Department of Health and Human Services
Centers for Disease Control and Prevention

LOCAL

Public Health System Performance Assessment

REPORT

National Public Health Performance Standards Program

REPORT OF RESULTS FROM THE FIELD TESTING OF THE NPHPSP REVISED LOCAL INSTRUMENT

CUMBERLAND AND SALEM HEALTH DEPARTMENS, NEW JERSEY

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The National Public Health Performance Standards Program

INTRODUCTION

The National Public Health Performance Standards Program (NPHPSP) is a partnership initiative established in 1998 to improve the practice of public health, the performance of public health systems, and the infrastructure supporting public health actions. To accomplish this mission, performance standards for public health systems have been collaboratively developed. These standards represent an optimal level of performance that needs to exist to deliver essential public health services within a public health system.

The NPHPSP is intended to improve the quality of public health practice and the performance of public health systems by:
1. Providing performance standards for public health systems and encouraging their widespread use;
2. Engaging and leveraging national, state, and local partnerships to build a stronger foundation for public health preparedness;
3. Promoting continuous quality improvement of public health systems; and
4. Strengthening the science base for public health practice improvement.

The NPHPSP is led by the Office of Chief of Public Health Practice, Centers for Disease Control and Prevention (CDC). Collaborative partners in establishing and supporting the NPHPSP are the: American Public Health Association (APHA), Association of State and Territorial Health Officials (ASTHO), National Association of County and City Health Officials (NACCHO), National Association of Local Boards of Health (NALBOH), National Network of Public Health Institutes (NNPHI), and the Public Health Foundation (PHF).

The NPHPSP includes three instruments that were originally developed between 1998-2002, and updated in 2005-2006, under the leadership of CDC and its partner organizations. Through working groups and field test activities, hundreds of representatives from these organizations were involved in developing, reviewing, testing, and refining the original instruments. Their feedback on the draft instruments and again during the update process, have helped to ensure that the NPHPSP instruments are practice-oriented and user-friendly.

The three instruments are:
1. The **State Public Health System Performance Assessment Instrument (State Instrument**) focuses on the "state public health system." This system includes state public health agencies and other partners that contribute to public health services at the state level. The instrument was developed under the leadership of ASTHO and CDC.
2. The **Local Public Health System Performance Assessment Instrument (Local Instrument)** focuses on the "local public health system" or all entities that contribute to the delivery of public health services within a community. This system includes all public, private, and voluntary entities, as well as individuals and informal associations. The local instrument was developed under the leadership of NACCHO and CDC.

3. The **Local Public Health Governance Performance Assessment Instrument (Governance Instrument)** focuses on the governing body ultimately accountable for public health at the local level. Such governing bodies may include boards of health or county commissioners. The governance instrument was developed under the leadership of NALBOH and CDC.

CONCEPTS GUIDING PERFORMANCE STANDARDS DEVELOPMENT AND USE

Four concepts have helped to frame the National Public Health Performance Standards into their current format:

1. The standards are **designed around the ten Essential Public Health Services (EPHS)**. These ten services are the foundation of any public health action and describe the full range of public health responsibilities. The EPHS were first articulated in 1994 in the Public Health in America statement. The use of the EPHS provides a way to describe and examine the breadth of public health practice, system performance, and infrastructure capability needed for both the state and local public health system levels.

2. The standards **focus on the overall public health system**, rather than a single organization. A public health system includes all public, private, and voluntary entities that contribute to public health activities within a given area. By focusing on the public health system, the contributions of all entities are recognized in assessing the provision of EPHS. Entities within a public health system can include hospitals, physicians, managed care organizations, environmental agencies, social service organizations, educational systems, community-based organizations, religious institutions and many others. All of these organizations play a role in working to improve the public's health.

3. The standards **describe an optimal level of performance**, rather than provide minimum expectations. This assures that the standards can be used for continuous quality improvement. The standards will stimulate performance and infrastructure improvement in public health systems.

4. The standards are explicitly intended to **support a process of quality improvement**. System partners should use the assessment process and results as a guide for learning about public health activities throughout the system and determining how to improve services. The standards can also be used to advocate for improvements to better serve populations within a public health system.

