

Regional Approaches to
Preparedness:
A Project Public Health Ready
Working Paper

The National Association of County and City Health Officials (NACCHO) is the national organization representing local public health agencies. NACCHO works to support efforts that protect and improve the health of all people and all communities by promoting national policy, developing resources and programs, seeking health equity and supporting effective local public health practice and systems.

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- East Central Health District VI, Georgia
- Massachusetts Public Health Emergency Preparedness Region 4b, Massachusetts
- Northern Illinois Public Health Consortium, Illinois
- Western New York Public Health Alliance, New York



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CHAPTER I: INTRODUCTION AND BACKGROUND

**“Plans are nothing; planning is everything.”
— Dwight D. Eisenhower**

Regional approaches to emergency preparedness have become more common as preparedness organizations recognize the interconnectedness of jurisdictions and the need to build response capacity across jurisdictional boundaries to address incidents that affect multiple jurisdictions or to achieve a critical mass in response capacity that cannot be accomplished by a single agency. Several examinations of preparedness efforts undertaken since September 11, 2001 have recognized the need for and benefits of regional approaches to emergency preparedness.¹ The most recent Centers for Disease Control and Prevention (CDC) Public Health Emergency Preparedness cooperative agreement guidance places additional emphasis on coordination across jurisdictions. In recognizing this, the National Association of County and City Health Officials (NACCHO) has extended the Project Public Health Ready (PPHR) initiative during the second year to include a limited number of pilot sites that would demonstrate preparedness on a regional basis and selected four regional sites to participate: East Central Health District VI, Georgia; Massachusetts Public Health Emergency Preparedness Region 4b, Massachusetts; Northern Illinois Public Health Consortium, Illinois; and Western New York Public Health Alliance, New York.

Attendees of the second-year PPHR orientation meeting in October 2004 concluded that regional preparedness was not simply an extrapolation of local health department (LHD) preparedness to a larger geographic scale. Upon closer consideration by the regional PPHR sites, regional preparedness appeared more complex than simply creating the equivalent of a regional LHD for emergency preparedness purposes. As such, the PPHR criteria² created for individual LHDs may not be directly applicable for regional approaches; regional criteria might be significantly different.

Beyond that finding, little guidance existed for LHDs attempting to create a regional capacity to respond to an emergency that affects more than one jurisdiction and, therefore, requires a regional response. Public health departments have often relied on guidance and tools developed from the perspective of single LHDs working within their jurisdictions or for multiple LHDs working under the auspices of the state health agency.

In response to this situation, NACCHO decided to extend the time frame for the regional sites to conduct a collaborative development process with the regional participants that would develop PPHR criteria suitable for regional preparedness and to begin the development of guidance for LHDs that were considering regional approaches to preparedness.

Purpose of this Paper

This paper serves the following related purposes:

- To document and explain the context and the development of the current regional criteria;
- To offer early guidance for the application of the criteria and development of regional preparedness plans;
- To provide a place to explore ideas and present thinking behind regional approaches to preparedness and the regional criteria and to offer observations that would build toward a conceptual framework for regional approaches to preparedness;

¹*Homeland Security, Effective Regional Coordination Can Enhance Emergency Response*. Report to the Chairman, Committee on Government Reform, House of Representatives, (GAO-0401009) 2004.

²The individual and regional PPHR criteria are available at www.naccho.org/topics/emergency/pphr.cfm.

- To identify some of the most useful current preparedness guidance for regional purposes and begin to translate that guidance for public health regional preparedness purposes; and
- To capture the initial experience of regional sites as a starting point in building the evidence base for regional preparedness to eventually arrive at best practices and shared tools.

The information presented in this paper derived from two primary sources. First is the emerging experience reported by the four regional sites that participated in the second PPHR pilot phase in creating criteria that would be suitable for regional application and then in the initial application of those criteria. While this paper incorporates feedback from all four regional sites, the Northern Illinois site served as more of an in-depth case due to the opportunity to observe first-hand the Northern Illinois regional preparedness process.

The second, more normative source are those materials that have been produced by national preparedness organizations and authorities, including the Department of Homeland Security's *National Incident Management System* (NIMS), the Federal Emergency Management Agency's (FEMA) *Guide for All-Hazard Operations Planning* (SLG-101), and NACCHO's collection of emergency preparedness tools for LHDs.

CHAPTER 2: DEVELOPING REGIONAL CRITERIA

2.1 Conceptualizing Regional Preparedness

NACCHO took a systematic approach to understanding the regional approaches to preparedness and developing regional criteria. Several working assumptions emerged from the October 2004 orientation meeting and early work of the regional sites to guide criteria development.

- Criteria would be meaningful to regional sites and reflect the differences between individual LHD preparedness and regional preparedness but would need to be clearly linked to the overall PPHR initiative;
- Criteria must be able to be evaluated in an objective manner and in a consistent relationship to individual site criteria;
- Given the short time frame for the second project year, criteria development would be a byproduct of achieving regional preparedness and not be a separate process;
- Regional criteria would be based on an extension of individual criteria; and
- Approaches to regional preparedness may vary across the country based on the size, organization, and capacity of LHDs. Regional criteria must reflect these variations.

A working typology of approaches to regional preparedness emerged early and conceptualized regional preparedness on a continuum from the equivalent of a regional LHD to the coordination of LHDs whose collective actions would create regional preparedness. This typology reduced approaches to regional preparedness to three collaboration types that attempted to capture fundamental differences among approaches to regional preparedness.

1. Coordinated Capacity: Regional preparedness is achieved through the actively managed coordination of individual LHDs, each with a sufficient preparedness capacity to respond comprehensively to a serious public health emergency within its jurisdiction. Individual LHD capacity may be sufficient such that each could achieve PPHR recognition. The need for regional capacity arises from the characteristics of the region and a situation profile that strongly suggests that a multi-jurisdictional response is highly desirable. The most salient regional characteristics are population size and density, along with the interconnectedness of the jurisdictions from an economic, transportation/commuting, and geographic perspective.
2. Standardized Capacity: Regional preparedness is created by sharing the already significant capacities of individual LHDs in the region in such a way as to achieve interoperability among LHDs for one or more emergency preparedness functions. This is done largely by standardizing individual LHD preparedness functions across jurisdictions so that the capacities can be combined, without special effort, during an emergency incident and function to deliver a unified, cohesive regional response. However, the parts remain within the operational control of the individual LHDs in which they reside and function during non-emergency times. The basis for collaboration is adopting standards to which all LHDs in a region would adhere in creating their individual capacities.
3. Centralized Capacity: Regional preparedness is created through the pooling of resources and limited capacities of individual LHDs in recognition that no single LHD within a region would have the resources or capacities to meet PPHR criteria. Regional preparedness is achieved in effect by forming a separate regional entity for the purpose of responding to a serious public health emergency during which that entity would function as if it were a regional public health agency. The entity's actual organizational structure and relationship to its constituent LHDs will differ ranging from the familiar district health department, common to state-centric public health systems, to new organizational arrangements that may be created specifically for that purpose.

