EXECUTIVE SUMMARY
At a Crossroads: North Carolina Public Health Preparedness 2009

August 2009

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Introduction

In response to the events of September 11, 2001 and the subsequent anthrax attacks, considerable infrastructure was developed at the federal, state, and local levels to support public health emergency response in the United States. During this time, public health agencies strengthened existing capacity in epidemiology and surveillance and invested in new systems, programs, and human resources, with the intent that they could more effectively respond to bioterrorist attacks and other public health emergencies. Eight years later, public health preparedness finds itself at a crossroads. Recent evaluations of the field have found that significant progress has been made towards building a comprehensive public health preparedness and response system, but the system contains critical gaps. Moreover, the infrastructure now in place is vulnerable because of a distressed economy and budget reductions at the federal, state, and local levels.

Public health preparedness and response in North Carolina has not been immune to these larger trends and forces. While the NC system is generally strong and has recently received national recognition for its achievements, the changing fiscal environment has had an impact. Budget reductions at all levels of government have limited travel and training. Some local health departments are struggling to maintain the staffing levels required for an adequate preparedness program. At the same time, the preparedness-related deliverables expected of local health departments have increased. This stress is mirrored at other levels of the state preparedness system. The NC Division of Public Health (NC DPH) is experiencing cuts in its own budgets and staffing and concerns have been raised about the effectiveness and relevance of the Public Health Regional Surveillance Teams (PHRSTs). These pockets of discord have been compounded by less-than-perfect communication between the various local, regional, and agencies involved in public health preparedness.

These growing pains are occurring at the same time that the field of public health preparedness (PHP) is moving from the mode of building new infrastructure to maintenance and sustainability. As this shift occurs, it brings up questions about what a statewide PH preparedness system should accomplish, what capacities and services should exist in the system, at what level(s) of the system these capacities should be situated, and how many resources should be devoted to preparedness at each level.

Given these concerns about North Carolina’s current PHP system, as well as open questions about what it should look in the future, the North Carolina Division of Public Health (NC DPH), and the NC Association of Local Health Directors (NCALHD) contracted with Core Path Solutions, LLC to carry out an independent assessment. This assessment was guided by the following objectives:

- Review and assess the entire NC public health preparedness system in light of reduced funding and new expectations, in order to help create a shared understanding of how well the system currently functions and how it should be configured as resources become more scarce;
- Identify the critical elements of a “strong” system, so that any formal assessment of the system that might be conducted in the future will be focused on the most relevant capabilities;
- Identify organizational and operational challenges, and propose potential changes that would make the NC PH preparedness system more viable;
• Provide data that will be useful to NC DPH in carrying out strategic planning, as well as shorter term decision making;
• Compile a list of priorities and requests for technical support from the local health departments; and
• Elicit the views and recommendations of stakeholders who are not directly involved in the planning process, especially critics of the system, and build trust among stakeholders.

With direction from a planning committee representing NC DPH, local health departments (LHDs), and Public Health Regional Surveillance Teams (PHRSTs), Core Path designed a study that would elicit opinions, perceptions, and experiences from a sample of stakeholders representing all three levels of the statewide system. Altogether, the study involved interviews with 40 individuals: five leaders from NC DPH leaders, a representative from each of the 7 PHRSTs (a Physician/Epidemiologist, a Nurse/Nurse Epidemiologist, or an Industrial Hygienist/Environmental Epidemiologist), a PHRST pharmacist that covers multiple regions, 15 local Health Directors, and 12 local health department Preparedness Coordinators (PCs). The Health Directors and PCs represent 27 distinct local health departments. The sampling procedure was designed to ensure that the 27 selected LHDs would be representative of the 85 LHDs that exist across the state (in terms of region, size of the county, and individual-county LHDs vs. multi-county health districts).

The interviews with LHD representatives and PHRST representatives were conducted by telephone, while those involving the five leaders within DPH were conducted in person. In addition, a focus group involving six program personnel from the Office of Public Health Preparedness and Response (PHP&R) was held in Raleigh. All interviews and the focus group were conducted in February and early March of 2009, prior to the identification of the H1N1 influenza virus and activation of the Strategic National Stockpile (SNS) to distribute medications and supplies to address that threat.

Background on the NC PH Preparedness System
The NC PH preparedness and response system was intended to function as a coordinated network of public health agencies, with key resources, personnel, and capabilities embedded at the state, regional, and local levels. PH preparedness was initiated in 2001, when the North Carolina Division of Public Health (NCDPH) was awarded seed money from the State “Rainy Day” fund for bioterrorism preparedness. Additional federal grant money from The Centers for Disease Control and Prevention (CDC) allowed NCDPH to expand the program. In 2002, an office dedicated to public health preparedness was opened within the Epidemiology Section of NCDPH. This office is now known as the Office of Public Health Preparedness and Response or (PHP&R).

The NC PH preparedness system intentionally distributes responsibility for preparedness (planning, detection, training, exercises) and response across the state, regional and local levels. Each layer contributes personnel, knowledge, and capacity in its own distinct manner so that there is a solid foundation for public health preparedness and response throughout the state. Together, the three levels form an integrated system of public health preparedness, which as a whole should “be able to anticipate, prevent, detect, and respond to public health threats.” Altogether there are 93 distinct entities (NC DPH, 85 local health departments, and 7 regional
PHRSTs), which form an interdependent system. Since PH incidents occur at the local level, it is the role of local health departments (LHDs) to provide immediate ground-level response to public health threats. To fulfill this responsibility they develop relationships with local agencies; educate PH staff, community partners, and the public; and conduct exercises (to train with their response partners and help bridge the gap from preparedness to response). NC DPH gathers, analyzes, and interprets data, which can be passed on to the counties to assist with local decision-making. NC DPH also provides subject-matter expertise, not only to LHDs, but also to PHRSTs and state response partners. PHRSTs support both DPH and LHDs with incident response and assist LHDs with training, consultations, and technical assistance.