ASSESSMENT INSTRUMENT STRUCTURE

The NPHPSP assessment instruments are constructed using the Essential Public Health Services as a framework. Within the Local Instrument, each EPHS is divided into indicators that describe critical aspects of public health practice. Each indicator is illustrated by a model standard that describes aspects of an optimal performing public health system. The model standards articulated in the instrument represent expert public health opinion and best practice concepts. Each model standard is addressed by assessment questions that serve as measures of performance.

The measures elicit information on how well the model standard is being met. There are four response options associated with each measure. The spectrum of activity associated with each response option is:

NO ACTIVITY	0% or absolutely no activity.
MINIMAL ACTIVITY	Greater than zero, but no more than 25% of the activity described within the question is met within the public health system.
LOW PARTIAL ACTIVITY	Greater than 25%, but no more than 50% of the activity described within the question is met within the public health system.
HIGH PARTIAL ACTIVITY	Greater than 50%, but no more than 75% of the activity described within the question is met within the public health system.
YES / OPTIMAL ACTIVITY	Greater than 75% of the activity described within the question is met within the public health system.

A summary question is found at the end of each indicator section of the assessment instrument. The summary questions use a four-point scale to assess the percentage of the model standard that is the direct contribution of the local public health agency. The four responses are 1) 0-25%, 2) 26-50%, 3) 51-75%, and 4) 76-100%.

SCORING METHODOLOGY

The goal of the scoring process is to generate results that can be used by local public health systems in their efforts to identify system strengths and weaknesses and develop plans for improvement. Aggregated data are also used to provide a better understanding of public health infrastructure nationwide.

In the Local Instrument, each Essential Service section includes 30 indicators with corresponding model standards. These indicators represent the major activities or practice areas of that particular Essential Service. Each model standard is followed by a series of assessment questions that serve as measures of performance. These measures begin with a stem (or first-tier) question, followed by a series of sub-questions. Based on testing activities and sound statistical methods, a detailed scoring methodology was developed for the 436 questions in the Instrument (112 stem questions and 294 sub-questions). The scoring methodology incorporates the responses to sub-questions in the score for each stem question. The stem questions are then averaged to develop a score for each Essential Service. The ten Essential Service scores are averaged to develop an overall

score for the local public health system's performance. The scoring methodology is available on-line at http://www.cdc.gov/od/ocphp/nphpsp/Conducting.htm.

DATA LIMITATIONS

Performance scores are based on somewhat unique processes and system participant groups. Assessment methods are not yet fully standardized and these differences in survey administration can introduce measurement error. Additionally, differences in knowledge can create interpretation issues for some questions and this can introduce a degree of random non-sampling error. Therefore, results and recommendations associated with these reported data should be used for quality improvement within an overall public health infrastructure and performance improvement process for public health systems. These data represent the collective performance of all organizational participants in the local public health system and should not be interpreted to reflect any single agency or organization.

TIPS FOR INTERPRETING NPHPSP SELF ASSESSMENT RESULTS

Data submitted from the implementation of the NPHPSP Local Instrument during the 2006 Field Test period have been compiled and analyzed by CDC and researchers from the University of Arkansas for Medical Services. This information is presented in the section of the report titled, "Self Assessment Instrument Results." The use of these results by respondents to take steps to strengthen the public health system is the most important part of the performance improvement process that the NPHPSP is intended to promote. Report data are presented which may be used to identify strengths and weaknesses within the local public health system, and pinpoint areas of performance that need improvement. The NPHPSP User Guide describes steps for using these results to develop and implement public health system performance improvement plans. Implementation of these plans is critical to achieving a higher performing public health system. Suggested steps in developing such improvement plans are:

1. Organize Participation for Performance Improvement
2. Prioritize Areas for Action
3. Explore "Root Causes" of Performance Problems
4. Develop and Implement Improvement Plans
5. Regularly Monitor and Report Progress

Refer to the User Guide section, "Now That We Have Completed the Assessment, What Next?" for details on the above steps.

Assessment results represent the collective performance of all entities in the local public health system and not any one organization. Therefore, system partners should be involved in the discussion of results and improvement strategies to assure that this information is appropriately used. The assessment results can drive improvement planning within each organization as well as system-wide. In addition, coordinated use of the Local Instrument with Governance Instrument or state-

wide use of the Local Instrument can lead to more successful and comprehensive improvement plans.