Coordination, standardization, and centralization have a hierarchical relationship along a coordination dimension. Standardization is at a higher level of coordination, where resource pooling is virtual, and is at a lower level than centralization, where pooling is physical. A centralized source physically brings together or controls resources. In all cases, gaps are filled and synergy is achieved such that the total regional capacity is greater than the sum of its component parts.

These regional preparedness collaboration types are not mutually exclusive and are not believed to exist in pure forms but are presented to reduce complexity and clarify thinking about the capacity for regional preparedness. In reality, regions will likely demonstrate some mixture of all three. For example, a region composed of large independent LHDs, like in a metropolitan area, could define regional preparedness based on individual agency preparedness that would be achieved mainly through coordination. However, these LHDs could elect to standardize some individual functions (e.g., workforce training, surveillance data collection, risk communication) and, for a limited number of specialized functions, pool resources to create a centralized capacity in the region (e.g., laboratory surge capacity).

As a second dimension to aid in the conceptualization of regional preparedness, regional sites considered those situations or incidents that would call for a regional response. Danzig has argued that a common systematic, operational understanding of a situation is a prerequisite to effective coordination of efforts to deal with it. Without this understanding, each entity is likely to respond in its own bureaucratic manner without reference to any overarching strategy. He proposes as an approach to gaining this understanding establishing a minimal number of representative cases or scenarios for planning purposes.³ Following this advice and the adage that “form follows function,” three generalized scenarios were offered to help structure thinking about a regional approach to preparedness, recognizing that situations and incidents will vary greatly:

- A single event spreads to or affects multiple jurisdictions (e.g., a food-borne illness outbreak at a major entertainment or sports event, an influenza pandemic, a confirmed Biowatch alarm);
- Multiple events of a similar nature occur simultaneously or over a very short time span in different locations in the region (e.g., a deliberate simultaneous release of a bio-agent in several jurisdictions, a highly destructive “skipping” tornado); and
- A single localized event overwhelms the jurisdiction where it occurred (e.g., a nuclear accident).

2.2 Assessing Regional Capacity

Starting with the assumption that regional criteria could be based on a consideration of how the individual LHD criteria might be applied regionally, NACCHO, in conjunction with the Northern Illinois Public Health Consortium, developed an assessment tool⁴ that regions could use to help them operationalize preparedness in their regions and develop relevant criteria.

Using the individual LHD PPHR criteria, each regional site applied the criteria at two levels, first at the individual LHD level and then at the regional level. Applying the criteria at two levels allowed LHDs to (a) assess what preparedness capacity or resources existed within each LHD; (b) understand how those resources or capacities could be best combined into a regional capacity; and (c) determine how that regional capacity might be reflected in the criteria. For each criterion, regional sites characterized the regional capacity using the three regional preparedness collaboration types (coordinate, standardize, centralize) and specified the implications for regional preparedness and criteria.

³Danzig, Richard. *Catastrophic Bioterrorism—What Is To Be Done*. Washington, DC: Center for Technology and National Security Policy, National Defense University, 2003.

⁴The “Project Public Health Ready Reporting Criteria Regional Readiness Assessment Tool” is available on the PPHR Toolkit at www.naccho.org/PPHRToolkit.

The assessment tool tested the initial belief that regional criteria might be significantly different from individual criteria and provided some insight into how they were different and what would be equivalent regional criteria. Several relationships between individual and regional criteria were hypothesized:

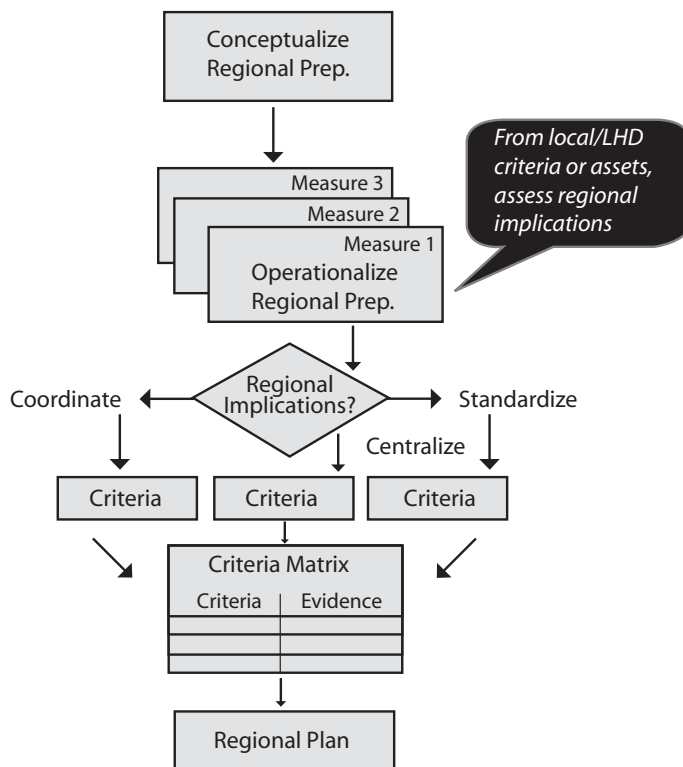
- Regional criteria grow out of consideration of individual criteria but are fundamentally different from individual criteria (e.g., dealing with authority across jurisdictions or shared authority);
- Regional criteria are modifications of individual criteria to reflect that the individual criteria are generally valid but must be modified to reflect differences between individual LHD and regional approaches to preparedness; and
- Regional criteria are essentially the same as individual criteria but require evidence that is more relevant to a regional approach to preparedness.

Four regional sites participated in the development of the assessment tool and applied it locally in their regional preparedness processes. Regional site progress was tracked through the following:

- Monthly regional conference calls for all sites;
- Written reports from sites in the desktop review of the tool;
- A regional meeting in January 2005 to share experiences of applying the tool; and
- Each regional site participated in an individual conference call to assess progress and challenges in using the tool. Calls were structured by a five-question agenda:
 1. Were you able to develop regional criteria using the tool?
 2. How closely do the regional criteria track the content of the individual LHD criteria?
 3. What worked well in this criteria development process?
 4. Did the process set the stage for regional preparedness planning?
 5. In what areas did you experience difficulties?