Overall Assessment of the NC PH Preparedness System

The interviews with DPH leaders and the focus group with PHP&R staff asked a number of questions designed to gain an overall view of the strengths and weaknesses of the North Carolina public health preparedness system. The following strengths were identified:

- The public health preparedness system builds directly on the assets associated with North Carolina’s overall system of public health. DPH and local health departments have long histories with communicable disease, epidemiology, laboratory analysis, and environmental health investigations.
- New federal dollars have allowed for new positions, additional training, upgraded technologies, and new systems and equipment for communications. Some of the more important additions include:
  - Expansion of capacity at the NC State Laboratory of Public Health (SLPH) and the development of three Regional Public Health Laboratories;
  - Implementation of key communication, IT, and data systems (e.g., NC Health Alert Network (HAN), North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT), and the NC Electronic Disease Surveillance System (NC EDSS);
  - Funding of preparedness planning and response personnel, activities, and resources in the 85 local health departments in the state; and
  - Creation of the 7 Public Health Regional Surveillance Teams (PHRSTs).
- Allocating responsibility for preparedness across three levels (local, regional, statewide) takes advantage of the capacity that already exist at each level, while also promoting a more equitable distribution of resources across the state.
- Across all three levels, the system is populated by professionals who are dedicated and engaged in the work, and have stepped into important leadership roles. Their extensive experience with public health emergencies (and the public health components of natural disasters), plus their strong culture of working together contributes to the effectiveness of the NC system.

Although the NC preparedness system has a number of important strengths, a variety of weaknesses and limitations were also identified by NC DPH leaders and PHP&R staff. These include:

- The system is distributed across a large, geographically diverse state. There is tremendous variation between the 85 county and district health departments, not only in their demographics and in land mass, but also in the level of resources (personnel and funding) available to these health departments.
- Especially in smaller counties, limited funding and/or personnel can inhibit the local health department’s ability to support a full-time Preparedness Coordinator (PC) and...
carry out the range of functions associated with public health preparedness. PCs that
devote only a portion of their time to preparedness are in the words of one DPH
staffer, “so overwhelmed by day to day needs and activities that they are set up to fail.”

- Grant guidelines from CDC require each local health department to adhere to the same
deliverables and contract requirements, even though there are considerable differences
in county (or district) populations, vulnerability and risk, and relative wealth.
- In North Carolina (unlike many other states), control over public health policy and
practice resides in large part at the county level. Policy and rule making authority are
accorded to a local Board of Health. The local Health Director is responsible for
administering the health department’s programs and for enforcing the rules adopted by
the Board. County Commissioners appoint members to the Board of Health and
approve the budget of the local health department. This high degree of local autonomy
can pose problems with regard to preparedness. During an emergency, it takes longer
to coordinate multiple agencies across the state. The numerous layers of hierarchy can
be a roadblock that slows down the response. The division of authority and competing
priorities inherent in the system can also lead to conflict between locals and the state.
- Local health departments vary in terms of the degree to which the local Health Director,
local Board of Health, and local elected officials are committed to preparedness. In
some counties, public health preparedness has lower priority than it does among those
who are responsible for ensuring that there is a strong statewide preparedness system.

Capacity Throughout the NC Public Health Preparedness System
In order to assess the three levels of the NC PHP system, it was necessary to have a set of
measures that capture the constructs that one would expect to see in a highly functioning
preparedness system. The planning committee convened to assist with the design of the
assessment identified 16 distinct “capacities” that they believed were crucial to be in place
throughout the system, covering topics such as epidemiology, planning and exercises,
partnerships, communication, training, and knowledgeable staff. According to this committee,
each level of the system (DPH, local health departments, and PHRSTs) should have each capacity
in place to at least some degree.

The 40 individuals interviewed in the assessment generally agreed that these capacities are
important at each level. When asked whether each capacity was “very important”, “moderately
important”, or “not that important” for their particular agency, the predominant response was
“very important” (see Table 1). This was true regardless of level for the following three
capacities:
- Epidemiology and surveillance
- Contacting and communicating with response partners
- Having personnel trained and knowledgeable in preparedness

The five DPH leaders generally agreed that all 16 capacities were important for their agency
(with the exception of recruiting and managing volunteers). At the LHD level, the majority of
Health Directors and PCs regarded all capacities as important with the exception of lab testing
(or access to lab testing). The PHRST representatives were somewhat less likely to endorse
these capacities as “very important” for their own agency, especially the dimensions of
recruiting and managing volunteers, and conducting training for community partners.
Table 1. Importance of Various Preparedness Capacities

<table>
<thead>
<tr>
<th>Type of Capacity</th>
<th>Percent of Respondents Viewing Each Capacity as “Very Important” for their Level of the System</th>
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<tr>
<td></td>
<td>Very Important for DPH (as rated by 5 DPH leaders)</td>
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<tr>
<td>1. Epidemiology and surveillance</td>
<td>100% (5)</td>
</tr>
<tr>
<td>2. Regional laboratory testing (or access to testing) for bioterrorism and/or enhanced surveillance.</td>
<td>100%(5)</td>
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<td>3. Developing and updating plans</td>
<td>100% (5)</td>
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<td>4. Developing and conducting exercises</td>
<td>80% (4)</td>
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<tr>
<td>5. Building local partnerships</td>
<td>60% (3)</td>
</tr>
<tr>
<td>6. Building other partnerships</td>
<td>100% (5)</td>
</tr>
<tr>
<td>7. Contacting and communicating with response partners</td>
<td>80% (4)</td>
</tr>
<tr>
<td>8. Public information/risk communications</td>
<td>100% (5)</td>
</tr>
<tr>
<td>9. Receiving and distributing the Strategic National Stockpile</td>
<td>100% (5)</td>
</tr>
<tr>
<td>10. Mass prophylaxis/vaccination</td>
<td>80% (4)</td>
</tr>
<tr>
<td>11. Worker health and safety</td>
<td>60% (3)</td>
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<tr>
<td>12. Disease control: including the ability to manage isolation and quarantine</td>
<td>60% (3)</td>
</tr>
<tr>
<td>13. Recruiting and managing volunteers to support public health response (or having access to a partner agency that does this)</td>
<td>40% (2)</td>
</tr>
<tr>
<td>14. Having personnel trained and knowledgeable in preparedness</td>
<td>100% (5)</td>
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<tr>
<td>15. Conducting preparedness training for your health department staff</td>
<td>80% (4)</td>
</tr>
<tr>
<td>16. Conducting preparedness training for your community partners</td>
<td>60% (3)</td>
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</tbody>
</table>
In addition to asking about the importance of these 16 capacities, the assessment asked each respondent to rate his/her own agency’s level of capacity as either “very strong,” “moderately strong,” or “not that strong.” The following figure (Figure 1) shows the percentage of each respondents who indicated that their agency was “very strong” on each capacity.

Figure 1 indicates a number of significant patterns within the NC PH preparedness system.

- Agencies at all three levels believe that they are strong on at least some of the 16 capacities.
- On eight of the 16 capacities, at least 80% of the DPH leaders regard DPH as being “very strong.” Capacity was not rated nearly so high for PHRSTs and LHDs.
- PHRSTs were viewed as having high capacity on three of the dimensions where DPH did not view itself as quite so strong: developing and updating plans, planning and conducting exercises, and building local partnerships. Local health departments viewed themselves most strongly on building local partnerships, communicating with partners, and worker health and safety.
- At none of the three levels did respondents indicate that their agency had strong capacity in recruiting and managing volunteers.