Although respondents will ultimately want to review these results with stakeholders in the context of their overall performance improvement process, they may initially find it helpful to review the results either individually or in a small group. The following tips may be helpful when initially reviewing the results, or preparing to present the results to performance improvement stakeholders.

- **Examine composite scores** – Composite performance scores are provided by Essential Service and overall (Figure 1), and in rank order (Figure 2). Examination of these scores can reveal the degree to which the governing body is meeting the performance standard for each essential service and overall. The ranking of each composite score from low to high makes it easy to identify the relative performance strength or weakness of each Essential Service.
- **Review error bars** – Within each composite score, both in Figure 1 and Figure 2, error bars indicate the minimum and maximum values (score range) for indicator responses that contributed to the Essential Service score. Even though a particular composite score may be relatively high, a large error bar may be present. When a wide score range exist, particularly for Essential Services that may score fairly high, review indicator responses (Figure 3) to determine more specifically where performance inconsistency or weakness may be.
- **Examine scores for each indicator** – Composite scores for the indicators within each Essential Service are also provided (Figure 3). In reviewing these scores, it is possible to pinpoint areas of both strong and weak performance. To further explore the elements of performance that may be contributing to poor performance within a given indicator, review the accompanying document, "NPHPSP Scores," to determine which questions related to that indicator received the lowest scores. If discussion comments were recorded related to the indicators being reviewed, it may be helpful to consider them as well.
- **Review performance across the response range** – Color designations are used to indicate the individual Essential Services (Figure 2), the percentage of Essential Services (Figure 4), and the percentage of indicators and questions (Figure 5) that were scored at the optimal, partial, minimal or no activity levels. (See page 5 of this document for definitions of these scoring options.) The color designation in Figure 2 allows for easy identification of Essential Services within performance level categories. A broad look at how well the governing body is meeting model standards is provided in Figure 4, which presents the percentage of performance indicators in each activity level. The percentage of questions across the performance activity spectrum is provided in Figure 5. To identify specific responses contributing to areas of low performance, review the accompanying document, "NPHPSP Scores," to examine questions that received low scores. When exploring reasons for less than optimal performance it may also be helpful to review any that are related to specific questions, if participant comments were recorded during the assessment.
- **Consider the context** – The data generated by the NPHPSP assessment are intended to inform and stimulate performance improvement activities. The assessment report, by itself, is not intended to be a "roadmap" to answer the question of what a governing body or local public health system's performance improvement priorities should be. For this reason, it is important to consider these data within the context in which they were generated and will be utilized. The original purpose of the assessment, current issues being addressed by the governing body, and the needs and interests for other stakeholders should also be considered.

See the NPHPSP User Guide for specific questions to consider when putting data into context.

Note: Some sites have used a process such as Mobilizing for Action through Planning and Partnerships (MAPP) to put data into a community context. In the MAPP process, local users consider the NPHPSP results in the context of three other assessments – community health status, community themes and strengths, and forces of change – before determining strategic issues, setting priorities, and developing action plans. See "Resources for Next Steps" for more about MAPP.

The challenge of preventing illness and improving health is ongoing. The ability to meet this challenge rests on the capacity and performance of public health systems. Through well equipped, high-performing public health systems, this challenge can be addressed. Public health performance standards are intended to guide the development of stronger public health systems capable of improving the health of populations. High- performing public health systems will increase the likelihood that all citizens have access to a defined optimal level of public health services. Through continuous assessment guided by model performance standards, public health leaders can improve collaboration and integration among the many components of a public health system, more effectively and efficiently use resources, and improve health intervention services.

RESOURCES FOR NEXT STEPS

Resources are available to assist in quality improvement activities. In addition to the NPHPSP User Guide, the following can be found on or are linked to the NPHPSP website at **http://www.cdc.gov/od/ocphp/nphpsp**:

- Performance Improvement Resource Guides (state and local)
- Mobilizing for Action through Planning and Partnerships (MAPP)
- Sample performance improvement plans
- Quality improvement tools and guidebooks
- Other technical assistance documents

MAPP has proven to be a particularly helpful tool for sites engaged in community-based health improvement planning. Sites that have just completed the NPHPSP may consider using the MAPP process as a way to launch their performance improvement efforts. Go to http://www.naccho.org/topics/infrastructure/MAPP.cfm to link directly to the MAPP website.