A graphic representation of the assessment and criteria development process are presented in Figure 1 below.

Figure 1: PPHR Regional Preparedness



2.3 Findings from the Assessment Process

Each regional site completed the assessment tool and submitted its results to NACCHO for analysis and consolidation for selection of regional criteria. The assessment process yielded very useful findings regarding approaches to regional preparedness and regional criteria.

1. Three of four sites successfully used the assessment tool to structure their approach to operationalize regional preparedness. The Massachusetts Public Health Emergency Preparedness Region 4b used a locally developed tool to conduct the assessment. The Northern Illinois Public Health Consortium also developed a second tool to aggregate and summarize the results from assessing individual LHD capacity.
2. Three of four sites approached regional preparedness from a component approach, aggregating from LHD capacity to regional capacity, as suggested in the assessment tool instructions. The Massachusetts Public Health Emergency Preparedness Region 4b took a top-down approach, first conceptualizing regional preparedness and then defining how its regional LHDs would contribute to that overall vision. Not surprisingly, this site used the locally developed assessment tool.
3. Regardless of the tool used, all sites used some tool and found value in following a structured assessment to organize the process and maintain a focus. While all sites appreciated having structure, some debate existed on achieving a balance between structure and flexibility. The site that started with an overall concept for regional preparedness advocated for greater flexibility.
4. No single approach to operationalizing regional preparedness emerged as each site took an approach that fit its local circumstances and resource configuration. While the approaches generally fit the collaboration types, they fit as variations or hybrids.
 - Massachusetts Public Health Emergency Preparedness Region 4b was looking toward establishing a regional preparedness entity and pooling resources in a centralized approach.
 - In the Western New York Public Health Alliance, the largest LHD was taking the lead in extending its considerably greater size and capacity to the region. Other LHDs were playing defined supporting roles.
 - East Central Health District VI was using the existing district local public health organizational structure as the regional preparedness entity with member LHDs playing defined roles.
 - The Northern Illinois Public Health Consortium adopted a coordination typology, coordinating the extensive capacity of constituent LHDs, with few centralized functions.
5. Sites did not develop new or different regional criteria, but rather adapted the individual criteria. The difference between the individual and regional criteria was more in the application of the criteria rather than in the criteria themselves. This served to validate the original individual PPHR criteria as being robust enough for regional application.
6. Regional preparedness for all regional sites is made up of the following two fundamental ingredients, which undoubtedly are shared with individual LHD approaches to preparedness but with a different emphasis:
 - Resources or assets that are brought together in a regional response; and
 - Policies that govern the use of the assets across jurisdictions.

2.4 Differences from the Individual Criteria

While the experiences of the regional sites tended to validate the individual criteria, some significant differences existed:

1. While the individual and regional criteria may on the surface be very similar, the application of the individual criteria for regional purposes may be different, which suggests that regional sites and reviewers alike will need to look more deeply underneath the criteria to understand how they are applied in a regional context. That, in turn, requires an understanding of the overall adopted approach to regional preparedness (e.g., coordination, standardization, or centralization).
2. The authority for regional response (e.g., response across jurisdictional boundaries) to an emergency or even for regional planning may not be readily in place as would be expected within a single jurisdiction. Regional authority could range from simple memoranda of understanding among LHDs or jurisdictions to special legal authority granted by the state, either by legislation or administrative delegation of the state agency, to a regional entity (e.g., authority given to a regional transportation entity or special-purpose unit of government).
3. The concept of operations will be different on a regional level due to the lack, in most cases, of a unified authority across jurisdictions (the state notwithstanding). With diffuse authority, incident command may not work on a regional level in the same manner as it does within a jurisdiction, and unified command may be a more relevant concept for regional application.
4. A preparedness organization through which preparedness planning coordination occurs (as discussed under NIMS) will likely not exist in the region and will have to be created.
5. Regional preparedness planning puts a much greater emphasis on policy and operating at a policy level than does preparedness planning for a single jurisdiction that is more focused on a functional level and the cascading activities that are to be carried out in an emergency.

From these findings, reported by the four regional sites, the sites developed and reviewed a corresponding set of regional criteria for consistency with their experience. The resulting regional criteria were mainly variations of the individual criteria, with the most significant modifications made to accommodate those differences noted above. The differences are mostly focused on the application of the criteria and in the evidence that will be submitted to document that criteria have been met.

CHAPTER 3: APPLYING THE REGIONAL CRITERIA

Regional criteria are applied in a manner similar to the individual criteria, and a parallel documentation checklist was developed to structure the process for the regional sites. However, the differences between the application of individual and regional criteria, the variations in regional approaches to preparedness, and the substantive differences in regional criteria noted above suggest implications for documenting how the PPHR criteria are applied and the contents of the regional plan:

1. All regional efforts will require the development of a regional plan in meeting the criteria separate from and in addition to any individual LHD preparedness plans that have been developed. Where a centralized approach to regional preparedness is taken, the regional plan will look very similar to an individual LHD preparedness plan. Where a coordination approach is taken, the plan will be much more of a policy document that specifies the policies that tie together the more detailed individual LHD preparedness plans. Where standardization is proposed, the regional plan would present the standards and mechanisms for how the standards are to be applied within each LHD preparedness plan.
2. The regional plan's "Purpose/Introductory Material" section should describe the approach that the region is taking to achieve emergency preparedness, preferably using some form of the "coordination, standardization, or centralization" typology. Because of variability of regional preparedness, plan users and reviewers need a more detailed description of the approach taken to obtain a basic understanding of what regional preparedness means in that region. This basic description serves as a mental model that summarizes the overall approach, which becomes a frame of reference as criteria are considered in the plan. Like the cover on a jigsaw puzzle box, having the overall picture helps to indicate how the pieces fall into place.
3. In addition to understanding how regional preparedness is organized, it is necessary to know how planning is organized and sustained through a preparedness organization. The "Purpose/Introductory Material" should describe the preparedness organization that has been formed to conduct regional preparedness planning and develop the regional plan. This organization could be a formal committee of regional constituent LHD representatives, an appointed planning body, or a designated organization like a regional authority or government agency.
4. Because cross-jurisdictional authority may not be fully in place for regional preparedness planning and response, particular attention should be paid to documenting that authority. During planning or in the event of an emergency, having that documentation at hand may prove useful in resolving challenges to the legitimacy of cross-jurisdictional actions.
5. The "Roles and Responsibilities" and "Concept of Operations" sections are particularly important to the regional plan because these criteria address, and the plan sections should describe, the cross-jurisdictional relationships among agencies in the region, clarifying what takes place regionally, what takes place locally, and how various emergency response functions are organized and controlled. These sections may also differ the most from individual LHD criteria and preparedness plans. Regional preparedness takes place at both the regional and individual LHD level, and being clear about what occurs individually and what occurs regionally for each

criterion is important (e.g., coordination, standardization, or centralization). If coordination is the approach, then the coordination policy and how individual LHD compliance will be assured should be identified. For a standardized approach, the standard and how standardization will occur should be provided. An important consideration for a coordination typology is to specify in appropriate sections of individual LHD plans where regional assistance is called upon and how it is activated: How do the individual LHD plans relate to the regional plan? Regional and individual LHD plans need to be consistent in both directions.