In general, the results in Figure 1 suggest that all three levels of the system are crucial to system’s overall capacity. DPH, PHRSTs, and LHDs are strong on some dimensions and not so strong on others. Moreover, the specific areas of strength vary across the three levels. DPH would appear from these data to be the level with the greatest level of capacity (consistent with the fact that it is the agency with the greatest number of staff who focus solely on PH preparedness and response). However, its role in the system is complemented in important ways by PHRSTs and LHDs.
Key Findings on Preparedness within Local Health Departments (LHDs)
The role of LHDs is to coordinate PH preparedness and response activities at the local level (municipal, county, multi-county health district). Local preparedness and response includes tasks historically performed by the public health system, such as communicable disease, epidemiology, and worker safety, as well as other tasks that involve a wider network of response partners, including planning for public health emergencies (bioterrorism, pandemics, Strategic National Stockpile) preparedness training, and exercises. During the interview process, multiple local Health Directors and Preparedness Coordinators echoed the often-expressed sentiment of the response community “that all response is local”; indicating that when something does happen, they know will be on the front lines and charged with the leadership and operation of the local public health response.

In order to gauge how LHDs were doing with regard to local preparedness, local Health Directors and PCs were asked questions related to the staffing of their PH preparedness program and the importance of preparedness to the Health Director. They were also asked to rate their agency on the 16 areas of capacity identified in the previous section. Key findings are presented below.

Staffing Of The LHD PH Preparedness Program
- Local PH preparedness and response requires the attention and skill of multiple personnel within the LHD.
- Day-to-day responsibility for preparedness tasks typically falls to a Preparedness Coordinator (PC), who may be a full or part time LHD employee, a contractor, or a shared employee of two or more LHDs. The 27 LHDs interviewed for the assessment have a range of PC structures. The nine largest counties (over 100,000) were more likely to hire a full-time PC, whereas smaller counties (under 50,000) tended to rely on part-time PCs or contractor. The full range of staffing for the 27 LHDs included:
  - The PC is a full-time employee who works full-time on preparedness (9 LHDs)
  - The PC is a full-time employee of LHD, but works on preparedness only part-time (9 LHDs, including 2 local health districts)
  - The PC works full-time on preparedness, but is shared across multiple counties (4 LHDs)
  - Multiple employees of the LHD share responsibility for preparedness, but none of the employees works on preparedness full-time (2 LHDs)
  - Preparedness responsibilities are carried out by an external consultant hired by the LHD (2 LHDs)
  - Preparedness responsibilities are carried out by a part-time employee of the LHD (1 LHD)
- The primary responsibilities associated with the PC position included:
  - Developing, reviewing, and updating plans (24 respondents)
  - Conducting training and education for LHD staff and partners (19 respondents)
  - Cultivating partnerships and attending meetings with partners (19 respondents)
  - Planning and carrying out exercises (17 respondents)
- When the 15 Health Directors were asked how difficult it had been to recruit qualified people for the PC position, their responses were divided roughly evenly between “very” difficult (n=5), “moderately” difficult (n=4), and either “a little” or “not at all” difficult (n=6).
**Level Of Involvement Of The Local Health Director In Preparedness**

While the PC has primary day-to-day responsibility for preparedness, the Health Director also plays a crucial role. When asked about their *level of involvement*, most of the Health Directors interviewed (n=8) indicated that they were “moderately” involved. Only two indicated that they were “very involved.”

**Most Important Preparedness Roles For LHDs**

LHDs reported that one of their most important preparedness roles is to build and maintain relationships with local emergency management, hospitals, schools, and other community partners. These partner agencies play an integral role in PHP planning, and are often called upon to assist local health departments during a response.

- 20 of the 27 LHD representatives reported that expanded or improved partnerships are one of the most valuable functions that LHDs perform with regard to preparedness.
- Other key functions reported by this group included: exercises (n=12), training and education (n=9), and changing the attitude, awareness, or perception of public health preparedness among their partners and staff (n=9).

**Self-Ratings Of PH Preparedness Capacity Among LHDS**

As noted above, the interviews asked the PCs and Health Directors to rate their own LHD’s strength on each of 16 dimensions of *capacity* as either “very strong,” “moderately strong,” or “not that strong.”

- There were no significant differences between PCs and Health Directors in their assessments of each form of capacity.
- The dimensions where respondents most frequently viewed their agency as having high capacity are:
  - Building local partnerships
  - Contacting and communicating with response partners
  - Worker health and safety
- At the other end of spectrum is *managing and recruiting volunteers*, where over half the LHDs regard themselves as “not that strong.” The dimension with the second lowest level of self-rated capacity is *managing receipt and distribution of the SNS*.
- LHDs differ substantially from one another in their self-rating of level of capacity. On each of the 16 dimensions, some respondents rated their agency as “very strong” and others rated their agency as “not that strong.”
- Among the 27 LHDs included in the assessment, differences in self-rated capacity were detected as a function of county size. In particular, LHDs serving counties with more than 200,000 residents rated themselves as having higher capacity than did LHDs serving counties with less than 50,000 residents. These differences were most pronounced for *epidemiology and surveillance, lab testing, mass vaccination, disease control, public information*, and *receiving and managing the SNS*.
- Among the 18 LHDs serving counties with less than 100,000 residents, there was no clear difference in capacity as a function of structure of the PC position. Those LHDs with a full-time PC had roughly the same levels of capacity as did those LHDs with a part-time PC. This lack of effect should be balanced against the finding that LHDs serving large counties have higher capacity and are very likely to have a full-time PC.
There was some suggestive evidence that LHDs where the Health Director was “very involved” in the preparedness program had higher levels of self-rated capacity than did those where the Health Director was only “moderately” or “a little” involved.

**DPH Ratings of LHD PH Preparedness Capacity**

In order to corroborate the self-ratings from Health Directors and PCs, the assessment also asked the five DPH leaders to rate the level of capacity among local health departments. DPH Leaders were asked to indicate the proportion of LHDs with “sufficient” capacity on each dimension (either “vast majority,” “somewhat more than half,” “somewhat less than half,” or “only a few”).

- The DPH leaders agreed that LHDs are strong in **building local partnerships and contacting and communicating with response partners.** For each of these dimensions, four of the five leaders indicated that the “vast majority” of LHDs have sufficient capacity.
- On all but one dimension of capacity (**recruiting and managing volunteers**), at least three of the five DPH leaders indicated that either a majority or a vast majority of LHDs have “sufficient capacity,” a more optimistic view than emerged through LHD self-ratings.