SELF ASSESSMENT INSTRUMENT RESULTS

Responses to the Local Instrument are used to construct summary measures of performance, called composite scores, for each of the 10 Essential Public Health Services (EPHS). Each composite score can be interpreted as the overall degree to which the public health system meets the performance standards defined for each Essential Service. Composite scores range from a minimum value of 0% (absolutely no activity is performed pursuant to the standards) to a maximum possible value of 100% (all activities associated with the standards are performed at optimal levels). Figure 1 displays composite scores for each Essential Service along with an overall composite score that indicates the average performance level across all 10 Essential Services. Figure 2 ranks each composite score from low to high, allowing easy identification of service domains where performance is relatively strong or weak. The graphics in Figure 3 display composite scores for the performance indicators within each Essential Service. These graphics highlight the specific activities that contribute to performance levels within each Essential Service. Figure 4 displays the percentage of performance indicators meeting model standards, while Figure 5 presents the percentage of questions scored at the optimal, high partial, low partial, minimal, or no activity levels. Figures 6 and 7 (for those sites completing the optional priority questionnaire) display Essential Services and indicators within four categories that may be useful for determining priority areas for action plans. These categories are:

- Quadrant I (High Priority/Low Performance) – may need increased attention.
- Quadrant II (High Priority/High Performance) – important to maintain efforts.
- Quadrant III (Low Priority/High Performance) – potential areas to reduce efforts.
- Quadrant IV (Low Priority/Low Performance) – may need little or no attention.

Similarly, Figures 8 and 9 display Essential Service and indicator scores arrayed by the level of contribution made by the local health department (LHD). These results are displayed within the following four categories:

- Quadrant I: High LHD Contribution/Low Performance.
- Quadrant II: High LHD Contribution/High Performance.
- Quadrant III: Low LHD Contribution/High Performance.
- Quadrant IV: Low LHD Contribution/Low Performance.

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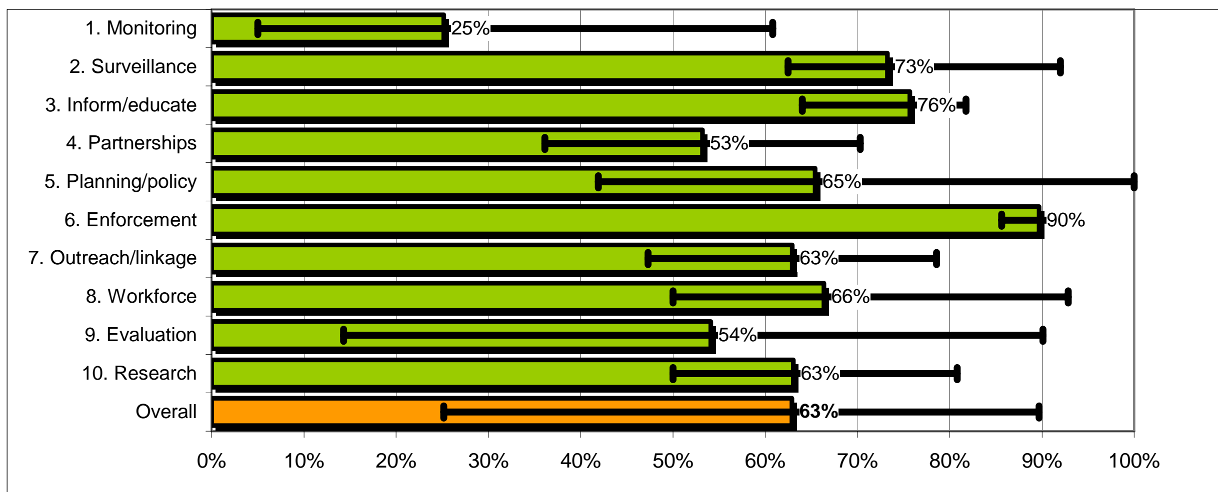
CUMBERLAND AND SALEM, NJ