6. Working across jurisdictions, standard incident command concepts may not be appropriate, and a unified command approach that focuses on communication to coordinate actions may be more workable. NIMS has some useful recommendations for applying this across jurisdictions.
7. While the criteria guide the content of the regional plans, format and organization may vary. The most important consideration for format and plan organization is how the plan will be used to guide a regional emergency preparedness response. In some regions, the state public health agency may already specify the format. One region reported that some Essential Service Functions (ESF) are better combined (e.g., surveillance and epidemiology). Because of the added complexity of regional approaches to preparedness, reviewers might find it helpful if the regional plan includes a cross-reference table that maps where PPHR criteria and evidence can be found, regardless of the format adopted.

CHAPTER 4: REGIONAL PREPAREDNESS: NOTES FROM THE FIELD

The following is a subjective collection of observations and recommendations for regional preparedness, gleaned from the experience of the regional sites, particularly from the Northern Illinois site, and from initial attempts at adapting guidance from national sources on emergency preparedness for regional application.

4.1 Approaching Regional Preparedness

What is Regional Preparedness? The key distinction that separates a regional approach to preparedness from one taken by a single LHD is the need to work across multiple jurisdictions, each likely to have its own LHD, which must be coordinated to achieve a regional preparedness capacity. Sites that are considering a regional approach will find it useful to understand the differences between regional and individual LHD approaches to preparedness.

Regional preparedness faces unique challenges:

- The authority to plan or respond across jurisdictions may not be as robust as that normally relied upon within jurisdictions;
- Political relationships among participants and between participants functioning as a region and the state health department may not be in place;
- Organizational structures for preparedness can vary across jurisdictions, with different agencies taking the lead along with different roles for the LHD. One jurisdiction may see emergency preparedness as an extension of the normal functions of first-responder agencies, while another may create a special emergency response agency (e.g., an emergency response and communications center). To date, few LHDs have been given the lead role in emergency preparedness for their jurisdictions; and
- The organization and format of individual LHD emergency preparedness and response plans may vary greatly, reflecting the role and function of the LHD within the larger jurisdiction's emergency preparedness organization. Some LHD plans may be stand-alone documents, while others are annexes of the jurisdictions emergency preparedness plan. LHD plans may be broad all-hazard plans or focus on specific incidents.

In application, working across jurisdictions to achieve regional preparedness can occur in several ways:

- One or more large LHDs provide preparedness functions for all LHDs in the region (e.g., the largest LHD provides epidemiological and surveillance functions);
- Multiple small LHDs with limited individual capacity pooling efforts provide mutual support across a region but maintain control over individual response assets (e.g., the Illinois Mutual Aid Box Alarm System (MABAS) used by fire departments applied to LHDs);
- Multiple small LHDs with limited individual capacity create a regional entity and centralize emergency response assets in that entity, in essence creating the equivalent of a regional/district LHD for emergency response purposes; and
- Multiple LHDs, each with adequate capacity to fully protect their respective jurisdictions from likely emergency incidents, coordinate efforts to achieve greater collective capacity or to specialize in responding to unique incidents (e.g., nuclear accidents).

Organizing Regional Preparedness: Organizational issues in regional preparedness arise at two points, first for organizing the preparedness planning process and second for the response. NIMS recognizes these needs and suggests establishing “preparedness organizations” for planning and “response entities” and “multi-agency coordinating entities” for organizing a response.

Organizational arrangements can range from informal committees to specially established formal entities. A number of structural models exist for organizing efforts across jurisdictions in both public health and other fields. Organizing a regional approach to preparedness may not pose as great a challenge to those LHDs that now regionalize other public health services because the authority and organizational structures are already in place or can be built upon. Thus, areas where LHDs are organized into public health districts will likely follow that approach for emergency preparedness. Given the advantage or a familiar functional structure, a useful starting place is to consider how existing regional approaches for other public health functions or region-wide organizational schemes for related services might provide a model that can be extended to preparedness. It may be easier to layer on regional public health emergency preparedness functions where jurisdictions have already considered regionalization of related functions, such as law enforcement, emergency medical services, or firefighting. Special-purpose governmental or quasi-governmental bodies, such as transportation authorities, pier and exposition authorities, and regional planning bodies, may also provide useful structural models.

Lately, the network model has found some favor within the public sector as a way to organize independent public and private entities into a quasi-organization bound together by a common purpose and formal agreement. While this is still an emerging model yet to be fully applied in public health and preparedness, it does have proponents among national public leaders who see this organizational model as offering flexibility, cross-function integration, efficiency, and relative speed for government functions including public health. While a body of literature on this organizational model for the public sector is still emerging, a general descriptive reference often cited is *Governing by Network, The New Shape of the Public Sector* by Goldsmith and Eggars (Bookings, 2004), which includes references to emergency preparedness efforts undertaken in response to the Sept. 11, 2001 incidents. This model of organization would seem to be most useful for those regions that approach preparedness through the coordination of several independent LHDs.

The Policy Dimension of Regional Preparedness: Policy is an important dimension in regional preparedness especially if an approach is adopted that relies heavily on coordination. Policy becomes the basis for how a response is organized across jurisdictions and may be the principal driver of regional action. In a regional approach that relies upon the capacities of individual LHDs, few response actions at the regional level may be comparable to what would occur at the LHD level. Regional action may be concentrated in activities aimed at communication and coordination of the LHDs that directly respond to an emergency incident. “Operations” at a regional level may be the active coordination of local actions, at least in the beginning of an incident. This is consistent with the NIMS statement that “all response is local.”