**DPH Opinion As To Why Some LHDs Have More Capacity Than Others**

In the interviews with DPH leaders and the focus group with DPH staff, participants were asked to speculate as to why some LHDs have more preparedness capacity than others do. They hypothesized that capacity will be higher in those LHDs where the following conditions are true:

- The Health Director is committed to building a strong preparedness program and displays the required leadership;
- The Health Director has integrated preparedness into the everyday operations of the agency, as opposed to treating it as a separate set of responsibilities;
- The Preparedness Coordinator (PC) is a full-time employee who works on preparedness full-time;
- The PC has experience in planning and/or emergency response;
- The LHD has strong credibility and support throughout the larger community, especially from elected officials and organizations that serve as partners in preparedness; and
- The LHD is based in a larger county, which allows for a larger staff and greater funding.

**Contrasting Views Between DPH and LHDs on the Importance of PH Preparedness**

As part of the interviews and focus group, DPH leaders and PHP&R staff were asked to describe their **frustrations** in working with local health departments in the area of preparedness. Likewise, Health Directors and PCs reported on their frustrations working with DPH.

- The most prevalent issue was the relatively low priority that Health Directors and other local officials assign to preparedness. A number of respondents expressed this issue in terms of LHDs failing to recognize that preparedness is a “core function” of public health.
- Whereas DPH staff expressed frustration that LHDs assigned too low of a priority to preparedness, Health Directors and PCs were frustrated that DPH did not understand the local perspective. One LHD respondent stated that it was hard to integrate preparedness as a core PH activity when they had to keep meeting “excessive contract requirements” imposed by the state. Health Directors and PCs regarded the problem as primarily due to inadequate funding.
Strategic Issues for LHDs

The study team developed a set of strategic issues for each of the three levels of the system based on the full set of data compiled for the assessment. For local health departments, the following issues emerged as most pressing to address in the context of improving the preparedness system:

1) Public health preparedness is a complex function defined by many demanding tasks (e.g., planning, exercises, relationship-building, training, surveillance). The funds provided by state and federal sources allow for only minimal staffing. In most counties, policy makers are reluctant to provide supplemental funding for public health preparedness. As a result, preparedness capacity is only partially built. The capacity that is in place is vulnerable in the event that cuts occur in federal grants for PH preparedness.

2) The Preparedness Coordinator determines in large part the strength of a LHD’s preparedness program. However, most Health Directors report difficulty recruiting and retaining qualified PCs. Moreover, the PC position requires skills (especially planning skills) that are outside the skill set of the staff members that Health Directors typically turn to.

3) Building a strong preparedness program requires commitment and leadership on the part of the Health Director, but many Health Directors in North Carolina assign only secondary importance to preparedness.

4) To date, most LHDs have treated public health preparedness as a “special” function and in some cases even a distraction from the “real” work of public health. LHDs have found it difficult to integrate preparedness into their core operations, even though in theory this would expand the number of staff members who share responsibility for preparedness tasks, which in turn would increase buy-in, build capacity, and promote sustainability.

Key Findings for Public Health Regional Surveillance Teams (PHRSTs)

The seven Public Health Regional Surveillance Teams play a unique role within the decentralized NC PHP system. Each team is based within a host local health department and is responsible for enhancing preparedness and response throughout a multi-county region. The host counties for the PHRSTs are Buncombe, Mecklenburg, Guilford, Wake, Cumberland, Pitt, and New Hanover. PHRST regions vary in size and in the number of counties they are responsible for. The number of counties served by a PHRST ranges from 7 to 25.

PHRSTs were formed by NC DPH to build and supplement the capacity of local health departments and to assist with coordination among the various federal, state, regional and local response partners. They were also designed to be multidisciplinary teams, which could provide technical assistance and specialized consultations to the local health departments (and their response partners) in their region. Regional teams serving multiple health departments were considered a cost effective way to provide these specialized PH preparedness services and expertise, rather than trying to establish and maintain them within all 85 local health departments. In the beginning, it was intended that each PHRST would have a Physician/Epidemiologist, an Industrial Hygienist, a Nurse Consultant, and Administrative Specialist on staff. However, NC DPH allowed the flexibility for each team to develop a staffing structure that could best meet the needs of the host health department and the counties in their region, which has led to variation in positions and structure of the seven teams.
The eight PHRST representatives (one from each of the seven PHRSTs, plus one multi-region Pharmacist) were asked questions about their function, positions, and capacity. This section presents a summary of key findings from the PHRST interviews, as well as information provided by NCDPH and LHD respondents regarding the services provided by PHRSTs.

**Most Important Functions of PHRSTs**
- Six of the eight PHRST representatives pointed to the consultations and special expertise they provide to local health departments as their PHRST’s most important functions.
- When asked what work of the PHRSTs was most valuable to the preparedness system, the most common responses were: a) the ability to deploy and respond to disasters, b) helping the LHDs with disease investigations and outbreak, and c) building relationships with partners in their regions.

**Self-Ratings of Capacity Among PHRSTs**
The representatives from the seven PHRSTs were asked to rate their team as to its strength on each of the 16 dimensions of capacity that were identified as important by the planning committee. Their self-ratings of capacity are provided below. [In order to provide each PHRST with equal representation for this question, data from the multi-region pharmacist was not included (n=7).]
- The greatest level of self-assessed capacity occurs in the area of conducting preparedness training, both for LHD staff and community partners. For both forms of training, six of the seven PHRST representatives rate their team as “very strong.” Five PHRST representatives rated themselves as “very strong” on:
  - Developing and updating plans
  - Developing and conducting exercises
  - Access to lab testing.
- The PHRST sample rated their capacity as lowest for recruiting and managing volunteer, which was also the case with LHD self-ratings. None of the PHRST representatives rated their team as “very strong” in this area, and only two rated themselves as “moderately strong.” Other low-rated capacities were public information and risk communication and receiving and managing the SNS.

**DPH Ratings of PHRST Capacity**
- DPH leaders also provided an assessment of the capacity of PHRSTs. Their ratings generally fell along the same lines as the PHRSTs’ self-ratings, especially with regard to viewing PHRSTs as strong on planning and exercises, and not so strong on public information.
- The capacity data suggests that, at least in general terms, the seven PHRSTs have expertise and resources in areas where local health departments have not fully developed their own capacity (especially training, exercises, planning, lab testing, or access to lab testing, and disease control).