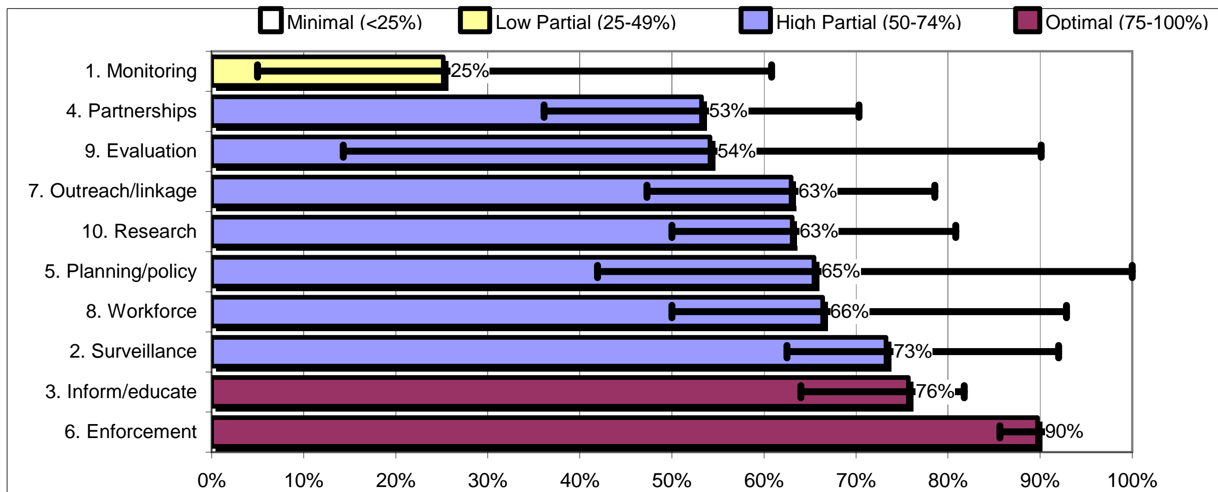
Responses to the Local Instrument are used to construct summary measures of performance, called composite scores, for each of the 10 Essential Public Health Services (EPHS). Each composite score can be interpreted as the overall degree to which the public health system meets the performance standards defined for each essential service. Composite scores range from a minimum value of 0% (absolutely no activity is performed pursuant to the standards) to a maximum possible value of 100% (all activities associated with the standards are performed at optimal levels). **Figure 1** displays composite scores for each essential service along with an overall composite score that indicates the average performance level across all 10 essential services. **Figure 2** ranks each composite score from low to high, allowing easy identification of service domains where performance is relatively strong or weak. The graphics in **Figure 3** display composite scores for the performance indicators within each essential service. These graphics highlight the specific activities that contribute to performance levels within each essential service.

FIGURE 1: COMPOSITE PERFORMANCE SCORES FOR EACH ESSENTIAL SERVICE AND OVERALL



Note: error bars show the score range (minimum and maximum values) for indicators within each service

FIGURE 2: RANK ORDERED PERFORMANCE SCORES FOR EACH ESSENTIAL SERVICE



Note: error bars show the score range (minimum and maximum values) for indicators within each service

FIGURE 3: PERFORMANCE SCORES FOR EACH INDICATOR, BY ESSENTIAL SERVICE

1-Monitoring
1.1 Community profile 10%
1.2 Data technology 5%
1.3 Registries 61%
Overall 25%
0% 20% 40% 60% 80% 100%

2-Surveillance
2.1 Surveillance 65%
2.2 Investigation 92%
2.3 Laboratory 63%
Overall 73%
0% 20% 40% 60% 80% 100%

3-Inform/Educate
3.1 Health education 81%
3.2 Health commun. 82%
3.3 Risk commun. 64%
Overall 76%
0% 20% 40% 60% 80% 100%

4-Partnerships
4.1 Constituency 70%
4.2 Partnerships 36%
Overall 53%
0% 20% 40% 60% 80% 100%

5-Planning/Policy
5.1 Gov. presence 70%
5.2 Policy dev. 50%
5.3 Planning 42%
5.4 Emergency plan 100%
Overall 65%
0% 20% 40% 60% 80% 100%

6-Enforcement
6.1 Review laws 91%
6.2 Improve laws 93%
6.3 Enforce laws 86%
Overall 90%
0% 20% 40% 60% 80% 100%

7-Outreach/Linkage
7.1 Identify needs 79%
7.2 Assure linkage 47%
Overall 63%
0% 20% 40% 60% 80% 100%