Even though policy development is one of the core functions of public health, because LHDs do not have extensive experience in functioning at the policy level, they may not be naturally inclined to approach preparedness from a policy perspective. This is reinforced in preparedness planning as most preparedness planning is operationally oriented, taking a tactical or procedural approach that relies on templates and standardized methods most often developed by and for traditional emergency response agencies. Unlike first-responder agencies, responding to emergencies is not a routine function for LHDs, and their response is not simply an extension of their day-to-day activities on a larger scale. LHDs have a broader variety of functions, only some of which will be

directly called upon in an emergency. Closely following a generic emergency response planning template does not allow LHDs to explore their broader strategy, policy role in preparedness and in relationship to LHDs' overall role in the community. Operationally focused planning templates do not consider the policy dimensions of a response.

When drafting a regional preparedness plan, LHDs should consider the policy level of planning and should resist dropping templates down to an operational level. Despite not being written for a public health audience, both SLG-101 and NIMS recognize the role of policy in planning. Using the SLG-101 format for a regional plan, the basic plan would focus on a policy level with functional annexes focusing on how policies were implemented either regionally or by individual LHDs. For example, a regional plan might address media communication and contain a policy statement that communication with the media would be coordinated across jurisdictions while maintaining the individual identity of the regional LHDs. The policy might go on to charge public affairs directors from each LHD with that task and cover the basic situation and assumptions of how it would be accomplished. Additional information appropriate for a communication annex would specify in greater detail how coordinated media communication would take place, what mechanisms would be used, who would be contacted, etc.

Effectively developing policies may require taking two passes in an iterative process. A first pass might focus strictly at the policy level. A second pass would concentrate on a functional level to add necessary details to clarify the policy that is then revised. Having policies in place first provides context for integration of plan components, which is especially important for regional preparedness.

Role of the State: Just as regional preparedness looks inward to coordinating the role of constituent LHDs, a regional preparedness approach should also look outward and consider the role of the state public health agency, and that role should be documented in the regional plan. Effective regional preparedness might lessen LHD dependence on the state for some response capacity due to the capacity gained in pooling resources across jurisdictions. However, the tradeoff should be in the discovery of a more effective division of responsibility between the state and the region; this can occur only if the state public health agency is aware of changes that result from regional preparedness planning. State resources formally directed towards creating a local capacity could be redirected to either other areas of the state or to functions that might be exclusively the state health department's responsibility (e.g., laboratory capacity).

State representatives should participate in regional plan development or at least review, if not formally acknowledge, the state's role in the plan. Beyond response capacity, a state may already have an emergency preparedness planning process and requirements for local preparedness plans. The regional plan should take these into account and ideally ensure consistency or provide the rationale and detailed description of deviations for state expectations.

The timing of involving state public health agency representatives in regional planning will likely vary. While early involvement is probably most effective and preferable, for some states, the politics of state/local relations or the complexity of working out the relationships among LHDs to function as a region may suggest bringing the state in at a later time, after a locally driven concept of regional preparedness has taken some shape.

4.2 Using Assessment Tools

Regional approaches to preparedness, while conceptually similar, may be operationally very different from single LHD approaches. LHDs considering a regional approach should systematically decide (a) whether a regional approach is appropriate; and (b) how to achieve regional preparedness capacity in working across multiple jurisdictions.

LHDs have usually approached agency preparedness by following a planning template developed by other LHDs, NACCHO, or national emergency preparedness organizations (e.g., FEMA). While tackling regional preparedness the same way may be tempting, the need to step back and fully consider the overall approach to preparedness will mean that existing templates, at this stage, will have limited value. Regional templates for preparedness planning will likely be developed as best practices emerge, but because of the unique challenges that regional preparedness planning present, conceptualizing the overall approach to preparedness that is most suitable for a region is necessary before the functional elements can be planned.

Regional preparedness can be complex as multiple functions are examined across multiple agencies. One purpose of the assessment tool is to reduce this complexity by capturing relevant information in a highly organized format. The assessment tool was developed to structure that initial conceptualization process and reduce complexity such that a consensus can emerge about regional preparedness. The tool can be used to clarify and focus thinking about regional preparedness, to determine how criteria will be applied, and to specify evidence that will be provided. The tool is not intended to be approached mechanically and does not provide answers but is instead intended to organize thinking in a systematic way. Thus, there is no one best way to apply the assessment tool, and several useful points arise from the experience of the four regional sites:

1. In assessing individual agency or jurisdiction capacities, consider both the capacity and how it is locally organized, as that organization may have a bearing on the capacity's availability for regional application. For example, a communication system that is controlled by a LHD may be more readily adapted for and, therefore, contribute to regional use than a local communication system that is operated by the LHD's parent government and for which the LHD is only one user.
2. The purpose of the assessment process is not to see how each LHD would meet the PPHR criteria, but to understand how individual LHD capacity could contribute to regional capacity, and how that might be organized (e.g., by pooling (centralizing) resources, by establishing a surge capacity through mutual aid agreements, or by extending the capacity of a very large LHD to the region).
3. The three collaboration types can provide a provisional vision of regional preparedness that can be operationalized through application of the assessment tool. The tool can be applied differently as the approach to preparedness and local circumstances suggest. Regional preparedness can be approached from different directions using the assessment tool.
4. If that vision is a centralized approach to regional preparedness, then the assessment results can demonstrate how local assets fit into that approach. Since the centralized approach starts with the assumption that individual LHDs have limited preparedness capacities, the assessment may not need to delve into individual LHD capacity but focus only on what assets each locality can contribute to the centralized whole.

5. Applying the assessment tool in a region with many small LHDs can become cumbersome if each were to do its own full assessment. In this case, the assessment tool can serve as a checklist to identify those resources or capacities that an LHD can contribute to the region, becoming the basis for a resource inventory. Using a common assessment tool makes it easier to identify in a uniform way what resources are available within the region and what gaps exist.
6. If the vision for regional preparedness is based on the substantial capacities of individual LHDs, then the assessment should document those capacities and focus on how they would be coordinated or standardized to achieve regional preparedness. If an individual LHD capacity assessment has been completed at some point during prior individual LHD plan development, repeating the assessment may not be necessary, and the tool can be used to capture existing assessment information in a uniform way so that the regional implications for preparedness can be seen.
7. For those cases where a vision of regional preparedness starts out very murky, the assessment tool can be used in an iterative fashion to determine the regional assets, existing LHD preparedness capabilities, and the implications for achieving regional preparedness. Having a vision helps to focus the work, but that vision needs to be loose enough to evolve as information from the assessment suggests different possibilities.
8. Using the tool is more iterative than linear. A first pass at a high level can provide a sense of the whole, the overall approach to regional preparedness, and the process of how decisions get made and different views resolved. A second pass can consider criteria, underlying functions, and the staging over time of preparedness functions and plan elements.
9. The assessment tool can be completed in several different ways. Each LHD in the region can complete the tool individually with the results consolidated and considered. A planning committee can jointly complete the tool at a single session or over a series of meetings. Alternatively, the committee can subdivide into teams, each considering parts of the tool or a subset of LHDs in the region. The approach taken is not as important as having a systematic process to collect information that should be considered in regional preparedness planning.
10. Completing the assessment tool should be viewed as a worksheet to capture information in an organized form as part of preparedness planning and not as an end in itself. It does not need to be completed in its entirety; complete only what is needed. It can be revised, or local assessment or resource inventory tools can be substituted.
11. The assessment tool can be used as a heuristic device to consider fully the implications of regional preparedness criteria and can be especially useful for items with multiple elements. For these, the assessment tool will permit each element to be examined to ensure that it receives sufficient attention. However, the assessment results should be aggregated by criteria to avoid fragmenting elements or considering them out of a broader, more meaningful context.