**LHD Use of PHRST Services**
Local health departments were asked a series of questions about their contact with the PHRSTs, use of services, and the specific positions they interact with. The analysis of data from the questions is summarized below. It provides some indication of whether the PHRSTs have
deployed their resources in ways that actually promote preparedness at the local and regional level.

- In terms of degree of interaction with the PHRSTs, 63% of the 27 LHDs in the assessment indicated that they worked with their PHRST “a great deal,” while 26% indicated “somewhat,” and 11% indicated “only a little.” The LHDs in Regions 4 and 6 were most likely to report interaction, while the LHDs in Region 7 reported the least.

- Health Directors and PCs were asked to report on the degree to which they used each of seven consultation services provided by PHRSTs, along with the value of those services. From most to least used, the services rank as follows:
  1. Administrative support: 31% use “often,” 38% “occasionally,” and 21% “rarely” or “never”
  2. Industrial hygienist/Environmental Health: 30% use “often,” 37% “occasionally,” and 33% “rarely” or “never”
  3. Physician/Medical Epidemiologist: 30% use “often, 26% “occasionally,” and 44% “rarely” or “never”
  4. Epidemiologist: 26% use “often,” 33% “occasionally,” and 41% “rarely” or “never”
  5. Nursing: 26% use “often,” 33% “occasionally,” and 41% “rarely” or “never”
  6. Pharmacist: 11% use “often,” 30% “occasionally,” and 59% “rarely” or “never”
  7. Veterinary: 0% use “often,” 4% “occasionally,” and 96% “rarely” or “never”

- Utilization of specific services varied somewhat across the seven PHRST regions. For example, the LHDs serving the largest counties (more than 200,000 residents) were less likely than other LHDs to draw on their PHRST for Epidemiologist consultation and Pharmacist consultation.

Value of PHRST Services to LHDs
- The PHRST services regarded as most valuable by Health Directors and PCs were:
  - Industrial hygienist/Environmental health
  - Epidemiologist
  - Physician/Medical epidemiologist
  For each of these three services, at least half of the LHDs that used the service rated the service as “very valuable.”

- The least valued services were Pharmacist consultation and Veterinary consultation.

- Health Directors and PCs’ ratings of usefulness varied considerably across the seven PHRST regions.

- The eight PHRST representatives who participated in the assessment also rated the degree to which their consultation services have been useful to LHDs. In general, their ratings were higher than those provided by Health Directors and PCs.

Ways That PHRSTs Have Been Valuable To LHDs

Health Directors and PCs were asked to identify specific ways in which PHRSTs had been valuable to their agency.

- The most frequently cited benefit (16 out of 27 LHDs) was providing training to LHD staff and community partners. The most frequently mentioned forms of training were respiratory protection (10 respondents) and epidemiology/surveillance (5 respondents).

- The other key ways in which PHRSTs have provided value to LHDs are:
  - Assisting the LHD in responding to disease outbreaks or other incidents (e.g., communicable diseases, food borne diseases, meth. labs, white powder incidents);
• Providing ongoing assistance and expertise to LHD staff;
• Conducting and/or participating in exercises; and
• Supporting the LHD with industrial hygiene services, mostly related to fit testing and negative pressure rooms.

**Frustrations in LHD-PHRST Interactions**

• While Health Directors and PCs generally appreciate the benefits that PHRSTs provide to LHDs, the relationships between PHRSTs and LHDs have at times been characterized by frustrations and competing expectations.
• Approximately half of the LHD representatives (13 out of 27) acknowledged frustrations working with their PHRST. The level of frustration reported by Health Directors and PCs varied considerably across the seven PHRST regions. The frustrations reported by Health Directors and PCs covered a range of issues that included comments such as:
  • The PHRST is non-responsive to LHD requests and/or unavailable to LHDs
  • Ineffective communication
  • Lack of clarity in the role the PHRST plays and/or the services they provide
  • Services are of poor quality or lack the needed skills or sophistication
  • PHRST does not provide the services that would be most useful to LHDs
  • PHRST gives preference in time and service to the host health department
  • PHRSTs put state interests over local needs
  • Problems with PHRSTs acting as liaisons between DPH and LHDs
  • Problems associated with staff turnover among team members
• All eight of the PHRST representatives reported frustrations working with LHDs in their region. From the standpoint of the PHRSTs, the key issues in dealing with local health departments are:
  • Many of the PCs are only part-time, which limits the PHRST’s ability to form connections, establish strong working relationships, and build capacity.
  • Some local Health Directors (and their Boards of Health) are not all that committed to public health preparedness, and thus are not in a position to take full advantage of the PHRSTs’ services.
• While most of the frustrations expressed by PHRSTs and LHDs with regard to each other refer to perceived deficiencies in the other party, there is one key area of overlap. Namely, both sides agree that there is lack of clarity as to what services PHRSTs are expected to provide to local health departments.

**DPH View of PHRSTs**

• The five DPH leaders interviewed in the assessment described various frustrations in working with PHRSTs. These frustrations largely involved:
  • issues of direction and control
  • a lack of consistency in what the seven teams provide to LHDs.
• The five DPH leaders described a number of ways in which they believed that PHRSTs have not met the expectations initially established for PHRSTs.
  • Some PHRSTs have weak or negative relationships with the LHDs within their region
  • Some PHRSTs have not established themselves essential to the counties in their region or to the overall public health system.
Rather than working to build the capacity of LHDs, some PHRSTs simply do the work themselves.

- Epi and surveillance capacity is generally not as strong as response capacity.
- Some PHRSTs are not as strong in planning as they need to be.
- The liaison role is difficult for PHRSTs to navigate.

In pointing to these unmet expectations, the DPH leaders assumed some of the responsibility. As one DPH leader commented, “I think it was a really good idea to have PHRSTs, but it was done too fast - and some of the early decisions have in hindsight, resulted in areas where PHRSTs do not now meet our expectations”.

An overarching issue raised by DPH leaders was the inconsistency across the seven teams in terms of the skills and interests of their personnel, as well as the services provided to the local health departments in their region. Because DPH did not establish firm guidance when the teams were first established, each PHRST has evolved differently in response to the culture of the host health department and the interest of the team leaders.

### Strategic Issues for PHRSTs

Taking into account these and other findings, the study team identified the following six strategic issues for PHRSTs:

1. As the PH preparedness and response system matures, PHRSTs are increasingly moving into a service-provider role. It is expected that they will not only assist with building the capacity of local health departments, but also support LHDs in areas like training, planning, exercises, and regional coordination. However, PHRSTs retain their original staffing model, which is more relevant for responding to short-duration incidents than it is to regular service delivery.