8-Workforce
8.1 Assessmt 50%
8.2 Standards 93%
8.3 Learning 69%
8.4 Leadership 54%
Overall 66%
0% 20% 40% 60% 80% 100%

9-Evaluation
9.1 Population srv. 58%
9.2 Personal srv. 90%
9.3 PH system 14%
Overall 54%
0% 20% 40% 60% 80% 100%

10-Research
10.1 Innovation 81%
10.2 Linkages 58%
10.3 Capacity 50%
Overall 63%
0% 20% 40% 60% 80% 100%

FIGURE 4: PERCENTAGE OF ESSENTIAL SERVICES MEETING MODEL STANDARDS

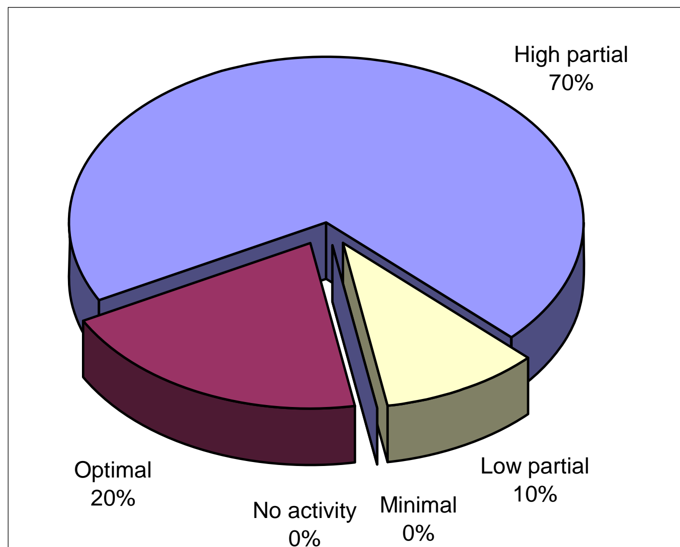
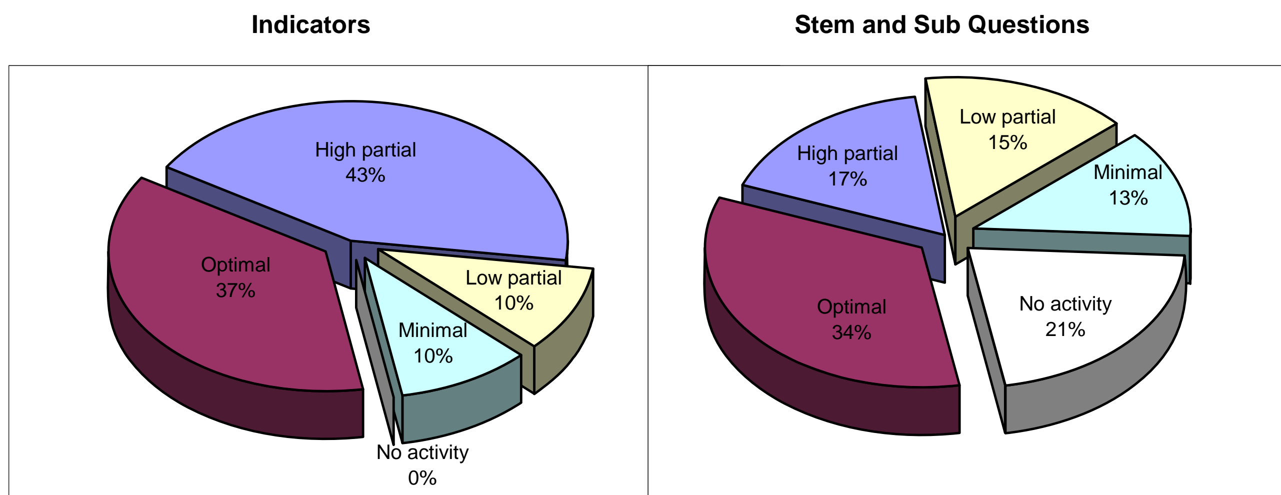


FIGURE 5: PERCENTAGE OF INDICATORS AND QUESTIONS SCORED AS OPTIMAL, PARTIAL, MINIMAL, OR NO ACTIVITY



Note: instrument contains 30 indicators and 436 total questions

Response Scale
Optimal: 76-100% met
High partial: 51-75% met
Low partial: 26-50% met
Minimal: 1-25% met
No activity: 0%