Examples of how the assessment tool was used to assess individual LHD capacity and conceptualize regional preparedness is presented in Figures 2 and 3 below.

Figure 2: REPORTED INDIVIDUAL HEALTH DEPARTMENT PREPAREDNESS

	LPHA1	LPHA2	LPHA3	LPHA4	LPHA5	LPHA6
GOAL 1: PREPAREDNESS PLANNING						
PPHR Measure 1: All-Hazards Response Plan						
A. Plan Update	Partial	Partial	Partial	Yes	Yes	Yes
B-1. Authority Signatures & Acknowledgements	Partial	Partial	Yes	No	Partial	Yes
B-2. Authority Signatures & Acknowledgements	Partial	Partial	Yes	No	No	Yes
C. Table of Contents	Partial	Partial	Partial	Yes	Yes	Yes
D. Purpose/Introductory Material	Partial	Partial	Yes	Yes	Yes	Yes
E-1. Situation & Assumptions: Description of Situations	Partial	Partial	Yes	Partial	Partial	Yes
E-2. Situation & Assumptions: Surge Capacity	Partial	Partial	Partial	Partial	Partial	Yes

Figure 3: LEVEL OF REPORTED REGIONAL SIGNIFIGANCE

	LPHA1	LPHA2	LPHA3	LPHA4	LPHA5	LPHA6
GOAL 1: PREPAREDNESS PLANNING						
PPHR Measure 1: All-Hazards Response Plan						
A. Plan Update	Standardize	Standardize	Coordinate	Coordinate	Coordinate	N/A
B-1. Authority Signatures & Acknowledgements	Standardize	Coordinate	Coordinate	N/A	Standardize	N/A
B-2. Authority Signatures & Acknowledgements	Standardize	Coordinate	Coordinate	N/A	Standardize	N/A
C. Table of Contents	Standardize	Standardize	Coordinate	Coordinate	Coordinate	N/A
D. Purpose/Introductory Material	Standardize	Coordinate	Coordinate	Coordinate	Standardize	N/A
E-1. Situation & Assumptions: Description of Situations	Standardize	Regional Cap.	Coordinate	Coordinate	Coordinate	Coordinate
E-2. Situation & Assumptions: Surge Capacity	Standardize	Regional Cap.	Coordinate	Coordinate	Coordinate	Coordinate

4.3 The Preparedness Plan

Content and Organization: While the PPHR regional criteria specify content expectations, they are not intended to specify a particular format or organization. It should be possible to use several variations of plan format and table of contents, including those required by state public health agencies, and still meet the criteria.

The format of the criteria and assessment tool elements is arrayed in a way intended to be useful for considering regional preparedness and structuring thinking, and the format is consistent with how elements of preparedness are presented in nationally recommended guidelines (SLG-101). This arrangement need not dictate a preparedness plan format, so it is not necessary to reformat a local response plan (if these plans are part of the regional response) to follow the order of elements in the regional criteria or assessment tools unless a region finds that useful. It should be useful for individual response plans within a region to be highly consistent; however, the final decision of a regional (or local) plan format will be made in the region or perhaps by the state health agency.

If a regional plan format is very different than the layout of the criteria or assessment tool, then including a cross-reference table showing where criteria are met within the plan will aid reviewers. Such a table might also be useful in cases where individual LHD plan formats are very different from each other or from the regional plan to help regional participants understand how the plans relate to each other and where common elements can be found.

How a plan is used will depend on the approach to regional preparedness. Where preparedness is centralized, the regional plan plays essentially the same role as an individual LHD response plan and would be structured the same way. Where preparedness is achieved through coordination, having critical information in a stand-alone regional plan may require that LHDs consult two plans during an emergency, and keeping them in sync can become a burden. One alternative, consistent with the approach that regional coordination is created through individual LHD preparedness, is for each LHD in the region to incorporate regional implications for emergency response in its individual response plan. This approach is also consistent with the role of policy in regional planning, as the regional plan becomes the policy guidance that is carried out in the local preparedness plans. Ideally, a regional plan would not be needed if each LHD incorporated regional considerations in its plans.

The regional plan serves to describe the regional concept, identify the functions that are to be approached regionally and the policies that guide that approach, and specify the means of coordination across jurisdiction or standards adopted and the mechanisms of assuring compliance with the policies. Regional response plans must be viewed as working documents that are developed over time with experience and, therefore, must be continually updated and revised. Regional response plans are not “how to” manuals that once completed can be put on the shelf to be referred to only during an emergency. Regional plans can quickly become stale unless regularly updated to reflect new thinking in the regional approach or changes in the individual constituent LHD capacity that has a significant bearing on a policy or function in the regional plan.

Regional plans should not be looked at as larger versions of individual LHD plans, unless a region plans to centralize regional capacity into a single region-wide organization that would function much like a large LHD for preparedness purposes. Where a regional site creates regional capacity through coordinating or standardizing the functions of individual LHDs, the plan will not direct the action of individual LHDs but describe how coordination or standardization of these functions would occur. For coordination, the policy governing coordination is described; for standardization, the adopted standard provided.

A regional plan is different: part policy document, part preparedness plan in a traditional sense, and part work plan recognizing that all elements needed for full preparedness may take several years. Recognizing the dynamic nature of regional preparedness planning, the plan is not the end in itself but rather the documentation of what has been agreed to, captured at one point in time and recognizing that regional preparedness will evolve to become more comprehensive and effective over time with ongoing planning and experience. Eisenhower's maxim about plans and planning quoted at the beginning of this paper holds true for preparedness planning.

What Goes Where—Some Issues of Detail, Scope, and Placement: While the regional sites raised a number of issues pertaining to the criteria and the preparedness plans, three merit further mention as they may reflect some key differences between regional and individual preparedness and a more general need for clarification of some elements.