2. Although LHDs serving the smallest counties (less than 50,000 residents) generally had lower levels of preparedness capacity, these were not the heaviest users of PHRST services. There seem to be important obstacles in the use of PHRST services, especially for rural LHDs (e.g., distance, travel restrictions, large number of counties in some regions). In at least some regions, it is difficult for the PHRST to spend sufficient time in each county or meet the requests for hands-on attention requested by some LHDs.

3. As employees of a local health department, PHRSTs are recruited and hired by their host LHD, and are accountable to supervisors and the personnel policies of the county in which they are employed. There are no clear guidelines about how PHRSTs and their host health departments should be accountable to the other local health departments in their region. While all the PHRSTs reported that they have good working relationships with their counties, over half also said that they have regular duties to their host health department. These obligations could potentially lead to conflicts with other local health departments over regional service and response expectations.

4. PHRSTs also provide support and back-up to the state during incidents, exercises, and disaster response. LHDs and DPH each expect that PHRSTs should be available to serve their own needs. However, there are no clear protocols outlining priorities in how PHRSTs should allocate their time, nor is there a shared understanding of the role of PHRSTs.

5. In spite of the best intentions of host health departments and PHP&R, there is now significant variation between the seven PHRSTs in the scope and quality of their services, the areas of specialty they have developed, and the level of the “customer service” they provide to LHDs in their region.
6) Should preparedness funding continue to decrease across the system, the role of PHRSTs is anticipated to increase with regard to regional coordination of planning, exercises, and response as well as supervision of shared PCs. Unless the lack of consistency among teams is addressed, the problems that LHDs now have with PHRSTs will likely be magnified.

**Key Findings on NC Division of Public Health**

The NC Division of Public Health views its role in the NC PH preparedness and response as one of providing system-wide leadership, accountability, and technical assistance and expertise (for local health departments, PHRSTs, and other areas of state government). Day to day responsibility for these functions is primarily the responsibility of the Epidemiology Section, which includes the Office of Public Health Preparedness and Response (PHP&R), the Communicable Disease (CD) Branch, and the State Lab.

PHP&R is responsible for critical programs and services related to preparedness and response within DPH. These programs have a broad scope, covering statewide coordination of planning, exercises, and PH incident response. The Bioterrorism Coordinator oversees the Office and provides leadership, guidance, and direction, and program staff have responsibility for specific areas and services that include:

- State response plans including the Strategic National Stockpile (SNS)
- Telecommunications systems and technology (e.g.; radios, Web EOC, GETS Cards, HAN)
- Public Information and Communications (PIC)
- Exercises
- Grant management, fiscal oversight, and contract monitoring
- Providing assistance, consultation, and training to LHDs, PHRSTs and response partners
- Updating and distribution of critical contact lists (to LHDs, PHRSTs and other partners),
- Providing information and links to relevant trainings.

In addition to PHP&R, the Communicable Disease Branch provides services related to epidemiology and surveillance, disease reporting, and outbreak investigations. The State Laboratory of Public Health (SLPH) and the three regional PH labs provide sample testing for suspected bioterrorist events, enhanced surveillance, and disease outbreaks.

**Important Accomplishments of NC DPH**

When asked for their view as to what were DPH’s most important accomplishments in the area of preparedness, the five DPH leaders identified:

- Developing and/or expanding partnerships at the federal, state, regional, and local levels (4 respondents);
- New systems and technologies [e.g., Health Alert Network (HAN), North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT), Immunization Registry, NC Electronic Disease Surveillance System (NC EDSS)] (4 respondents);
- The improvements made to state lab which increased the capacity for testing various samples (3 respondents); and
- The integration of public health preparedness into other state-level offices dealing with emergency response (2 respondents).
DPH Self-ratings of Capacity
As with LHDs and PHRSTs, the five DPH leaders were also asked to provide self-ratings on the 16 capacity areas identified by the assessment planning committee.

- The DPH self-ratings of capacity yielded a generally positive picture for DPH. All five DPH leaders agreed that the Division is “very strong” in five of the dimensions: Epidemiology and surveillance, Lab testing, Building state and federal partnerships, and Managing receipt and distribution of the SNS.
- All five DPH leaders reported that it is “very important” for DPH to have strength on developing and updating plans, yet only one leader rated DPH as being “very strong” on this dimension. The other four rated DPH as “moderately strong.”
- Likewise for developing and conducting exercises, four of the DPH leaders reported that it is “very important” for DPH to have capacity on this dimension, but all five leaders rated the division’s capacity as only “moderately strong.”
- As was true for LHDs and PHRSTs, there was little perceived capacity within DPH on the dimension of recruiting and managing volunteers.

DPH Ratings of Services within PHP&R
- According to the five DPH leaders interviewed in the assessment, the most important services and programs offered through PHP&R are:
  - statewide planning (cited by 5 respondents),
  - exercise coordination (3 respondents),
  - response capability (3 respondents),
  - funding and grants management (3 respondents)
- When asked about DPH’s effectiveness on these services and programs, positive reviews were given for funding and grants management and exercise coordination, while more mixed reviews were provided for statewide planning and response capability.

LHD Interactions With Positions Within PHP&R
Health Directors and PCs were asked to identify the DPH staff members or positions with whom they interacted most frequently on preparedness-related issues, and to describe the most important services provided by these individuals. The following positions were identified most frequently by the 27 respondents:

- Planner/Evaluator (13 respondents) – provides exercise consultation and guidance on AARS, CAPS, HSEEP
- Bioterrorism Coordinator (11 respondents) – provides information and guidance and expertise from a leadership perspective
- Sub-recipient Monitor (9 respondents) – provides program monitoring; answers questions about contract addenda, expenditures and reports
- SNS/Clinical Pharmacist (7 respondents) – provides technical assistance and planning guidance on SNS, provides guidance on TAR, confirms that plans have been received, answers Pan flu questions
- Program Administrator (7 respondents) – provides guidance on purchasing and budget issues, clarifies contract addenda
- Epidemiology Section Chief (5 respondents) – provides epidemiology consultation, provides guidance on surveillance and planning
The assessment also asked Health Directors and PCs for ratings of how helpful these DPH staff members had been.

- Ratings between “very helpful” and “somewhat helpful” were assigned to the Program Administrator, Epidemiology Section Chief, Sub-recipient Monitor, and Planner/Evaluator (for exercises)
- Mixed ratings were more likely to be assigned to the SNS/Clinical Pharmacist and Bioterrorism Coordinator.