Figures 6-7 display performance scores for each service and indicator, arrayed by the priory ranking assigned to each. The upper left quandrant (I) contains activities that were considered relatively high-priority but were performed at relatively low levels. Priority should be given to improving performance for these activities. Activities appearing in the top right quadrant (II) were considered relatively high-priority activities and were performed at relatively high levels. Priority should be given to maintaining high performance levels for these activities The lower right quadrant (III) contains activities that were considered lower-priority activities and were performed at relatively high levels. Systems may choose to give activities in this quadrant less attention while focusing improvement efforts elsewhere. Finally, the lower left quadrant (IV) contains activities that were considered lower-priority activities and were performed at relatively low levels. Activities in this quadrant may be considered for future improvement efforts once priority activities have been addressed.

FIGURE 6: BOX PLOT OF ESSENTIAL SERVICE SCORES AND PRIORITY RANKINGS

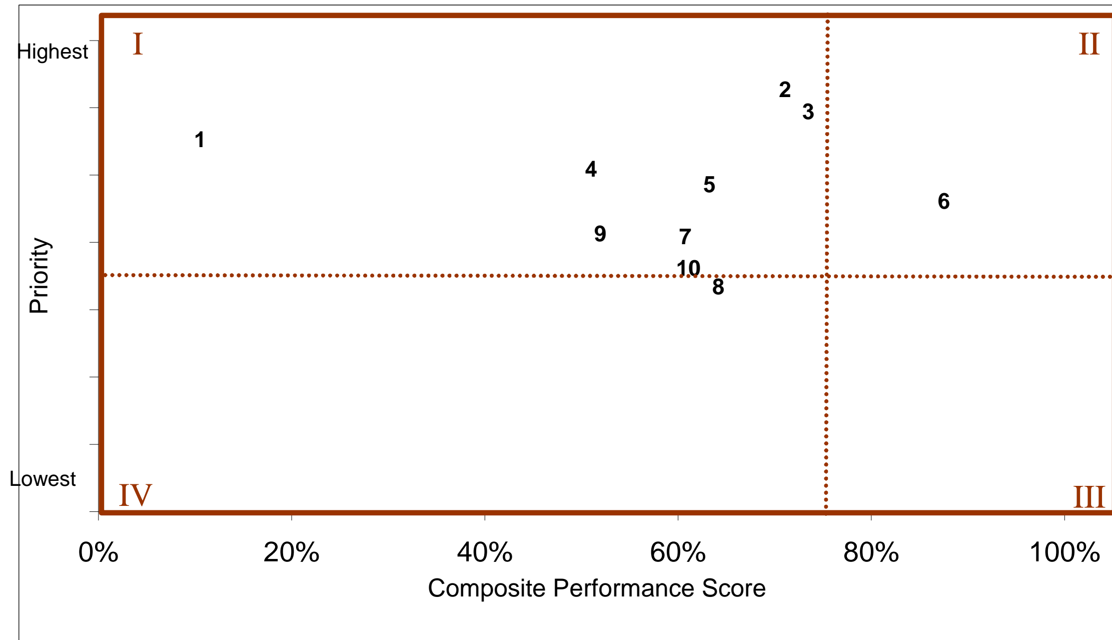
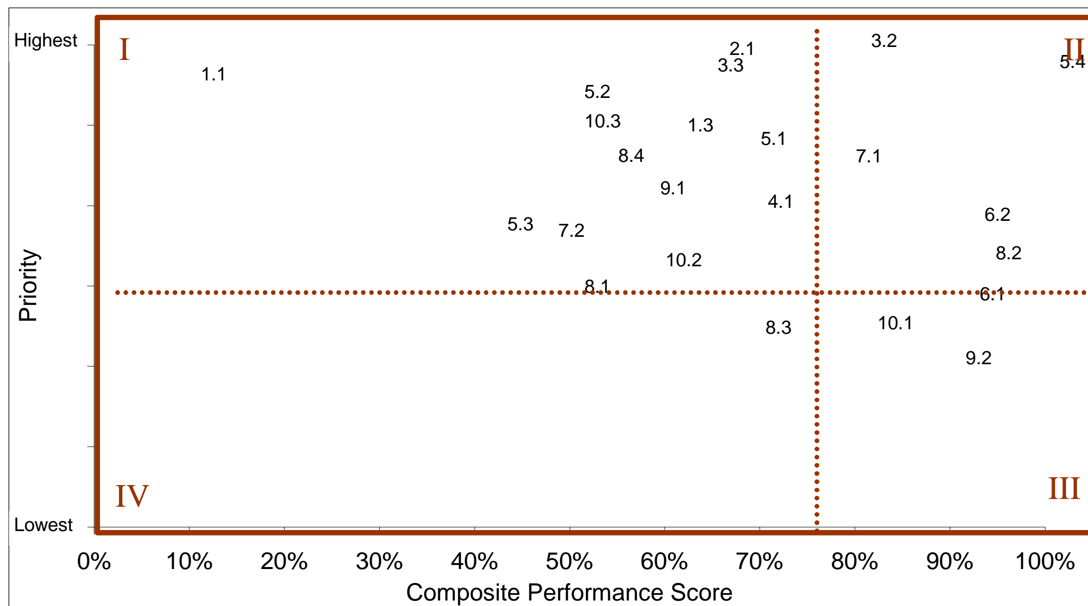