Redundant and Fragmented Functions. Criteria in some areas appeared to be redundant, covering the same topics multiple times without a clear distinction, or to break up artificially functions that logically (or locally) go together. For example, the following three elements deal with the incident triggers and the initial response sequence:

- Concept of Operations - Preliminary circumstances
- Activation circumstances
- Event sequence following activation

For regional sites, especially those that achieve preparedness through coordination, the triggers and events may occur at different levels (regional and local) and may not all be reflected in the regional plan. Incident triggers would usually be local but also may be somewhat unique across LHDs with only a few common incidents that would always trigger a regional response (e.g., a single case of smallpox). The threshold for escalation to the regional level may vary across LHDs, depending on their capacities. The actions that would be triggered at the regional level would minimally involve communication across local levels with only a few incidents calling for more intensive regional actions. The entire sequence of triggers and responses at the local and regional levels would not be easily reflected in the regional plan because much of the incident detection and the response would be in individual LHD response plans. Reflecting this in a compact way, as asked for in parts of the criteria, might be difficult. One alternative might be to consolidate the three criteria into one.

A more general explanation for the seeming fragmentation and duplication is that these criteria (as in most preparedness planning templates) implicitly reflect three perspectives for considering preparedness:

- The incident or hazard faced;
- The functions required in a response; and
- The organizations involved.

It is necessary to consider preparedness from all three perspectives in addition to the multiple levels of detail that are found in most emergency preparedness planning templates. One section of the plan may deal more broadly with responsibility for a variety of functions while another section deals at a more detailed level with what is done by a single agency.

Regional Concept of Operations. The Concept of Operations in itself is both critical to a regional response and very different than that in an individual LHD preparedness plan. In a regional plan, the Concept of Operations may be an extension of the Purpose/Introduction section that provides additional detail about how LHDs or the regional entity would respond to an emergency affecting multiple jurisdictions. The regional Concept of Operations needs to have a regional, multi-jurisdictional focus beyond how individual LHDs would respond to an incident that affected only their jurisdictions. For individual LHDs the important question is what will each LHD do differently as part of the regional response? The answer must be consistent with the overall regional approach to preparedness. Clearly specifying the policies under which functions are carried out across jurisdictions becomes an essential part of the regional plan.

Incident command, an essential part of the Concept of Operations, deals with how resources and assets will be coordinated during an emergency. Incident Command System (ICS) does that physically by bringing assets together at one site and putting them under a single commander. Unlike in an individual LHD emergency response plan, it is not necessary to specify a regional command structure unless one will actually be deployed in the region. As noted below, the unified command concept is more relevant for regional preparedness.

Preparedness Response Functions. While all ESF functions should be considered in a regional plan, not all functions may have the same relevance for a regional response, especially if that response involves the coordination of individual LHD functions. Where functions are addressed over time, they should be prioritized so that the most relevant functions are addressed first. The prioritization should reflect the region's approach to preparedness and the situations and assumptions (e.g., if a region is in a single media market, then communication with the media would likely be a priority).

4.4 Adapting Sources of Guidance

Two sources of guidance for preparedness planning frequently referred to are FEMA's *Guide for All-Hazard Emergency Operations Planning*, known as SLG-101, and the more recent Office of Homeland Security's *National Incident Management System*.

SLG-101 is often viewed as a template for LHD preparedness planning, and the document does provide guidance for both the content and format of emergency operations plans for state and local jurisdictions. While it neither focuses on public health nor is specifically intended for multi-jurisdictional use, it does make recommendations that are broadly relevant to public health and regional settings beyond content and format purposes. These include the following:

1. Plan content and format are driven less by predetermined templates and more by the specific responsibilities of the jurisdiction and the utility to audience of the emergency preparedness plans. Federal, state, and local jurisdictions each have different responsibilities for emergency preparedness that will be reflected in their plans, and this may also be the case for regional plans.
2. Several types of emergency preparedness management plans get blended in the basic emergency operations plan. The emergency operations plan (EOP) is the "centerpiece" of emergency preparedness and the level of detail in that plan needs to stay at a relatively high level and not repeat what is contained in other plans nor drop down into the operational procedures level. The key criterion for content is pragmatism. What does the audience of the plan need to know?

3. Do not reinvent the wheel. Plans should be based upon and incorporate emergency preparedness plans that already exist for the jurisdiction(s).
4. The audiences of the basic plan are the chief executive officials and agency heads of the jurisdictions, so keeping the focus at the policy level is appropriate and putting policies into the plan is recommended.
5. While a functional format is presented, it is explicitly recognized that no one format or plan organizational scheme is best. The relevant functions included and number of functional annexes will vary across jurisdictions. Meeting needs of users is the test of what format is best.
6. Plans are living documents and should be continually updated and revised. Table-top exercises are useful not only to evaluate preparedness but to validate preparedness plans and provide a basis for revision.
7. One regional implication from SLG-101 is what functions to include in the regional plan. While all ESF functions should be considered, all functions may not have the same importance for a regional response, especially if that response involves the coordination of individual LHD functions. Just as SLG-101 presents a different set of federal and state/local functions, regional functions too may differ. Likewise, even if all state/local functions are deemed relevant, it may not be feasible to address them all in the first iteration of the regional plan. As a living document, plan updates can layer in additional functions. Where functions are addressed over time, they should be prioritized so that the most relevant functions are addressed first. The prioritization should reflect the region's overall approach to preparedness and its situations and assumptions (e.g., if a region is in one media market, then communication with the media might be a priority).

NIMS provides a comprehensive and objective framework in which to ground the experience of regional emergency preparedness. NIMS is valuable for this purpose in the following ways:

- It is a national framework that has all three elements of emergency preparedness that are the focus of PPHR: planning, training, and exercises;
- It specifically recognizes the need for cross-jurisdictional approaches to preparedness;
- It is mandated for use by federal agencies and others that receive federal funds, including most recently state and local health departments that received CDC-administered bioterrorism funds;
- It takes a systems approach that combines elements of preparedness in a modular fashion across agencies and jurisdictions; and
- It balances standards and flexibility, recognizing the uniqueness of each jurisdiction, but recognizes the need for a standardized approach to preparedness across jurisdictions.

NIMS is particularly useful to regional sites for guidance in two areas where it is most fully developed—command and management and preparedness planning—two of the six NIMS components.