PHRST Interactions With Positions Within PHP&R

The eight PHRST representatives were most likely to interact with:

- Planner/Evaluator (8 respondents) – provides guidance on exercises, helps translate homeland security exercises, Web EOC
- Bioterrorism Coordinator (5 respondents) – provides guidance and directives, technical info about preparedness, team coordination and validation
- CDC Epidemiologist (4 respondents) – Provides technical info on epidemiology and expertise in disaster epidemiology
- Telecommunications Coordinator (4 respondents) – provides trainings on radio, reprograms radio, provides GETS Card information

When asked to rate the helpfulness of these positions:

- The Planner/Evaluator, CDC Epidemiologist, Telecommunications Coordinator were generally viewed by the PHRST representatives as “very helpful.”
- The Bioterrorism Coordinator was rated on average as “somewhat helpful.”

LHD Frustrations With NC DPH

- Two-thirds of the Health Directors and PCs interviewed for the assessment reported frustrations in working with DPH and particularly PHP&R.
- The dominant themes centered on:
  - conflicts between LHDs and PHP&R personnel over plan requirements and the process for reviewing plans (especially SNS plans),
  - unclear or changing guidance on contract addenda, and
  - the perception that state PH personnel are out of touch with the concerns and day-to-day reality of local health departments (e.g., excessive demands given the available resources and the competing responsibilities).
- Health Directors and PCs reported that wanted clearer guidance and more timely feedback on plans, more clarification on what PCs should be doing, and more substantive information on how to better prepare their communities. They criticized PHP&R for focusing not so much on the needs of local health departments, but rather on meeting their own reporting needs. There was a sense that PHP&R focuses on “crossing T’s and dotting I’s.”

PHRST Frustrations with NC DPH

- Frustrations with DPH were reported by all eight PHRST representatives.
- Many of these frustrations involved lack of direction from DPH as to the role of PHRSTs within the statewide system and the specific responsibilities that PHRSTs have to local health departments and to DPH. One PHRST member reported that “there was not a consistent set of standards that they knew of,” while another stated that PHRSTs “have been allowed to develop into a herd of cats.”
Six of the PHRST members reported frustrations acting as liaisons between State Public Health and the local health departments in their region. They indicated that acting in this capacity worked well during incident response, but LHDs tend to see PHRSTs as aligned with the state, and as such, are “guilty by association” when LHDs have problems with PHP&R. Finally, the PHRST representatives also reported problems with PHP&R leadership and staff around the content and tone of communications.

Strategic Issues for NC DPH
Taking into account the data reported above, the study team identified the following four strategic issues for DPH.

1) PHP&R assumes specific standards of accountability in accepting grants from CDC and other federal agencies. These standards mean that recipients of sub-grants (particularly LHDs) face strict requirements on deliverables and reporting procedures. However, LHDs differ significantly in the resources, personnel, and capacity they have available for public health preparedness. Smaller LHDs report that it is difficult (and even a hardship) to meet all their contract deliverables. This tension has increased as grant dollars have decreased and expectations for LHDs have become more prescribed.

2) Preparedness funds are distributed to LHDs based on a formula that takes into consideration county population and size, with larger urban counties receiving more funds than smaller counties. However, all LHDs are expected to provide the same core set of services regardless of the amount of funding they receive. DPH leaders are urging LHDs to explore creative solutions to this dilemma, including PC sharing, greater regionalization of services, and using everyday public health activities to meet contract deliverables. Even if LHDs develop effective solutions, it will be necessary for adjust the required contract deliverables in ways that both (a) allow small LHDs to adhere to their contract and (b) satisfy CDC’s requirements.

3) Legislating public health preparedness as a core (and thus required) function may succeed in forcing LHDs to pay more attention to preparedness. However, such a policy would likely be met with at least some resistance and/or resentment by LHDs, especially if the requirement is imposed without additional funding from state government.

4) Given the likelihood that LHDs, PHRSTs, and DPH will have fewer dollars to sustain and improve the statewide preparedness system in the coming years, services and capacity will need to be delivered in a more efficient manner. The system will need to become more integrated and resources will need to be allocated more strategically (i.e., in ways that achieve the primary goals of a statewide preparedness system). This shift will require greater coordination, cooperation, partnership, and shared decision making among the three levels of the system.

Recommendations for Improving the NC PH Preparedness System
As part of the interview process, respondents were given the chance to present recommendations for improving the NC PH preparedness system. Each respondent was asked to provide input regarding changes that might be made at each level of the system (LHDs, PHRSTs, and NC DPH), and to propose more general revisions that they would like to see in the system as a whole. This final section of the Executive Summary presents the most frequently cited recommendations.
Recommendations for Local Health Departments

Health Directors and PCs provided the following suggestions as to how preparedness could be enhanced within local health departments:

- **Regionalization** may take some of the burden off local health departments and reduce the costs associated with preparedness. This strategy might involve the creation of *shared PC positions* or the development of *plans that are regional* rather than local in scope. These two approaches were seen as a means of increasing the consistency of plans and exercises across each region.

- The burdens associated with developing preparedness plans could be lessened by providing LHDs with *plan templates*. However, it was recognized that templates are more appropriate for some health departments than for others.

- Preparedness capacity would be increased through more *sharing of best practices*, including approaches to planning and exercises, as well as models for the PC position. This could occur through *face-to-face networking* among LHD staff who are involved in preparedness.

- Health Directors in particular expressed a desire for *guidance on filling the PC position*. This could be achieved through a standard job description and information about what type of background and skills are needed to carry out the duties of a PC.

- Although on-line training is already available for PCs, the Health Directors and PCs in the assessment saw the need for *additional training, especially for new PCs*. In addition, PCs requested that PHP&R provide an *in-person orientation* to new PCs. This approach was seen as allowing PCs to establish relationships with state personnel and to get up to speed more quickly.

The PHRST representatives who participated in the assessment indicated that *preparedness should be more of a priority* for LHDs. As such,

- LHDs should have a *full-time PC* or shared PC dedicated to preparedness.

- In counties where funding is insufficient to hire a full-time PC, the LHD should consider *sharing the PC position* across multiple counties.

DPH staff echoed PHRST sentiments about the problems faced by part time PCs, and expressed similar opinions about the low priority that some LHDs place on preparedness. They also thought *LHDs should consider preparedness to be a core function of public health*, and find ways to incorporate preparedness into everyday practice. As federal funding decreases, DPH Leaders and staff thought it was imperative for LHDs to find ways to incorporate preparedness into what they do on a daily basis, so contract deliverables are not be as much of a burden.

Recommendations for PHRSTs

The eight PHRST representatives had the following recommendations for their own agencies:

- They agreed that it is important to maintain PHRSTs because of the role they play in the overall preparedness and response across the state.

- At the same time, it was recognized that there is lagging morale among some teams. To survive and flourish, one PHRST representative thought PHRSTs needed *more leadership, guidance, and team building to increase their capacity*.