FIGURE 7: BOX PLOT OF INDICATOR SCORES AND PRIORITY RANKINGS



Figures 8-9 display performance scores for each service and indicator, arrayed by the level of contribution made by the local health department (LHD). The upper left quadrant (I) contains activities that were rated relatively high on LHD contribution but were performed at relatively low levels. Activities appearing in the top right quadrant (II) had high LHD contribution scores and were performed at relatively high levels. The lower right quadrant (III) contains activities that were rated relatively low on LHD contribution and were performed at relatively high levels. Finally, the lower left quadrant (IV) contains indicators that were rated relatively low on LHD contribution and were performed at relatively low levels.

FIGURE 8: BOX PLOT OF ESSENTIAL SERVICE SCORES AND LHD CONTRIBUTION SCORES

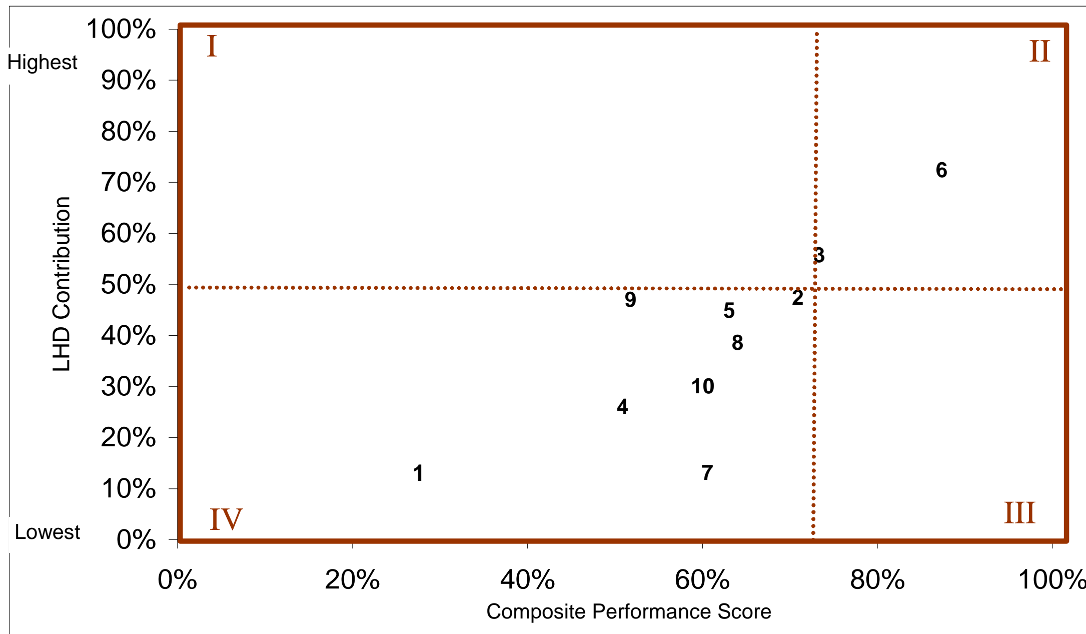


FIGURE 9: BOX PLOT OF INDICATOR SCORES AND LHD CONTRIBUTION SCORES