For establishing effective incident command in working across jurisdictions, NIMS expands ICS to emphasize the coordination of multiple jurisdictions. NIMS starts with the premise that most incidents are managed locally. For incidents involving more than one jurisdiction, ICS provides a framework for coordination as opposed to actually establishing a single command and management structure in the region as if it functioned as single jurisdiction. NIMS suggests that if all jurisdictions use ICS, then that becomes the basis of coordinating across jurisdictions; all

would use a common terminology and a modular scalable organizational structure. As an alternative to a regional ICS, NIMS proposes expanding local ICS using the modular organization and multiple local ICS organizations under a Unified Command approach that “does not affect individual agency authority.” NIMS also introduces multi-agency coordination systems that support ICS, which is relevant to regional preparedness because LHDs in a region may support incident management in the affected jurisdiction and not themselves be directly involved.

NIMS makes the point that ICS as a concept is flexible. For regions, a multi-agency entity (e.g., a policy committee) could be established for strategic coordination across agencies or jurisdictions. No specific organizational structure is recommended beyond the advice to tailor organizational structure to local circumstances.

NIMS advice for regional preparedness planning goes beyond that provided in SLG-101 for developing plans and focuses more on the context and purpose for which plans are developed. Like SLG-101, NIMS notes that plans occur in several layers and on multiple levels. Consistent with the coordination approach to regional preparedness, NIMS places the responsibility for preparedness planning with individual jurisdictions, each of which develops an EOP. For multiple jurisdictions, the focus is on coordination, with the major objective being to achieve interoperability across functional, agency, and jurisdictional lines. To do this, NIMS suggests establishing “preparedness organizations,” which can range from informal committees to formal standing organizations within a region.

4.5 Workforce Development Planning

One issue involved in regional preparedness is to determine who comprises the workforce. At the simplest level, the workforce is those persons called upon to respond according to the regional plan. Regardless of how regional preparedness is defined (coordinated or centralized), regional staff may still be the staff of each LHD participating in a regional response. Thus, approaches to regional workforce preparedness may be the same as individual LHD approaches with the added ingredients of coordination and sharing of training resources.

Regional workforce preparedness may provide a level of flexibility and redundancy in training that is not available to single LHDs, because within the region there may be more staff to call upon to respond. This may serve to reduce the number of single LHD staffs that need more than core competency training and permit more specialized training under the assumption that highly specialized skills (e.g., responding to nuclear accidents) might be shared across jurisdictions.

Regional approaches to training lends itself well to achieving some standardization of skills, promoting the adoption of best practices, and may yield economies of scale and efficiencies as administrative costs and training infrastructure can be shared.

4.6 Exercises

As with regional preparedness plans, regional exercises can take on different dimensions than those conducted for single LHDs. They can test the policy framework for regional preparedness in addition to testing functions that are the most common focus of single jurisdiction exercises and should also emphasize validation of the regional approach along with evaluation of simulated plan implementation.

Working at the policy level in a regional plan provides an opportunity to test broadly the central assumptions underlying regional preparedness beyond a narrowly focused scenario of responding to a single incident. While an exercise is more commonly focused at the action or procedure level, a policy focus examines those policies behind the actions that would be carried out in response to a specific incident. Focusing at a policy level allows consideration of whether the policies that would direct a regional response are in place and makes it possible for an exercise to be generalized beyond responding to the specific incident portrayed in the exercise scenario. Tests of policy effectiveness for an exercise ask the following questions:

- For the action considered, is there a policy in place?
- Is the policy recognized as such by those who are to use it?
- Does the policy work in directing action either at the regional or individual LHD level?

Table-top exercises are especially useful for testing and clarifying the conceptualization of the regional approach, as they present a different lens through which regional preparedness can be viewed. Exercises approach preparedness from an incident perspective, rather than from an organizational or functional perspective, both of which are emphasized during plan development. This adds a level of detail and realism to regional preparedness beyond the more general situations summarized in the plan. Table-top exercises work at the organizational systems level rather than at the individual actions level, forcing attention on the systems that have been developed in a region to implement preparedness policies. This approach focuses on the “why” behind individual and agency actions rather than the “what,” which are the actions themselves.

This approach is particularly useful for regions that have approached preparedness as the coordination of larger, independent LHDs. Such regions may be inclined to focus on the actions that each LHD would take to respond to the incident and in doing so realize that those actions may vary greatly. Focusing on the policy level forces these agencies to identify and consider the effectiveness of regional policies that coordinate LHD actions and to discover what actions need to be standardized and how to achieve that uniformity. Exercises help clarify what takes place regionally versus what takes place locally. These activities may make clear that the actions in a regional response are coordination and communication and not the usual direct response measures that the region’s constituent LHDs will carry out.

Validation of the regional approach is a formative type of evaluation necessary for further plan development and is important for regional planning, which may start out more provisional and tentative. The evaluative or testing aspect of exercises for regional sites may be more to test the approach or concept of regional preparedness rather than the response actions since the actions will largely take place at the individual LHD level.

An added element of complexity in regional approaches to preparedness is organizing the division of responsibilities between regional and local actions. The majority of regional arrangements will feature some division of responsibilities between the region and local constituents. With the exception of those responses that utilize centralized actions, the assessment tool provided preliminary insight into this division, which was then specified in the regional plan. A more comprehensive understanding can be obtained when an exercise scenario confronts this initial conceptualization and forces participants to think more clearly about the response and the policies that coordinate regional action.

Such a focus might bring to light some of the organizational politics or differences in understanding regarding the nature of the regional approach that might get glossed over during the planning phase. During the exercise, agencies are confronted with not only regional preparedness and coordination as a concept but with the concrete reality of responding to a specific incident scenario. For example, while the plan may call for highly coordinated communications among the media, providers, and public, how that would be accomplished during a specific incident may expose barriers caused by an individual jurisdiction's practices in dealing with the media, different relationships with the medical community, or the need to maintain organizational identity in communicating with the public. Likewise, policies and measures in the preparedness plan for adopting a standardized approach to data collection, case finding, and environmental inspections may fall short of yielding the desired uniformity when the focus shifts to how those policies will be implemented in response to a specific incident.

In a related way, the role of the state health agency in a regional response is likely to surface more clearly and may prompt debate over the adequacy of the role in relation to the expectations of regional participants and the state agency. Issues of authority between the state agency and the region, once the state becomes involved in an incident, may need to be resolved. Other issues regarding coordination of functions between the state and the region for such shared functions as media relations and control/reporting of data may need additional attention.

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NATIONAL
ASSOCIATION OF
COUNTY & CITY
HEALTH OFFICIALS

**1100 17th Street, NW, Second Floor
Washington, DC 20036
Phone: (202) 783-5550
Fax: (202) 783-1583
www.naccho.org**