- To address the problem of inconsistency across PHRSTs, the respondents acknowledged that NC DPH should provide more direction as to which services and trainings need to be offered.

- Three of the PHRST respondents thought PHRSTs should have a larger role with regard to response, including coordination of the response for region-wide events.
The DPH leaders interviewed for the assessment had specific ideas as to how PHRSTs should be structured.

- To improve the effectiveness of PHRSTs, the members of the teams should become state employees.
  - Because PHRSTs need to work both regionally and statewide, PHRSTs should be integrated into the overarching state response system and be accountable to a single employer (i.e., DPH).
  - This change will need to occur over time through natural evolution and attrition, and with sufficient time to address salary disparities and issues around retirement plans, vehicle use, and worker’s compensation.
- In the meantime, the host health departments should solicit input from the other LHDs in their region as to the performance of the teams they host and supervise. Input should also be sought on strategies to solve the quality and service issues reported by LHDs and DPH.
- It may not be appropriate to maintain the team composition that was originally specified (i.e., a Physician/Medical, Epidemiologist, Nurse, Industrial Hygienist, Administrative Support, Veterinarian, and shared Pharmacist positions within each PHRST). As one related, “It was a good start-up system, but as PHP moves into maintenance mode, you have to consider if they are cost effective as they are now set up. Do you really need every position in all regions?”
- PHRSTs should improve their services to local health departments:
  - Provide more support for planning and exercises.
  - Get on the same team. Help LHDs satisfy deliverables.
  - Be a better liaison between the state and locals and really communicate local issues to the state.

The Health Directors and PCs interviewed in the assessment concurred that there were many ways that PHRSTs could improve their services to local health departments.

- PHRSTs should spend more time interacting with all the LHDs in their region, and should take the initiative in reaching out to LHDs to offer services they know will be relevant to LHDs, especially training and exercises.
- PHRSTs should play a larger role in the coordination and promotion of regional planning. This would include providing templates for plans that LHDs are required to create per their contact addenda with the state.
- Create a formal mechanism through which Health Directors from LHDs throughout the region – not just the host health department – are able to provide oversight for the PHRST. This might include input into who is hired to staff the team in their region, managing issues around quality assurance, or resolving grievances related to the services provided by the PHRSTs.
- Consider alternative structures for the PHRSTs.
  - Two LHD representatives indicated that PHRSTs should become state employees.
  - One thought PHRSTs could be eliminated, or at least the number of PHRSTs reduced to three (one each in the east, central and western regions).
  - In contrast, another LHD respondent wanted to see fewer counties in each region that is true under the current model.
Recommendations for the NC Division of Public Health

DPH leaders offered a number of ideas for improving the way that the Division (and especially PHP&R) provides leadership and support for the statewide system.

- Better communications and more systematic interactions
  - Get out and attend regular meetings and meet with Health Directors in a more structured way.
  - PHP&R needs to be routinely involved in the regional Health Director’s meetings.
  - PHP&R needs to ask for evaluations by local health departments.
  - The office can provide more outreach to local health departments.
- Assist LHDs with planning
  - New state level planner can provide templates for plans.
  - PHRSTs can help with planning and writing plans at a regional level
- Provide better leadership in developing and disseminating model practices, tools, and guidance so scarce resources can be better used
- Be more responsive to LHDs’ complaints about inadequate funding,
- Be more flexible with partners in allocating preparedness funds and in setting the terms through which they need to meet their contract requirements.
- Be more responsive to complaints about equity issues and outcome measures. There are better indicators and outcome measures available.
- Help local health departments regionalize and coordinate services. Where counties cannot afford a PC, help them be more visionary.

In discussing their ideas for improving DPH’s role in preparedness, the Health Directors and PCs focused on many of the same issues that they brought up when talking about how preparedness could be improved within LHDs, namely plan templates and support for regional approaches.

In addition, the following recommendations for DPH were proposed:

- PHP&R should be more visible throughout the state. Make rounds once or twice a year to PHRST and Health Director meetings to listen and to give feedback.
- Develop better communications skills, especially when providing feedback on plans.
- Be more sensitive to the realities that Health Directors and PCs face at the local level. Recognize that preparedness is only one of many important functions that LHDs are responsible for.
- Create a more balanced relationship/partnership between NC DPH and local health departments. Each side needs to better understand the other’s perspective.
- Be more realistic about contract requirements, especially when working with small counties. Focus on a limited number of critical issues that LHDs are capable of addressing. Limit the number of new plans required.

The PHRST representatives offered a number of recommendations as to how they would like to see DPH (especially PHP&R) improve its approach to working with PHRSTs:

- More consistent standards, guidance, and direction from PHP&R;
- More trainings and tools to PHRSTs, so all PHRSTs could provide the same trainings to the LHDs in their region;
- Improvements in the way that DPH runs its meetings and phone calls with PHRSTs; and
- PHRSTs should be treated with more respect and queried for their input.
**Recommendations for the Overall System**

A number of the recommendations provided by respondents speak to broader aspects of the overall system than to any particular level.

- Across the board, respondents agreed that there needed to be improved communication and coordination between PHP&R, LHDs, and PHRSTs. The Health Directors and PCs saw the need for more face-to-face dialogue with their PHRST and with DPH personnel. Several, mentioned that DPH and LHDs need to work together more closely, so they can better understand the issues faced by one another.

- As part of this increased dialogue, it was recommended that PHP&R personnel spend more time outside of Raleigh and have conversations about what works and what does not in different communities.

- Several LHD representative wanted to see a shift towards a more grassroots approach, defined as an inclusive process where everyone is recognized as a partner. With this approach all partners would have more of a say about the design and operation of the statewide system.

- A number of respondents (across all three levels) perceived that too much attention had been placed on low-probability high-impact events such as an outbreak of smallpox or bioterrorist event involving anthrax. As a result, preparedness is viewed by some Health Directors as out of touch with local needs and the daily reality of LHDs. Accordingly, the preparedness system should focus more of its attention and resources on threats that are more likely to occur.

- DPH personnel also wanted see the system become more flexible with regard to the use of funds (within the limits of federal guidelines). For this to occur, the system needs to become more “nimble.” It needs to be viewed not so much as a collection of individual parts, (85 LHDs, 7 PHRSTs, and 1 state), but rather a “cohesive overarching system” that has to change and adapt for what in a way that makes sense for where we are now.

- Toward this end, DPH leaders stressed that a strategic plan was needed for the entire PH preparedness system. Such a plan would determine the right size, scope, and focus of the system, and ensure that appropriate resources are located at the state, local, and regional levels.