nine suggested building block exercises, in chronological order, beginning with the seminar and ending with the full-scale exercise. Naturally, a full complement of building block exercises may be unnecessary and costly. The important point is the subset of selected exercises follows the building block sequence. This could mean moving from discussion-based to operation-based exercises (eg, TTX to FE), but not necessarily. It is also reasonable that a series of discussion-based exercises be scheduled, moving from a workshop to a TTX; or that a series of operation-based exercises be scheduled, moving from a drill to a functional exercise.

The second error made by MEP students is the perception that the MYTEP must schedule a series of "different" exercises using the building block approach. Naturally this is not true. For example, an OEM with a focus on building agency-level capability may want to ensure their EOPs and SOPs address all aspects of a targeted capability. To meet this goal may require scheduling a series of workshops. In such instances, the belief that different exercises under the building block rubric must be used can add significant cost and not meet the agency's goal. Errors such as these will occur when the building block approach is

**PROOF COPY ONLY****DO NOT DISTRIBUTE**

taught without an understanding of capability-based planning and the importance of how exercise objectives are needed to link exercises over time.

The third mistake made by the MEP students was the failure to identify exercise objectives “before” defining the series of required HSEEP exercises. Students identified a threat but did not drill down to the critical task level to define the exercise objectives. As a consequence, there was no rationale guiding the selection of exercises to be included in the MYTEP. Thus, the MYTEP was unnecessarily costly and more importantly was less likely to meet the goal of building strength of the required capabilities.

MYTEPs are important tools to ensure that agencies develop capability necessary for effective preparation, response, and recovery. Federal guidance is helpful but still requires thoughtful consideration in the interplay among the HSEEP building block approach, capability-based planning, and the cycle of continual improvement.

---

Ralph Renger, PhD, MEP, Mountain West Preparedness and Emergency Response Learning Center, University of Arizona, Tucson, Arizona.

Brenda Granillo, MS, Mountain West Preparedness and Emergency Response Learning Center, University of Arizona, Tucson, Arizona.

**REFERENCES**

1. HSEEP: FEMA, Homeland Security Exercise and Evaluation Program Web site. 2011. Available at [https://hseep.dhs.gov/pages/1001\\_HSEEP7](https://hseep.dhs.gov/pages/1001_HSEEP7). Accessed December 23, 2011.
2. HSEEP: 2011. Available at [https://hseep.dhs.gov/support/HSEEP\\_101.pdf](https://hseep.dhs.gov/support/HSEEP_101.pdf). Accessed December 23, 2011.
3. HSEEP: HSEEP toolkit. 2011. Available at [https://hseep.dhs.gov/support/Multi\\_Year\\_Plan\\_Draft\\_Template.doc](https://hseep.dhs.gov/support/Multi_Year_Plan_Draft_Template.doc). Accessed December 23, 2011.
4. HSEEP: Homeland Security and Exercise Evaluation Program (HSEEP). Volume I: HSEEP overview and exercise program management. 2007.
5. FEMA: FEMA IS-120.a An Introduction to Exercises. FEMA, Emergency Management Institute. Available at <http://training.fema.gov/EMIWeb/IS/IS120A.asp>. Accessed December 23, 2011.
6. Renger R, Wakelee J, Bradshaw J: The hybrid exercise: Transitioning from discussion-based to operations-based exercises. *J Emerg Manag*. 2009; 7(4): 51-56.
7. Davis P: In Bankston B, Key T. White paper on capability-based planning. 2006. Available at [http://www.mors.org/UserFiles/file/meetings/06cbpII/bankston\\_key.pdf](http://www.mors.org/UserFiles/file/meetings/06cbpII/bankston_key.pdf). Accessed December 23, 2011.
8. Department of Homeland Security: Target Capability List, Version 2.0. (2005). Available at <http://www.emergencymgt.net/sitebuildercontent/sitebuilderfiles/tcldraft2.pdf>. Accessed December 23, 2011.
9. HSEEP: Homeland Security and Exercise Evaluation Program (HSEEP). Volume III: Exercise Evaluation and Improvement Planning. 2007.
10. EPA: How to develop a multi-year training and exercise (T&E) plan: A tool for the water sector. 2011. Available at <http://water.epa.gov/infrastructure/watersecurity/emerplan/upload/epa816k11003.pdf>. Accessed December 23, 2011.
11. Pawlowski MS: Federal Emergency Management Agency. 2007. Available at [http://training.fema.gov/Catastrophic\\_Disaster\\_Planning.ppt](http://training.fema.gov/Catastrophic_Disaster_Planning.ppt). Accessed December 23, 2011.
12. FEMA: FEMA IS-139 Exercise Design. FEMA, Emergency Management Institute. Available at <http://training.fema.gov/EMIWeb/IS/is139.asp>. Accessed December 23, 2011.

**PROOF COPY ONLY**

*Journal of Emergency Management*  
 Vol. 10, No. 4, September/October 2012  
**DO NOT DISTRIBUTE**